

# Soybean Variety Tests in Tennessee

## 2018

**Virginia Sykes**, Assistant Professor, Variety Testing Coordinator and Agroecology Specialist

**Ryan Blair**, Extension Area Specialist, Grain Crops & Cotton

**Heather Kelly**, Associate Professor, Field Crops Plant Pathology Specialist

**Alison Willette**, Research Associate, Variety Testing and Agroecology

**Vince Pantalone**, Professor, Soybean Breeding and Genetics

**Chris Smallwood**, Research Scientist, Soybean Breeding and Genetics

**Angela Thompson McClure**, Professor, Corn & Soybean Specialist

**Agronomic Crop Variety Testing and Demonstrations  
Department of Plant Sciences  
Institute of Agriculture  
University of Tennessee  
Knoxville**

•Telephone: (865) 974-7285      •FAX: (865) 974-1947      •email: [vsykes@utk.edu](mailto:vsykes@utk.edu)

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as searchable, mobile-friendly tables at:  
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**Brad S. Fisher**, Research Associate

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# SOYBEAN VARIETY TESTS IN TENNESSEE

2018

## Experimental Procedures

**AgResearch & Education Center Tests:** All soybean variety trials were conducted in each of the physiographic regions of the state. Tests were conducted at the Agricenter International Research Center (Memphis), Highland Rim (Springfield), East Tennessee (Knoxville), Milan (Milan), and West Tennessee (Jackson) AgResearch & Education Centers (**REC**). Entries were divided into the following tests based on relative maturity: **MG-3** (relative maturity 3.0-3.9), **MG-4E** (relative maturity 4.0– 4.5), **MG-4L** (relative maturity: 4.6-4.9), **MG-5E** (relative maturity: 5.0-5.5), and **MG-5L** (relative maturity: 5.6-5.9). Each test was treated using conventional herbicides rather than splitting tests by herbicide tolerance. Tests of maturity groups MG-3 and MG-5L were not grown at Memphis location. Duplicate plantings of all five tests were made at the **Milan and Highland Rim REC** for performance testing **with and without irrigation**.

The plot size at all REC locations was two, 30-ft. rows with 30 inch row spacing. All varieties were planted at approximately 6 seeds per foot of row (i.e., approximately 140,000 seed per acre in the REC tests). Plots were replicated three times at each location in a randomized complete block design. Because of the large number of varieties in some tests and the field variation at each location, an incomplete block design was imposed *ex post facto* prior to data analysis in order to reduce the within-block field variability and the experimental error.

**Genetics plus Seed Treatments:** Seed of all varieties included in the REC tests were treated with one or more fungicides plus an insecticide. Research has shown that seed treatments can influence yield, therefore **the yields of varieties reported herein are the combined result of the genetic potential of the varieties plus the seed treatment “packages”**. The seed treatments that were included on each variety were determined by the company or organization and are listed in Table 32. Many soybean varieties are now being marketed with combinations of fungicide and insecticides on the seed, similar to corn. A decision was made to test the varieties in the UT soybean performance tests with the seed treatments so the results would be comparable to what producers could expect from seed they purchase.

**County Standard Tests:** The County Standard Soybean Tests were conducted in 30 counties in Tennessee, and two in Western Kentucky. The number of county locations depended on the test (Table 2). The County Standard Tests were divided by herbicide tolerance into Roundup Ready (RR) and Liberty Link (LL) and then further divided by relative maturity. Tests included **RR3** (relative maturity 3.0-3.9), **RR4 Early** (relative maturity 4.0-4.5), **RR4 Late** (relative maturity 4.6-4.9), **RR5 Early** (relative maturity 5.0-5.5), **LL4 Early** (relative maturity 4.0-4.5), **LL4 Late** (relative maturity (4.6-4.9)). Each variety was evaluated in a large strip-plot at each location, thus each county test was considered as one replication of the test in calculating the overall average yield and in conducting the statistical analysis to determine significant differences. At each location, plots were planted, sprayed, fertilized, and harvested with the equipment used in the cooperating producer’s farming operation. The width and length of strip-plots were different in each county; however, within a location in a county, the strips were trimmed on the ends so that the lengths were the same for each variety, or if the lengths were different then the harvested length was measured for each variety and appropriate harvested area adjustments were made to determine the yield per acre.

## Interpretation of Data

The tables on the following pages have been prepared with the entries listed in order of yield performance, the highest-yielding entry being listed first. Mean separation was performed using the **LSD (Least Significant Difference) test**. The mean trait value of any two entries being compared must differ by at least the LSD amount shown to be considered different at the 5% level of probability of significance. For example, given that the LSD for a test is 1.3 tons/a and the mean yield of Variety A was 9.3 tons/a and the mean yield of Variety B was 8.2 tons/a, then the two hybrids are not statistically different in yield because the difference of 1.1 tons/a is less than the minimum of 1.3 tons/a required for them to be significant. Similarly, if the average yield of Variety C was 10.6 tons/a then it is significantly higher yielding than both Variety B ( $10.6 - 8.2 = 2.4$  tons/a > LSD of 1.3) and Variety A ( $10.6 - 9.3 = 1.3$  tons/a = LSD of 1.3). Tests with an LSD value of N.S. indicate there were no significant differences in entry performance within that test.

To simplify interpretation, **Mean Separation Letters** have been listed next to each entry for the test of average yield across all locations. Varieties that have any letter in common are not significantly different

in yield at the 5% level of probability based on the LSD test. Varieties with performance not significantly different from the top performing hybrid will have an “A” included in the list of mean separation letters next to that entry.

The **coefficient of variation (C.V.)** values are also shown at the bottom of each table. This value is a measure of the error variability found within each experiment. It is calculated as the ratio of the square root of error variance to the mean yield. For example, a C.V. of 10% indicates that the size of the error variation is about 10% of the size of the test mean. Similarly, a C.V. of 30% indicates that the size of the error variation is nearly one-third as large as the test mean. A goal in conducting each yield test is to keep the C.V. as low as possible, preferably below 20 percent. The C.V. is not reported for traits, such as lodging, which are not on a ratio scale and/or have a mean value near zero.

## **Results**

**Yield and Agronomic Traits.** One hundred ninety-six soybean varieties were evaluated in the 2018 **Research & Education Center (REC)** tests in Tennessee. There were 11 varieties in the MG-3, 51 in the MG-4E, 81 in the MG-4L, 44 in the MG-5E, and 9 in the MG-5L. In terms of herbicide tolerance, entries were either conventional, Roundup Ready (RR, glyphosate tolerance), Roundup Ready 2 Yield (RR2, glyphosate tolerance), Roundup Ready 2 eXtend (R2X, glyphosate and dicamba tolerance), Liberty Link (glufosinate tolerance), or stacks of these tolerances with sulfonylurea (STS) tolerance. Proportional to the total number of entries, 13% were conventional, 10% were RR or RR/STS stacks, 3% were RR2 or RR2/STS stacks, 60% were R2X or R2X/STS stacks, and 14% were LL or LL/STS stacks. The **County Standard tests (CST)** involved 106 varieties total, including the following number of varieties and counties within each test: RR3 test - eight varieties at eight locations, RR4E test - 25 varieties at 10 locations, LL4E test – 12 varieties at three locations, RR4L test - 28 varieties at 11 locations, LL4L test – 19 varieties at six locations, RR5E test - 14 varieties at four locations. In addition to 28 Tennessee counties, the County Standard Tests involved two counties in Western Kentucky (Fulton and McCracken).

**Tables 3-28** contain data on yield and agronomic traits such as maturity, plant height, lodging, seed protein and oil content. **Table 29** lists the names and descriptive characteristics, as provided by the submitting seed company, of varieties included in the REC tests in 2018. **Table 30** contains the contact information for each soybean seed company with entries in the 2018 REC tests. **Table 31** contains abbreviations used for herbicide tolerance traits.

**Irrigated vs. Non-irrigated Yields.** Duplicate tests were conducted at the Milan and Highland Rim Research and Education Centers with and without irrigation. Across both locations, yield was higher in irrigated tests (59 bu/ac) compared with non-irrigated tests (43 bu/ac). Yield differences were larger at the Highland Rim location (20 – 31 bu/ac) with irrigated tests exhibiting a yield advantage across MG (MG3: + 25 bu/ac, MG4E: + 31 bu/ac, MG4L: +29 bu/ac, MG5E: + 20 bu/ac) with exception to the MG5L test where yields were equal. At the Milan location, yield differences were smaller (7 – 15 bu/ac) but irrigated outperformed non-irrigated average yield within all tests (MG3: + 7 bu/ac, MG4E: + 12 bu/ac, MG4L: +15 bu/ac, MG5E: + 12 bu/ac, MG5L: +15 bu/ac).

**Growing Season:** Statewide soybean planting remained on par with the 5 year average, with 63% of soybeans in Tennessee planted by late-May and 93% planted by late-June. The growing season was characterized by favorable weather with adequate rainfall throughout most of the growing season, however untimely precipitation from September through November delayed harvest for many growers and contributed to quality problems and poor yields. By late September, 74 percent of the crop rated good to excellent. Harvest timing remained was on-par with the 5 year average in September however dropped in October, with only 74% of soybeans harvested by the middle of November. According to the National Agricultural Statistics Service, Tennessee producers planted 1.7 million acres of soybeans this year, an increase of 10,000 acres from 2017. Acreage harvested for grain is projected to be 1.67 million, an increase of 10,000 acres from last season. Soybean production for 2018 is projected to be 83.5 million bushels, an increase of 1% from the previous year. The state soybean yield average is projected to be 50.5 bu/ac, which is 0.5 bu/ac greater than the 2017 yield.

**Table 1. Location information from AgResearch and Education Centers where soybean variety tests were conducted in Tennessee in 2018.**

**Maturity Group III**

| Location    | AgResearch and Education Center | Irrigation    | Planting Date | Harvest Date       | Seeding Rate | Soil Type                             |
|-------------|---------------------------------|---------------|---------------|--------------------|--------------|---------------------------------------|
| Springfield | Highland Rim                    | Irrigated     | May 9, 2018   | October 3, 2018    | 140000       | Mountview Silt Loam                   |
| Springfield | Highland Rim                    | Non-irrigated | May 9, 2018   | October 4, 2018    | 140000       | Dickson Silt Loam                     |
| Knoxville   | East Tennessee                  | Irrigated     | May 3, 2018   | October 2, 2018    | 140000       | Shady Loam                            |
| Milan       | Milan                           | Irrigated     | May 24, 2018  | September 19, 2018 | 140000       | Grenada Silt Loam                     |
| Milan       | Milan                           | Non-irrigated | May 9, 2018   | September 14, 2018 | 140000       | Grenada Silt Loam                     |
| Jackson     | West Tennessee                  | Non-irrigated | May 13, 2018  | September 20, 2018 | 140000       | Vicksburg Silt Loam/Collins Silt Loam |

**Maturity Group Early IV (4.0 - 4.5)**

| Location    | AgResearch and Education Center | Irrigation    | Planting Date | Harvest Date       | Seeding Rate | Soil Type                             |
|-------------|---------------------------------|---------------|---------------|--------------------|--------------|---------------------------------------|
| Memphis     | Agricenter International        | Irrigated     | June 12, 2018 | November 26, 2018  | 140000       | Falaya Silt Loam                      |
| Springfield | Highland Rim                    | Irrigated     | May 9, 2018   | October 3, 2018    | 140000       | Mountview Silt Loam                   |
| Springfield | Highland Rim                    | Non-irrigated | May 9, 2018   | October 4, 2018    | 140000       | Dickson Silt Loam                     |
| Knoxville   | East Tennessee                  | Irrigated     | May 3, 2018   | October 3, 2018    | 140000       | Shady Loam                            |
| Milan       | Milan                           | Irrigated     | May 24, 2018  | October 8, 2018    | 140000       | Grenada Silt Loam                     |
| Milan       | Milan                           | Non-irrigated | May 9, 2018   | October 4, 2018    | 140000       | Grenada Silt Loam                     |
| Jackson     | West Tennessee                  | Non-irrigated | May 13, 2018  | September 21, 2018 | 140000       | Vicksburg Silt Loam/Collins Silt Loam |

**Maturity Group Late IV (4.6 - 4.9)**

| Location    | AgResearch and Education Center | Irrigation    | Planting Date | Harvest Date      | Seeding Rate | Soil Type                             |
|-------------|---------------------------------|---------------|---------------|-------------------|--------------|---------------------------------------|
| Memphis     | Agricenter International        | Irrigated     | June 12, 2018 | November 26, 2018 | 140000       | Falaya Silt Loam                      |
| Springfield | Highland Rim                    | Irrigated     | May 9, 2018   | October 8, 2018   | 140000       | Mountview Silt Loam                   |
| Springfield | Highland Rim                    | Non-irrigated | May 9, 2018   | October 5, 2018   | 140000       | Dickson Silt Loam                     |
| Knoxville   | East Tennessee                  | Irrigated     | May 3, 2017   | October 12, 2018  | 140000       | Shady Loam                            |
| Milan       | Milan                           | Irrigated     | May 24, 2018  | November 9, 2018  | 140000       | Grenada Silt Loam                     |
| Milan       | Milan                           | Non-irrigated | May 9, 2018   | October 29, 2018  | 140000       | Grenada Silt Loam                     |
| Jackson     | West Tennessee                  | Non-irrigated | May 13, 2018  | October 4, 2018   | 140000       | Vicksburg Silt Loam/Collins Silt Loam |

**Maturity Group Early V (5.0 - 5.5)**

| Location    | AgResearch and Education Center | Irrigation    | Planting Date | Harvest Date      | Seeding Rate | Soil Type                             |
|-------------|---------------------------------|---------------|---------------|-------------------|--------------|---------------------------------------|
| Memphis     | Agricenter International        | Irrigated     | June 12, 2018 | November 26, 2018 | 140000       | Falaya Silt Loam                      |
| Springfield | Highland Rim                    | Irrigated     | May 9, 2018   | October 9, 2018   | 140000       | Mountview Silt Loam                   |
| Springfield | Highland Rim                    | Non-irrigated | May 9, 2018   | October 9, 2018   | 140000       | Dickson Silt Loam                     |
| Knoxville   | East Tennessee                  | Irrigated     | May 3, 2017   | October 23, 2018  | 140000       | Shady Loam                            |
| Milan       | Milan                           | Irrigated     | May 24, 2018  | November 9, 2018  | 140000       | Grenada Silt Loam                     |
| Milan       | Milan                           | Non-irrigated | May 9, 2018   | October 30, 2018  | 140000       | Grenada Silt Loam                     |
| Jackson     | West Tennessee                  | Non-irrigated | May 13, 2018  | October 8, 2018   | 140000       | Vicksburg Silt Loam/Collins Silt Loam |

Table 1. cont.

**Maturity Group Late V (5.6 - 5.9)**

| Location    | AgResearch and Education Center | Irrigation    | Planting Date | Harvest Date     | Seeding Rate | Soil Type                             |
|-------------|---------------------------------|---------------|---------------|------------------|--------------|---------------------------------------|
| Springfield | Highland Rim                    | Irrigated     | May 9, 2018   | October 19, 2018 | 140000       | Mountview Silt Loam                   |
| Springfield | Highland Rim                    | Non-irrigated | May 9, 2018   | October 9, 2018  | 140000       | Dickson Silt Loam                     |
| Knoxville   | East Tennessee                  | Irrigated     | May 3, 2017   | October 23, 2018 | 140000       | Shady Loam                            |
| Milan       | Milan                           | Irrigated     | May 24, 2018  | November 9, 2018 | 140000       | Grenada Silt Loam                     |
| Milan       | Milan                           | Non-irrigated | May 9, 2018   | October 31, 2018 | 140000       | Grenada Silt Loam                     |
| Jackson     | West Tennessee                  | Non-irrigated | May 13, 2018  | October 18, 2018 | 140000       | Vicksburg Silt Loam/Collins Silt Loam |

**Table 2. Location information from counties where the soybean variety tests were conducted in 2018.**

**Roundup Ready Group III**

| County     | Cooperator       | Agent          | Planting Date |
|------------|------------------|----------------|---------------|
| Chester    | Mark Spradlin    | Steve Rickman  | May 22, 2018  |
| Fulton, KY | Linder Farms     | Ben Rudy       | May 12, 2018  |
| Gibson     | Denton Parkins   | Philip Shelby  | May 9, 2018   |
| Henry      | Wilson Farms     | Ranson Goodman | May 3, 2018   |
| Hickman    | Claude Callicott | Troy Dugger    | May 1, 2018   |
| Jefferson  | Jay Moser        | Steve Huff     | May 5, 2018   |
| Madison    | Jared King       | Jake Mallard   | May 24, 2018  |
| Weakley    | Jay Yeargin      | Jeff Lannom    | May 11, 2018  |

**Roundup Ready Early IV (4.0 - 4.5)**

| County     | Cooperator         | Agent          | Planting Date |
|------------|--------------------|----------------|---------------|
| Calloway   | Mike Dixon         | Tim Lax        | May 25, 2018  |
| Cannon     | Justin Fann        | Steve Harris   | May 11, 2018  |
| Chester    | Mark Spradlin      | Steve Rickman  | May 22, 2018  |
| Fulton, KY | Linder Farms       | Ben Rudy       | May 12, 2018  |
| Gibson     | Denton Parkins     | Philip Shelby  | May 9, 2018   |
| Henry      | Wilson Farms       | Ranson Goodman | May 9, 2018   |
| Lake       | Jon Dickey         | Gregg Allen    | May 31, 2018  |
| Lauderdale | Allen & Chad Lewis | J.C. Dupree    | June 9, 2018  |
| Madison    | Jared King         | Jake Mallard   | May 24, 2018  |
| Weakley    | Jay Yeargin        | Jeff Lannom    | May 11, 2018  |

**Roundup Ready Late IV (4.6 - 4.9)**

| County        | Cooperator              | Agent          | Planting Date |
|---------------|-------------------------|----------------|---------------|
| Chester       | Mark Spradlin           | Steve Rickman  | May 22, 2018  |
| Coffee        | Jason Franklin          | Steve Harris   | May 15, 2018  |
| Crockett      | Ashley Elmore           | Richard Buntin | May 11, 2018  |
| Gibson        | Denton Parkins          | Philip Shelby  | May 11, 2018  |
| Maury         | MTREC                   | Kevin Rose     | May 22, 2018  |
| Henry         | Brannon Farms           | Ranson Goodman | May 25, 2018  |
| Lake          | Jon Dickey              | Gregg Allen    | May 31, 2018  |
| Madison       | Matt Griggs             | Jake Mallard   | May 22, 2018  |
| Marion        | Randy & Dewey Gilliam   | Matthew Deist  | May 23, 2018  |
| McCracken, KY | Lester & Tracy Sullivan | Bob Middleton  | July 3, 2018  |
| Trousdale     | Terry Martin            | Jason Evitts   | May 15, 2018  |

**Roundup Ready Early V (5.0 - 5.5)**

| County  | Cooperator     | Agent           | Planting Date |
|---------|----------------|-----------------|---------------|
| Gibson  | Denton Parkins | Phillip Shelby  | May 11, 2018  |
| Haywood | Hunter Hooper  | Lindsay Griffen | June 18, 2018 |
| Lake    | Jon Dickey     | Gregg Allen     | May 31, 2018  |
| Wayne   | Brent Dixon    | James Harlan    | May 16, 2018  |

**Liberty Link Early IV (4.0 - 4.5)**

| County  | Cooperator         | Agent         | Planting Date |
|---------|--------------------|---------------|---------------|
| Dyer    | YF&R               | Mitch Pigue   | May 16, 2018  |
| Gibson  | Denton Parkins     | Philip Shelby | May 8, 2018   |
| Madison | Ward's Grove Farms | Jake Mallard  | May 10, 2018  |

**Liberty Link Late IV (4.6 - 4.9)**

| County   | Cooperator         | Agent          | Planting Date |
|----------|--------------------|----------------|---------------|
| Dyer     | YF&R               | Mitch Pigue    | May 16, 2018  |
| Fayette  | Ames Plantation    | Jeff Via       | June 11, 2018 |
| Franklin | David Denton       | John Ferrell   | May 23, 2018  |
| Gibson   | Denton Parkins     | Philip Shelby  | May 8, 2018   |
| Henry    | Brannon Farms      | Ranson Goodman | June 25, 2018 |
| Madison  | Ward's Grove Farms | Jake Mallard   | May 10, 2018  |

**Table 3-a. Mean yield, agronomic traits, and quality of 11 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials at six REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                                       | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |           | Moisture at Harvest (%) |             | Plant Height (in.) |           | Lodging <sup>  </sup> (1-5) |            |
|---|----------------------------|---------------------------------|-----------|-------------------------|-------------|--------------------|-----------|-----------------------------|------------|
|   |                            | 1 yr                            | 2 yr      | 1 yr                    | 2 yr        | 1 yr               | 2 yr      | 1 yr                        | 2 yr       |
| Asgrow AG37X9 RR2X                            | R2X                        | 59 a                            |           | 13.2 c-e                |             | 39 a-b             |           | 1.6 c-f                     |            |
| Taylor 3908X                                  | R2X                        | 58 a-b                          |           | 13.9 a                  |             | 39 a-b             |           | 2.0 a-b                     |            |
| Credenz CZ 3601 LL                            | LL                         | 57 a-c                          |           | 13.4 b-d                |             | 36 c               |           | 1.7 b-e                     |            |
| Asgrow AG36X6 RR2X                            | R2X                        | 54 c-d                          | 54 b-c    | 13.4 b-d                | 12.7 b-c    | 33 d               | 33 e      | 1.4 d-f                     | 1.6 c      |
| Asgrow AG38X8 RR2X                            | R2X                        | 54 b-d                          | 56 a-b    | 13.2 c-e                | 12.6 b-c    | 35 c               | 35 d      | 1.3 f                       | 1.5 c      |
| Asgrow AG39X7 RR2X/SR                         | R2X, STS                   | 54 c-d                          | 59 a      | 13.1 d-e                | 12.5 c-d    | 39 a-b             | 39 a-b    | 1.4 d-f                     | 1.5 c      |
| Credenz CZ 3841 LL                            | LL                         | 54 b-d                          | 57 a-b    | 13.7 a-b                | 13.0 a      | 38 b               | 38 b-c    | 1.9 a-c                     | 2.0 a-b    |
| Asgrow AG37X8 RR2X                            | R2X                        | 53 c-d                          | 54 b-c    | 12.9 e                  | 12.3 d      | 38 b               | 37 c      | 1.3 e-f                     | 1.6 c      |
| Dyna-Gro S39XT08                              | R2X                        | 53 c-d                          | 55 b-c    | 13.6 a-c                | 12.8 b-c    | 39 a               | 39 a      | 1.7 b-d                     | 1.8 b-c    |
| Caverndale Farms CF 387 HT-GLYn               | RR                         | 52 d                            | 53 c      | 13.4 b-d                | 12.9 a-b    | 34 c-d             | 35 d      | 2.0 a-b                     | 2.0 a      |
| Warren Seed BG 3821 RR2X                      | R2X                        | 50 d                            |           | 13.5 b-d                |             | 39 a-b             |           | 2.2 a                       |            |
| <b>Average</b>                                |                            | <b>54</b>                       | <b>55</b> | <b>13.4</b>             | <b>12.7</b> | <b>37</b>          | <b>37</b> | <b>1.7</b>                  | <b>1.7</b> |
| <b>Standard Error</b>                         |                            | <b>5</b>                        | <b>4</b>  | <b>0.4</b>              | <b>0.7</b>  | <b>3</b>           | <b>3</b>  | <b>0.3</b>                  | <b>0.3</b> |
| <b>L.S.D.<sub>.05</sub></b>                   |                            | <b>4</b>                        | <b>3</b>  | <b>0.4</b>              | <b>0.3</b>  | <b>2</b>           | <b>1</b>  | <b>0.4</b>                  | <b>0.3</b> |
| <b>C.V.</b>                                   |                            | <b>11</b>                       | <b>11</b> | <b>5</b>                | <b>4</b>    | <b>7</b>           | <b>7</b>  | <b>34</b>                   | <b>36</b>  |
| <b>Plots per entry (reps x locs x years.)</b> |                            | <b>18</b>                       | <b>36</b> | <b>18</b>               | <b>36</b>   | <b>18</b>          | <b>36</b> | <b>18</b>                   | <b>36</b>  |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.



**Table 3-b. Mean yield, agronomic traits, and quality of 11 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in small plot replicated trials at six REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                                       | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |           | Maturity (DAP) |            | Protein <sup>¶</sup> (%) |             | Oil <sup>¶</sup> (%) |             |
|---|----------------------------|---------------------------------|-----------|----------------|------------|--------------------------|-------------|----------------------|-------------|
|   |                            | 1 yr                            | 2 yr      | 1 yr           | 2 yr       | 1 yr                     | 2 yr        | 1 yr                 | 2 yr        |
| Asgrow AG37X9 RR2X                            | R2X                        | 59 a                            |           | 120 b-e        |            | 40.5 c-d                 |             | 21.8 e               |             |
| Taylor 3908X                                  | R2X                        | 58 a-b                          |           | 122 a          |            | 41.3 b                   |             | 21.9 e               |             |
| Credenz CZ 3601 LL                            | LL                         | 57 a-c                          |           | 120 b-d        |            | 39.8 e                   |             | 22.8 a-c             |             |
| Asgrow AG36X6 RR2X                            | R2X                        | 54 c-d                          | 54 b-c    | 119 d-f        | 120 d      | 40.6 c-d                 | 39.9 b      | 22.7 b-c             | 22.5 b      |
| Asgrow AG38X8 RR2X                            | R2X                        | 54 b-d                          | 56 a-b    | 119 b-e        | 121 b-c    | 40.6 c-d                 | 40.1 b      | 22.2 d-e             | 22.0 c      |
| Asgrow AG39X7 RR2X/SR                         | R2X, STS                   | 54 c-d                          | 59 a      | 118 f          | 120 c-d    | 40.1 d-e                 | 39.6 b      | 21.8 e               | 21.6 d      |
| Credenz CZ 3841 LL                            | LL                         | 54 b-d                          | 57 a-b    | 120 b          | 121 a-b    | 41.3 a-c                 | 40.2 b      | 23.3 a-b             | 22.7 a-b    |
| Asgrow AG37X8 RR2X                            | R2X                        | 53 c-d                          | 54 b-c    | 119 c-f        | 121 c-d    | 42.1 a                   | 41.3 a      | 21.9 e               | 21.6 d      |
| Dyna-Gro S39XT08                              | R2X                        | 53 c-d                          | 55 b-c    | 120 b-c        | 122 a      | 41.5 a-b                 | 41.1 a      | 22.6 c-d             | 22.1 c      |
| Caverndale Farms CF 387 HT-GLYn               | RR                         | 52 d                            | 53 c      | 119 b-f        | 120 c-d    | 40.9 b-c                 | 39.6 b      | 23.2 a               | 23.0 a      |
| Warren Seed BG 3821 RR2X                      | R2X                        | 50 d                            |           | 119 e-f        |            | 40.8 b-d                 |             | 22.6 c-d             |             |
| <b>Average</b>                                |                            | <b>54</b>                       | <b>55</b> | <b>120</b>     | <b>121</b> | <b>40.9</b>              | <b>40.3</b> | <b>22.4</b>          | <b>22.2</b> |
| <b>Standard Error</b>                         |                            | <b>5</b>                        | <b>4</b>  | <b>4</b>       | <b>2</b>   | <b>0.3</b>               | <b>0.8</b>  | <b>0.2</b>           | <b>0.3</b>  |
| <b>L.S.D.<sub>.05</sub></b>                   |                            | <b>4</b>                        | <b>3</b>  | <b>1</b>       | <b>1</b>   | <b>0.7</b>               | <b>0.6</b>  | <b>0.5</b>           | <b>0.3</b>  |
| <b>C.V.</b>                                   |                            | <b>11</b>                       | <b>11</b> | <b>1</b>       | <b>1</b>   | <b>1</b>                 | <b>1</b>    | <b>1</b>             | <b>1</b>    |
| <b>Plots per entry (reps x locs x years.)</b> |                            | <b>18</b>                       | <b>36</b> | <b>18</b>      | <b>36</b>  | <b>3</b>                 | <b>6</b>    | <b>3</b>             | <b>6</b>    |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.

**Table 4. Mean yields across and by location of 11 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in replicated small plot trials at six REC locations in Tennessee during 2018. Analysis included variety performance across a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                                       | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        | Knoxville Irr. (bu/ac) |      | Springfield Irr. (bu/ac) |      | Springfield Non-Irr. (bu/ac) |      | Milan Irr. (bu/ac) |      | Milan Non-Irr. (bu/ac) |      | Jackson Non-Irr. (bu/ac) |      |
|---|----------------------------|---------------------------------|--------|------------------------|------|--------------------------|------|------------------------------|------|--------------------|------|------------------------|------|--------------------------|------|
|   |                            | 1 yr                            | 2 yr   | 1 yr                   | 2 yr | 1 yr                     | 2 yr | 1 yr                         | 2 yr | 1 yr               | 2 yr | 1 yr                   | 2 yr | 1 yr                     | 2 yr |
| Asgrow AG37X9 RR2X                            | R2X                        | 59 a                            |        | 71                     |      | 57                       |      | 30                           |      | 64                 |      | 63                     |      | 67                       |      |
| Taylor 3908X                                  | R2X                        | 58 a-b                          |        | 69                     |      | 58                       |      | 36                           |      | 63                 |      | 53                     |      | 69                       |      |
| Credenz CZ 3601 LL                            | LL                         | 57 a-c                          |        | 71                     |      | 57                       |      | 28                           |      | 59                 |      | 57                     |      | 67                       |      |
| Asgrow AG36X6 RR2X                            | R2X                        | 54 c-d                          | 54 b-c | 53                     | 59   | 55                       | 52   | 24                           | 32   | 63                 | 61   | 61                     | 61   | 67                       | 59   |
| Asgrow AG38X8 RR2X                            | R2X                        | 54 b-d                          | 56 a-b | 64                     | 66   | 57                       | 59   | 28                           | 36   | 60                 | 58   | 54                     | 59   | 61                       | 58   |
| Asgrow AG39X7 RR2X/SR                         | R2X, STS                   | 54 c-d                          | 59 a   | 63                     | 66   | 53                       | 62   | 34                           | 42   | 58                 | 63   | 56                     | 61   | 58                       | 58   |
| Credenz CZ 3841 LL                            | LL                         | 54 b-d                          | 57 a-b | 67                     | 69   | 55                       | 56   | 33                           | 38   | 59                 | 61   | 56                     | 59   | 58                       | 59   |
| Asgrow AG37X8 RR2X                            | R2X                        | 53 c-d                          | 54 b-c | 58                     | 63   | 58                       | 57   | 35                           | 40   | 53                 | 53   | 57                     | 59   | 58                       | 54   |
| Dyna-Gro S39XT08                              | R2X                        | 53 c-d                          | 55 b-c | 65                     | 70   | 44                       | 47   | 27                           | 35   | 57                 | 57   | 53                     | 56   | 68                       | 63   |
| Caverndale Farms CF 387 HT-GLYn               | RR                         | 52 d                            | 53 c   | 58                     | 62   | 67                       | 60   | 30                           | 38   | 51                 | 53   | 49                     | 49   | 60                       | 53   |
| Warren Seed BG 3821 RR2X                      | R2X                        | 50 d                            |        | 47                     |      | 52                       |      | 34                           |      | 53                 |      | 56                     |      | 54                       |      |
| <b>Average</b>                                |                            | 54                              | 55     | 62                     | 65   | 56                       | 56   | 31                           | 37   | 58                 | 58   | 56                     | 58   | 62                       | 58   |
| <b>Standard Error</b>                         |                            | 5                               | 4      | 3                      | 4    | 2                        | 4    | 5                            | 7    | 3                  | 2    | 4                      | 3    | 3                        | 5    |
| <b>L.S.D.<sub>.05</sub></b>                   |                            | 4                               | 3      | 8                      | 4    | 5                        | 8    | N.S.                         | N.S. | 6                  | 5    | N.S.                   | 7    | 8                        | N.S. |
| <b>C.V.</b>                                   |                            | 11                              | 11     | 8                      | 5    | 5                        | 13   | 19                           | 15   | 6                  | 7    | 13                     | 10   | 8                        | 10   |
| <b>Plots per entry (reps x locs x years.)</b> |                            | 18                              | 36     | 3                      | 6    | 3                        | 6    | 3                            | 6    | 3                  | 6    | 3                      | 6    | 3                        | 6    |

† Hybrids that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

**Table 5. Yields of eight Maturity Group III (3.0 - 3.9) Roundup Ready soybean varieties in eight County Standard Tests in Tennessee and Kentucky during 2018<sup>‡</sup>**

| MS†<br>Avg.<br>Yield | Variety             | Avg.<br>Yield <sup>§</sup><br>(bu/acre) | Avg.<br>Moisture<br>(%) | Percent of<br>locs. with<br>yield above<br>loc. avg. | Ches      | Fult      | Gibs      | Henr      | Hick      | Jeff      | Madi      | Weak      |
|----------------------|---------------------|---|-------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                      |                     |   |                         |  | 5/22      | 5/12      | 5/9       | 5/3       | 5/1       | 5/5       | 5/10      | 5/11      |
| A                    | AgriGold 3722       | 67                                      | 13.0                    | 100%   | 58        | 76        | 64        | 76        | 85        | 56        | 70        | 47        |
| A                    | *Asgrow 39X7        | 65                                      | 13.1                    | 88%  | 60        | 72        | 63        | 74        | 75        | 49        | 70        | 52        |
| AB                   | Asgrow 37X8         | 64                                      | 12.9                    | 63%  | 58        | 69        | 63        | 77        | 72        | 52        | 77        | 42        |
| ABC                  | *Asgrow 36X6        | 62                                      | 13.2                    | 38%  | 61        | 70        | 65        | 69        | 72        | 48        | 72        | 42        |
| BC                   | Asgrow 38X8         | 60                                      | 12.9                    | 25%  | 52        | 71        | 62        | 69        | 78        | 47        | 62        | 40        |
| C                    | NK S39-P5X          | 59                                      | 12.9                    | 13%  | 56        | 70        | 60        | 63        | 71        | 44        | 66        | 45        |
| C                    | Dyna-Gro S39XT08    | 59                                      | 12.9                    | 38%  | 55        | 76        | 56        | 73        | 62        | 50        | 61        | 41        |
| C                    | Warren Seed BG 3821 | 59                                      | 12.9                    | 25%  | 53        | 67        | 61        | 64        | 63        | 53        | 66        | 44        |
| <b>Average</b>       |                     |   |                         |  | <b>57</b> | <b>71</b> | <b>62</b> | <b>71</b> | <b>72</b> | <b>50</b> | <b>68</b> | <b>44</b> |

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Varieties marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) consecutive years within the previous three year evaluation period.

§ All yields are adjusted to 13% moisture.

County Locations include: Chester, Fulton KY, Gibson, Henry, Hickman, Jefferson, Madison, Weakley

**Table 6. Overall average yields, moistures, and test weights of 8 Maturity Group III (3.0 - 3.9) soybean varieties evaluated in both the County Standard Tests and Research and Education Center Tests in Tennessee during 2018.**

| Variety                  | Herbicide Pkg <sup>†</sup> | Avg. of CST and REC Tests         |                   | CST Tests                         |                   | REC Tests                         |                   |
|--------------------------|----------------------------|-----------------------------------|-------------------|-----------------------------------|-------------------|-----------------------------------|-------------------|
|                          |                            | Avg. Yield <sup>§</sup> (bu/acre) | Avg. Moisture (%) | Avg. Yield <sup>§</sup> (bu/acre) | Avg. Moisture (%) | Avg. Yield <sup>§</sup> (bu/acre) | Avg. Moisture (%) |
| Asgrow AG39X7 RR2X/SR    | R2X, STS                   | 59                                | 13.1              | 65                                | 13.1              | 54                                | 13.1              |
| Asgrow AG37X8 RR2X       | R2X                        | 58                                | 12.9              | 64                                | 12.9              | 53                                | 12.9              |
| Asgrow AG36X6 RR2X       | R2X                        | 58                                | 13.3              | 62                                | 13.2              | 54                                | 13.4              |
| Asgrow AG38X8 RR2X       | R2X                        | 57                                | 13.1              | 60                                | 12.9              | 54                                | 13.2              |
| Dyna-Gro S39XT08         | R2X                        | 56                                | 13.3              | 59                                | 12.9              | 53                                | 13.6              |
| Warren Seed BG 3821 RR2X | R2X                        | 54                                | 13.2              | 59                                | 12.9              | 50                                | 13.5              |
| Credenz CZ 3601 LL       | LL                         | 53                                | 13.8              | 57                                | 13.4              | 49                                | 14.1              |
| Credenz CZ 3841 LL       | LL                         | 51                                | 14.0              | 54                                | 13.7              | 48                                | 14.3              |
| <b>Average</b>           |                            | <b>57</b>                         | <b>13.1</b>       | <b>61</b>                         | <b>13.0</b>       | <b>53</b>                         | <b>13.3</b>       |

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

**Table 7. Yields and disease ratings of 8 Maturity Group III Roundup Ready soybean varieties in 8 County Standard Tests and in small plot trials at one Research and Education Center and one on-farm location in Tennessee during 2018**

| Summary from County Tests |                     |                    | Summary from Small Plot Research              |             |                   |             |                                   |             |             |                   |             |
|---------------------------|---------------------|--------------------|---|-------------|-------------------|-------------|-----------------------------------|-------------|-------------|-------------------|-------------|
| MS                        | Variety             | Avg. Yield (bu/ac) | Research and Education Center at Milan (RECM) |             |                   |             | On-farm Location in Jackson (JAX) |             |             |                   |             |
|                           |                     |                    | RECM - YLD                                    |             | Frogeye leaf spot | Target Spot | Other Diseases                    | JAX - YLD   |             | Frogeye leaf spot | Target Spot |
|                           |                     |                    | *Treated                                      | Non-treated |                   |             |                                   | *Treated    | Non-treated |                   |             |
| A                         | AgriGold 3722       | 66.6               | 57.1  | 49.6        | LOW               | MOD         | CLB                               | 62.1        | 58.4        | LOW               | LOW         |
| A                         | Asgrow 39X7*        | 64.5               | 57.7  | 43.6        | HIGH              | MOD         | SC                                | 58.0        | 50.6        | HIGH              | MOD         |
| AB                        | Asgrow 37X8         | 63.7               | 53.7  | 47.1        | MOD               | MOD         | SC                                | 51.2        | 51.0        | MOD               | MOD         |
| ABC                       | Asgrow 36X6*        | 62.3               | 56.5  | 53.6        | MOD               | MOD         | CLB                               | 59.0        | 53.0        | MOD               | MOD         |
| BC                        | Asgrow 38X8         | 60.1               | 56.8  | 50.0        | LOW               | HIGH        | CLB                               | 56.0        | 51.1        | LOW               | MOD         |
| C                         | Dyna-Gro S39XT08    | 59.1               | 54.5  | 48.4        | HIGH              | MOD         | SDS                               | 55.3        | 50.4        | HIGH              | LOW         |
| C                         | NK S39-P5X          | 59.1               | 52.8  | 45.2        | MOD               | LOW         | CLB, SDS                          | 55.7        | 55.2        | HIGH              | LOW         |
| C                         | Warren Seed BG 3821 | 58.9               | 52.7  | 48.6        | HIGH              | HIGH        | SC, CLB                           | 52.4        | 44.2        | HIGH              | HIGH        |
| <b>Average</b>            |                     | <b>61.8</b>        | <b>55.2</b>                                   | <b>48.3</b> |                   |             |                                   | <b>56.2</b> | <b>51.7</b> |                   |             |

YLD= Avg. Yield @ 15% moisture

MS= Varieties that have any MS letter in common are not statistically different in yield at the 5% level of probability.

Varieties denoted with an asterisks (\*) or (\*\*) etc. were in the top performing group for consecutive years.

County locations include: Chester, Fulton KY, Gibson, Henry, Hickman, Jefferson, Madison, Weakley

\*Treated plots sprayed with Quadris TOP SBX @ 7 oz./Acre + 0.25% Induce @ R3 growth stage. RECM varieties planted June 5 and JAX planted June 14

LOW, MOD, and HIGH is a relative ranking of disease severity at each location. Other diseases noted: SC=Stem Canker, CLB=Cercospora Leaf Blight, SDS=Sudden Death Syndrome; ' - ' indicate variety was not tested at that location

**Disease ratings at RECM:** Frogeye leaf spot ranged from 0 - 15% with an average of 6%; Target spot ranged from 0 - 18% with an average of 9%.

**Disease ratings at JAX:** Frogeye leaf spot ranged from 0 - 9% with an average of 4%; Target spot ranged from 0 - 23% with an average of 10%; other diseases were not rated or noted at this location for this maturity group

Disease ratings & yield data compiled by Dr. Heather Kelly from replicated plots at the Research and Education Center at Milan and on-farm location in Jackson.

County data provided by Ryan Blair, Ext. Area Specialist, and the extension agents.

**Table 8-a. Mean yield, agronomic traits, and quality of 50 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials at six REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                    | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Moisture at Harvest (%) |          |        | Plant Height (in.) |        |      | Lodging <sup>  </sup> (1-5) |         |       |
|----------------------------|----------------------------|---------------------------------|--------|--------|-------------------------|----------|--------|--------------------|--------|------|-----------------------------|---------|-------|
|                            |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr                    | 2 yr     | 3 yr   | 1 yr               | 2 yr   | 3 yr | 1 yr                        | 2 yr    | 3 yr  |
| Dyna-Gro S44XS68           | R2X, STS                   | 63 a                            |        |        | 13 b-f                  |          |        | 43 c-f             |        |      | 1.4 m-q                     |         |       |
| Taylor 4209X               | R2X                        | 62 a-b                          |        |        | 13 b-g                  |          |        | 40 m-p             |        |      | 1.6 h-o                     |         |       |
| Asgrow AG45X8 RR2X/SR**    | R2X, STS                   | 61 a-c                          | 64 a-b |        | 13 b-g                  | 13 a-c   |        | 40 l-p             | 41 c-d |      | 1.7 f-n                     | 1.8 b-d |       |
| Dyna-Gro S41XS98**         | R2X, STS                   | 61 a-c                          | 65 a   |        | 13 b-d                  | 13 a-c   |        | 39 o-q             | 40 d-e |      | 1.5 j-o                     | 1.6 d-h |       |
| Warren Seed BG 4510 RR2X** | R2X                        | 61 a-c                          | 63 a-b |        | 12 h                    | 13 d     |        | 44 b-d             | 44 a   |      | 1.5 i-o                     | 1.5 f-h |       |
| Dyna-Gro S45XS37**         | R2X, STS                   | 60 a-e                          | 64 a-b |        | 13 a-c                  | 13 a-b   |        | 43 c-f             | 44 a   |      | 2.2 c-e                     | 2.1 a   |       |
| Warren Seed BG 4210 RR2X** | R2X                        | 60 a-f                          | 65 a-b |        | 13 b-e                  | 13 a-c   |        | 39 n-q             | 39 e-f |      | 1.3 n-q                     | 1.4 g-i |       |
| Warren Seed BG 4322 RR2X** | R2X                        | 60 a-f                          | 64 a-b |        | 13 c-h                  | 13 b-d   |        | 45 a-b             | 43 a-b |      | 2.3 c-d                     | 1.8 b-d |       |
| Taylor 4308X               | R2X                        | 60 a-e                          |        |        | 13 c-g                  |          |        | 44 a-c             |        |      | 2.1 c-f                     |         |       |
| USG 7447XTS                | R2X, STS                   | 60 a-d                          |        |        | 13 b-g                  |          |        | 42 e-h             |        |      | 1.9 c-i                     |         |       |
| Progeny P4570RXS           | R2X, STS                   | 60 a-f                          |        |        | 13 a-b                  |          |        | 44 b-d             |        |      | 1.6 g-o                     |         |       |
| AgriGold G4440RX           | R2X, STS                   | 59 b-i                          | 64 a-b |        | 13 b-g                  | 13 a-c   |        | 43 c-f             | 43 a-b |      | 2.1 c-g                     | 2.0 a-b |       |
| Local Seed Co. LS4565XS    | R2X, STS                   | 59 a-h                          |        |        | 13 b-e                  |          |        | 43 c-g             |        |      | 2.0 c-i                     |         |       |
| Hefty H45X8S               | R2X                        | 59 a-g                          |        |        | 13 b-g                  |          |        | 43 d-h             |        |      | 1.9 d-j                     |         |       |
| Armor 42-D27               | R2X                        | 59 a-h                          |        |        | 13 a-b                  |          |        | 40 m-p             |        |      | 1.7 g-n                     |         |       |
| Asgrow AG43X7 RR2X/SR      | R2X, STS                   | 58 b-j                          | 62 b-c | 60 a   | 13 b-g                  | 13 a-c   | 13 a-b | 42 f-i             | 43 a-b | 44 a | 1.9 d-k                     | 1.9 a-c | 1.9 a |
| Dyna-Gro SX18845XT         | R2X                        | 58 b-k                          |        |        | 13 b-d                  |          |        | 42 f-k             |        |      | 1.6 g-o                     |         |       |
| NK Seed S42-B9XS           | R2X, STS                   | 58 b-k                          |        |        | 13 b-f                  |          |        | 37 t-u             |        |      | 1.0 p-q                     |         |       |
| AgriGold G4190RX           | R2X, STS                   | 58 c-k                          |        |        | 13 b-d                  |          |        | 39 p-r             |        |      | 1.8 e-m                     |         |       |
| AgriGold G4579RX           | R2X, STS                   | 58 c-k                          |        |        | 14 a                    |          |        | 44 b-d             |        |      | 1.7 f-n                     |         |       |
| Armor 45-D43               | R2X                        | 58 b-k                          |        |        | 13 b-f                  |          |        | 39 n-q             |        |      | 1.9 d-l                     |         |       |
| Dyna-Gro S43XS27           | R2X, STS                   | 57 c-l                          | 62 b-c | 58 a-b | 13 b-g                  | 13 a-c   | 13 a   | 43 c-g             | 43 a-b | 43 a | 2.0 c-h                     | 2.0 a-b | 2.0 a |
| LG Seeds LGS4597RX         | R2X                        | 57 c-l                          |        |        | 13 b-f                  |          |        | 42 f-k             |        |      | 2.0 c-i                     |         |       |
| Credenz CZ 4308 LL         | LL                         | 57 d-l                          |        |        | 13 c-h                  |          |        | 42 h-m             |        |      | 2.2 c-e                     |         |       |
| NK Seed S45-J3X            | R2X                        | 57 d-m                          |        |        | 13 a-c                  |          |        | 37 r-t             |        |      | 1.7 f-n                     |         |       |
| Armor 45-D50               | R2X                        | 57 d-l                          |        |        | 13 b-f                  |          |        | 42 f-i             |        |      | 2.1 c-f                     |         |       |
| Progeny 4247LL             | LL                         | 56 e-n                          | 59 d-f | 57 a-c | 13 e-h                  | 13 c-d   | 13 a-b | 38 q-s             | 38 f-g | 39 b | 1.4 k-p                     | 1.3 h-i | 1.2 c |
| Hefty H43X8                | R2X                        | 56 e-n                          | 58 d-f |        | 13 b-d                  | 13 a     |        | 44 b-e             | 43 a-b |      | 1.7 e-m                     | 1.7 c-f |       |
| MO S13-2743C               | CONV                       | 56 f-o                          | 57 e-h |        | 13 b-f                  | 13 a-c   |        | 42 e-i             | 41 c-d |      | 1.4 l-q                     | 1.6 d-g |       |
| Local Seed Co. LS4583X     | R2X                        | 56 f-o                          |        |        | 13 b-d                  |          |        | 42 f-j             |        |      | 2.0 c-h                     |         |       |
| Asgrow AG42X9 RR2X         | R2X                        | 56 d-m                          |        |        | 12.9 b-f                |          |        | 46 a               |        |      | 1.8 e-m                     |         |       |
| Asgrow AG43X8 RR2X         | R2X                        | 56 f-o                          |        |        | 12.9 b-f                |          |        | 42 e-h             |        |      | 1.5 j-o                     |         |       |
| Mission Seed A4447NSXR2    | R2X                        | 56 d-m                          |        |        | 12.9 b-f                |          |        | 44 b-e             |        |      | 1.7 e-m                     |         |       |
| Asgrow AG44X6 RR2X         | R2X                        | 55 i-o                          | 59 c-d | 57 a-c | 13.0 b-d                | 13.1 a-c | 12.5 b | 42 f-k             | 42 b-c | 43 a | 1.6 g-o                     | 1.8 b-e | 1.6 b |
| Caverndale Farms CF 427    | RR, STS                    | 55 i-o                          | 58 d-g |        | 13.0 b-d                | 13.2 a-b |        | 38 q-s             | 38 f-g |      | 1.7 f-n                     | 1.8 b-e |       |
| MO S13-10590C              | CONV                       | 55 i-o                          | 55 h   |        | 12.8 b-g                | 13.2 a-b |        | 41 j-o             | 40 e   |      | 1.7 f-n                     | 1.8 b-f |       |
| MO S13-3851C               | CONV                       | 55 g-o                          | 57 d-h |        | 13.0 b-d                | 13.1 a-c |        | 39 p-r             | 38 g   |      | 2.4 b-c                     | 2.1 a-b |       |
| Progeny 4255RX             | R2X                        | 55 h-o                          | 57 d-h |        | 12.8 b-g                | 13.1 a-c |        | 41 i-n             | 41 d-e |      | 2.1 c-g                     | 2.0 a-b |       |

**Table 8-a. cont.**

| Variety                                       | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |           |           | Moisture at Harvest (%) |             |             | Plant Height (in.) |           |           | Lodging <sup>  </sup> (1-5) |            |            |
|---|----------------------------|---------------------------------|-----------|-----------|-------------------------|-------------|-------------|--------------------|-----------|-----------|-----------------------------|------------|------------|
|   |                            | 1 yr                            | 2 yr      | 3 yr      | 1 yr                    | 2 yr        | 3 yr        | 1 yr               | 2 yr      | 3 yr      | 1 yr                        | 2 yr       | 3 yr       |
| Credenz CZ 4105 LL                            | LL                         | 54 k-q                          | 56 f-h    | 55 b-c    | 13.0 b-d                | 13.0 a-c    | 12.7 a-b    | 35 u               | 36 h      | 37 c      | 1.0 q                       | 1.1 i      | 1.2 c      |
| Credenz CZ 4222 LL                            | LL,STS                     | 54 j-p                          | 57 d-h    | 55 b-c    | 12.9 b-f                | 13.1 a-b    | 12.7 a-b    | 38 r-t             | 38 g      | 39 b      | 1.6 h-o                     | 1.6 d-g    | 1.6 b      |
| Progeny 4444RXS                               | R2X, STS                   | 54 l-r                          | 59 c-e    |           | 12.8 b-f                | 13.0 a-c    |             | 38 q-s             | 39 e-f    |           | 1.9 d-j                     | 2.0 a-c    |            |
| Credenz CZ 4548 LL                            | LL                         | 54 j-p                          |           |           | 12.6 d-h                |             |             | 41 h-m             |           |           | 2.2 c-e                     |            |            |
| GoSoy 43C17S                                  | CONV                       | 53 m-r                          |           |           | 12.6 d-h                |             |             | 33 v               |           |           | 1.2 o-q                     |            |            |
| Credenz CZ 4044 LL                            | LL                         | 52 n-r                          | 55 g-h    | 54 c      | 12.9 b-f                | 12.9 a-c    | 12.8 a-b    | 37 s-t             | 37 g      | 38 b      | 1.5 j-o                     | 1.5 e-h    | 1.6 b      |
| GoSoy E4510S                                  | CONV                       | 52 o-r                          |           |           | 12.8 b-g                |             |             | 37 s-t             |           |           | 1.3 n-q                     |            |            |
| Progeny P4318RX                               | R2X                        | 51 p-r                          |           |           | 12.5 f-h                |             |             | 43 c-f             |           |           | 2.4 b-c                     |            |            |
| Armor X44-D36                                 | R2X                        | 50 q-r                          |           |           | 13.0 b-d                |             |             | 40 k-o             |           |           | 1.4 m-q                     |            |            |
| Local Seed Co. LS4487XS                       | R2X, STS                   | 50 r                            |           |           | 12.8 b-g                |             |             | 44 a-d             |           |           | 2.7 a-b                     |            |            |
| VA V14-1219                                   | CONV                       | 46 s                            |           |           | 12.4 g-h                |             |             | 42 h-l             |           |           | 2.1 c-f                     |            |            |
| MO S13-10592C                                 | CONV                       | 46 s                            |           |           | 12.9 b-f                |             |             | 42 g-k             |           |           | 3.1 a                       |            |            |
| <b>Average</b>                                |                            | <b>56</b>                       | <b>60</b> | <b>57</b> | <b>12.8</b>             | <b>13.0</b> | <b>12.7</b> | <b>41</b>          | <b>41</b> | <b>40</b> | <b>1.8</b>                  | <b>1.7</b> | <b>1.6</b> |
| <b>Standard Error</b>                         |                            | <b>5</b>                        | <b>5</b>  | <b>4</b>  | <b>0.4</b>              | <b>0.4</b>  | <b>0.5</b>  | <b>4</b>           | <b>3</b>  | <b>2</b>  | <b>0.3</b>                  | <b>0.3</b> | <b>0.3</b> |
| <b>L.S.D.<sub>.05</sub></b>                   |                            | <b>4</b>                        | <b>3</b>  | <b>3</b>  | <b>0.5</b>              | <b>N.S.</b> | <b>0.5</b>  | <b>1</b>           | <b>1</b>  | <b>2</b>  | <b>0.5</b>                  | <b>0.3</b> | <b>0.2</b> |
| <b>C.V.</b>                                   |                            | <b>11</b>                       | <b>11</b> | <b>11</b> | <b>6</b>                | <b>6</b>    | <b>10</b>   | <b>5</b>           | <b>6</b>  | <b>10</b> | <b>-</b>                    | <b>-</b>   | <b>-</b>   |
| <b>Plots per entry (reps x locs x years.)</b> |                            | <b>21</b>                       | <b>42</b> | <b>45</b> | <b>21</b>               | <b>42</b>   | <b>45</b>   | <b>18</b>          | <b>36</b> | <b>45</b> | <b>18</b>                   | <b>36</b>  | <b>45</b>  |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.

**Table 8-b. Mean yield, agronomic traits, and quality of 50 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in small plot replicated trials at six REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                    | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Maturity (DAP) |         |       | Protein <sup>¶</sup> (%) |          |      | Oil <sup>¶</sup> (%) |          |      |
|----------------------------|----------------------------|---------------------------------|--------|--------|----------------|---------|-------|--------------------------|----------|------|----------------------|----------|------|
|                            |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr           | 2 yr    | 3 yr  | 1 yr                     | 2 yr     | 3 yr | 1 yr                 | 2 yr     | 3 yr |
| Dyna-Gro S44XS68           | R2X, STS                   | 63 a                            |        |        | 127 j-m        |         |       | 40.8 d-h                 |          |      | 21.8 w-aa            |          |      |
| Taylor 4209X               | R2X                        | 62 a-b                          |        |        | 123 s-u        |         |       | 40.8 c-i                 |          |      | 22.2 n-s             |          |      |
| Asgrow AG45X8 RR2X/SR**    | R2X, STS                   | 61 a-c                          | 64 a-b |        | 129 e-j        | 129 c-d |       | 39.8 l-r                 | 39.4 e-f |      | 21.8 w-aa            | 21.4 g-i |      |
| Dyna-Gro S41XS98**         | R2X, STS                   | 61 a-c                          | 65 a   |        | 124 r-u        | 124 h-j |       | 40.5 e-l                 | 40.1 c-d |      | 22.4 k-q             | 21.9 c-e |      |
| Warren Seed BG 4510 RR2X** | R2X                        | 61 a-c                          | 63 a-b |        | 128 g-l        | 128 e   |       | 39.6 o-t                 | 39.7 d-f |      | 22.0 r-w             | 21.4 f-i |      |
| Dyna-Gro S45XS37**         | R2X, STS                   | 60 a-e                          | 64 a-b |        | 132 a-c        | 132 a   |       | 40.3 f-o                 | 39.7 d-f |      | 21.6 y-bb            | 21.4 g-i |      |
| Warren Seed BG 4210 RR2X** | R2X                        | 60 a-f                          | 65 a-b |        | 124 r-u        | 124 g-i |       | 41.1 b-e                 | 40.6 a-c |      | 21.9 s-y             | 21.6 d-g |      |
| Warren Seed BG 4322 RR2X** | R2X                        | 60 a-f                          | 64 a-b |        | 132 a-b        | 128 d-e |       | 40.1 h-p                 | 39.6 d-f |      | 21.5 aa-bb           | 21.6 e-h |      |
| Taylor 4308X               | R2X                        | 60 a-e                          |        |        | 131 a-e        |         |       | 40.8 c-g                 |          |      | 21.4 b-b             |          |      |
| USG 7447XTS                | R2X, STS                   | 60 a-d                          |        |        | 131 a-d        |         |       | 40.1 g-p                 |          |      | 21.8 w-bb            |          |      |
| Progeny P4570RXS           | R2X, STS                   | 60 a-f                          |        |        | 131 a-d        |         |       | 40.0 i-q                 |          |      | 22.9 d-f             |          |      |
| AgriGold G4440RX           | R2X, STS                   | 59 b-i                          | 64 a-b |        | 131 a-d        | 131 a   |       | 39.4 p-t                 | 39.6 d-f |      | 21.8 v-aa            | 21.4 f-i |      |
| Local Seed Co. LS4565XS    | R2X, STS                   | 59 a-h                          |        |        | 132 a-b        |         |       | 40.1 g-p                 |          |      | 21.6 y-bb            |          |      |
| Hefty H45X8S               | R2X                        | 59 a-g                          |        |        | 130 c-f        |         |       | 39.5 o-t                 |          |      | 21.8 u-aa            |          |      |
| Armor 42-D27               | R2X                        | 59 a-h                          |        |        | 124 r-u        |         |       | 41.2 b-d                 |          |      | 22.1 p-u             |          |      |
| Asgrow AG43X7 RR2X/SR      | R2X, STS                   | 58 b-j                          | 62 b-c | 60 a   | 127 j-m        | 128 d-e | 125 b | 39.9 j-r                 | 39.5 d-f |      | 21.8 t-aa            | 21.3 g-i |      |
| Dyna-Gro SX18845XT         | R2X                        | 58 b-k                          |        |        | 131 a-f        |         |       | 40.2 f-p                 |          |      | 22.1 p-v             |          |      |
| NK Seed S42-B9XS           | R2X, STS                   | 58 b-k                          |        |        | 126 m-q        |         |       | 40.2 g-o                 |          |      | 22.6 g-n             |          |      |
| AgriGold G4190RX           | R2X, STS                   | 58 c-k                          |        |        | 123 s-u        |         |       | 40.6 d-k                 |          |      | 22.4 l-q             |          |      |
| AgriGold G4579RX           | R2X, STS                   | 58 c-k                          |        |        | 132 a          |         |       | 39.8 l-r                 |          |      | 22.9 d-g             |          |      |
| Armor 45-D43               | R2X                        | 58 b-k                          |        |        | 126 l-p        |         |       | 39.1 r-u                 |          |      | 22.7 f-l             |          |      |
| Dyna-Gro S43XS27           | R2X, STS                   | 57 c-l                          | 62 b-c | 58 a-b | 131 a-e        | 131 a-b | 126 a | 39.9 j-q                 | 40.0 c-e |      | 21.8 w-aa            | 21.3 h-i |      |
| LG Seeds LGS4597RX         | R2X                        | 57 c-l                          |        |        | 130 c-g        |         |       | 39.8 l-s                 |          |      | 21.9 s-z             |          |      |
| Credenz CZ 4308 LL         | LL                         | 57 d-l                          |        |        | 127 k-n        |         |       | 40.6 d-k                 |          |      | 22.7 f-i             |          |      |
| NK Seed S45-J3X            | R2X                        | 57 d-m                          |        |        | 126 m-q        |         |       | 41.0 c-f                 |          |      | 23.1 c-e             |          |      |
| Armor 45-D50               | R2X                        | 57 d-l                          |        |        | 130 b-f        |         |       | 39.7 m-s                 |          |      | 21.9 s-z             |          |      |
| Progeny 4247LL             | LL                         | 56 e-n                          | 59 d-f | 57 a-c | 125 o-s        | 126 f-g | 121 c | 38.9 t-u                 | 38.4 g   |      | 22.9 d-f             | 22.3 a   |      |
| Hefty H43X8                | R2X                        | 56 e-n                          | 58 d-f |        | 128 h-l        | 129 c-e |       | 39.6 n-t                 | 39.3 f   |      | 22.2 p-s             | 21.5 e-h |      |
| MO S13-2743C               | CONV                       | 56 f-o                          | 57 e-h |        | 125 o-s        | 126 f   |       | 40.7 d-i                 | 40.4 b-c |      | 22.7 f-j             | 22.2 a-b |      |
| Local Seed Co. LS4583X     | R2X                        | 56 f-o                          |        |        | 130 c-g        |         |       | 40.0 i-q                 |          |      | 22.1 q-w             |          |      |
| Asgrow AG42X9 RR2X         | R2X                        | 56 d-m                          |        |        | 130 d-h        |         |       | 39.4 p-u                 |          |      | 23.7 a               |          |      |
| Asgrow AG43X8 RR2X         | R2X                        | 56 f-o                          |        |        | 129 f-j        |         |       | 40.8 c-h                 |          |      | 21.9 s-z             |          |      |
| Mission Seed A4447NSXR2    | R2X                        | 56 d-m                          |        |        | 128 i-l        |         |       | 40.4 e-n                 |          |      | 21.6 z-bb            |          |      |
| Asgrow AG44X6 RR2X         | R2X                        | 55 i-o                          | 59 c-d | 57 a-c | 128 g-k        | 129 c-e | 125 b | 41.3 b-d                 | 40.9 a-b |      | 21.9 s-x             | 21.5 e-h |      |
| Caverndale Farms CF 427    | RR, STS                    | 55 i-o                          | 58 d-g |        | 126 m-q        | 126 f   |       | 40.6 d-k                 | 40.5 a-c |      | 22.9 d-g             | 22.3 a   |      |
| MO S13-10590C              | CONV                       | 55 i-o                          | 55 h   |        | 129 d-i        | 130 b-c |       | 41.0 c-f                 | 40.1 c-d |      | 22.4 i-p             | 22.3 a-b |      |
| MO S13-3851C               | CONV                       | 55 g-o                          | 57 d-h |        | 125 p-t        | 125 f-h |       | 41.3 b-d                 | 40.1 c-e |      | 22.2 o-t             | 22.2 a-c |      |
| Progeny 4255RX             | R2X                        | 55 h-o                          | 57 d-h |        | 124 r-u        | 124 i-j | 120 d | 40.4 e-m                 | 40.0 c-e |      | 21.5 aa-bb           | 21.1 i   |      |



**Table 8-b. cont.**

| Variety                                | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Maturity (DAP) |         |       | Protein <sup>¶</sup> (%) |          |      | Oil <sup>¶</sup> (%) |          |      |
|--|----------------------------|---------------------------------|--------|--------|----------------|---------|-------|--------------------------|----------|------|----------------------|----------|------|
|  |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr           | 2 yr    | 3 yr  | 1 yr                     | 2 yr     | 3 yr | 1 yr                 | 2 yr     | 3 yr |
| Credenz CZ 4105 LL                     | LL                         | 54 k-q                          | 56 f-h | 55 b-c | 124 q-t        | 125 f-h | 121 c | 41.9 a-b                 | 41.1 a   | -    | 21.7 x-bb            | 21.8 d-f | -    |
| Credenz CZ 4222 LL                     | LL,STS                     | 54 j-p                          | 57 d-h | 55 b-c | 127 k-o        | 128 e   | -     | 39.0 s-u                 | 38.1 g   | -    | 22.3 m-r             | 22.3 a   | -    |
| Progeny 4444RXS                        | R2X, STS                   | 54 l-r                          | 59 c-e | -      | 127 k-n        | -       | -     | 39.1 r-u                 | 39.1 f   | -    | 22.8 d-h             | 22.0 b-d | -    |
| Credenz CZ 4548 LL                     | LL                         | 54 j-p                          | -      | -      | 123 t-u        | -       | -     | 39.3 q-u                 | -        | -    | 23.3 b-c             | -        | -    |
| GoSoy 43C17S                           | CONV                       | 53 m-r                          | -      | -      | 123 u          | 123 j   | 119 d | 39.9 k-q                 | -        | -    | 22.5 h-o             | -        | -    |
| Credenz CZ 4044 LL                     | LL                         | 52 n-r                          | 55 g-h | 54 c   | 125 n-r        | -       | -     | 40.6 d-k                 | 40.1 c-d | -    | 22.8 e-h             | 22.4 a   | -    |
| GoSoy E4510S                           | CONV                       | 52 o-r                          | -      | -      | 124 s-u        | -       | -     | 42.5 a                   | -        | -    | 22.0 s-x             | -        | -    |
| Progeny P4318RX                        | R2X                        | 51 p-r                          | -      | -      | 124 r-u        | -       | -     | 39.9 j-q                 | -        | -    | 22.4 j-p             | -        | -    |
| Armor X44-D36                          | R2X                        | 50 q-r                          | -      | -      | -              | -       | -     | 38.6 u                   | -        | -    | 23.4 a-b             | -        | -    |
| Local Seed Co. LS4487XS                | R2X, STS                   | 50 r                            | -      | -      | 128 g-l        | -       | -     | 40.0 i-q                 | -        | -    | 22.7 f-k             | -        | -    |
| VA V14-1219                            | CONV                       | 46 s                            | -      | -      | 124 q-t        | -       | -     | 40.7 d-j                 | -        | -    | 23.1 c-d             | -        | -    |
| MO S13-10592C                          | CONV                       | 46 s                            | -      | -      | 131 a-d        | -       | -     | 41.6 b-c                 | -        | -    | 22.6 g-m             | -        | -    |
| Average                                |                            | 56                              | 60     | 57     | 127            | 127     | 122   | 40.2                     | 39.8     | -    | 22.3                 | 21.8     | -    |
| Standard Error                         |                            | 5                               | 5      | 4      | 3              | 2       | 4     | 0.3                      | 0.5      | -    | 0.1                  | 0.4      | -    |
| L.S.D. <sub>.05</sub>                  |                            | 4                               | 3      | 3      | 2              | 1       | 1     | 0.7                      | 0.6      | -    | 0.3                  | 0.4      | -    |
| C.V.                                   |                            | 11                              | 11     | 11     | 2              | 2       | 2     | 1                        | 1        | -    | 1                    | 1        | -    |
| Plots per entry (reps x locs x years.) |                            | 21                              | 42     | 45     | 18             | 36      | 45    | 3                        | 6        | -    | 3                    | 6        | -    |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.

**Table 9. Mean yields across and by location of 50 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in replicated small plot trials at six REC locations in Tennessee during 2018. Analysis included variety performance across a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                    | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Knoxville Irr. (bu/ac) |      |      | Springfield Irr. (bu/ac) |      |      | Springfield Non-Irr. (bu/ac) |      |      | Milan Irr. (bu/ac) |      |      | Milan Non-Irr. (bu/ac) |      |      | Jackson Non-Irr. (bu/ac) |      |      | Memphis Irr. (bu/ac) |      |      |
|----------------------------|----------------------------|---------------------------------|--------|--------|------------------------|------|------|--------------------------|------|------|------------------------------|------|------|--------------------|------|------|------------------------|------|------|--------------------------|------|------|----------------------|------|------|
|                            |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                         | 2 yr | 3 yr | 1 yr               | 2 yr | 3 yr | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                 | 2 yr | 3 yr |
| Dyna-Gro S44XS68           | R2X, STS                   | 63 a                            |        |        | 81                     |      |      | 72                       |      |      | 32                           |      |      | 66                 |      |      | 54                     |      |      | 61                       |      |      | 71                   |      |      |
| Taylor 4209X               | R2X                        | 62 a-b                          |        |        | 66                     |      |      | 65                       |      |      | 36                           |      |      | 69                 |      |      | 58                     |      |      | 65                       |      |      | 68                   |      |      |
| Asgrow AG45X8 RR2X/SR**    | R2X, STS                   | 61 a-c                          | 64 a-b |        | 71                     | 70   |      | 69                       | 74   |      | 32                           | 40   |      | 62                 | 61   |      | 55                     | 65   |      | 66                       | 62   |      | 75                   | 73   |      |
| Dyna-Gro S41XS98**         | R2X, STS                   | 61 a-c                          |        |        | 72 73                  |      |      | 64 72                    |      |      | 32 43                        |      |      | 71 72              |      |      | 54 62                  |      |      | 70 66                    |      |      | 69 69                |      |      |
| Warren Seed BG 4510 RR2X** | R2X                        | 61 a-c                          |        |        | 79 74                  |      |      | 70 75                    |      |      | 36 44                        |      |      | 62 66              |      |      | 48 57                  |      |      | 56 57                    |      |      | 74 71                |      |      |
| Dyna-Gro S45XS37**         | R2X, STS                   | 60 a-e                          |        |        | 74 73                  |      |      | 69 74                    |      |      | 28 39                        |      |      | 61 64              |      |      | 52 62                  |      |      | 54 56                    |      |      | 82 74                |      |      |
| Warren Seed BG 4210 RR2X** | R2X                        | 60 a-f                          |        |        | 79 81                  |      |      | 64 76                    |      |      | 33 40                        |      |      | 64 67              |      |      | 53 61                  |      |      | 61 60                    |      |      | 66 67                |      |      |
| Warren Seed BG 4322 RR2X** | R2X                        | 60 a-f                          |        |        | 77 74                  |      |      | 62 70                    |      |      | 40 49                        |      |      | 60 67              |      |      | 47 60                  |      |      | 66 62                    |      |      | 65 69                |      |      |
| Taylor 4308X               | R2X                        | 60 a-e                          |        |        | 79                     |      |      | 63                       |      |      | 36                           |      |      | 62                 |      |      | 45                     |      |      | 64                       |      |      | 70                   |      |      |
| USG 7447XTS                | R2X, STS                   | 60 a-d                          |        |        | 81                     |      |      | 67                       |      |      | 36                           |      |      | 69                 |      |      | 44                     |      |      | 58                       |      |      | 67                   |      |      |
| Progeny P4570RXS           | R2X, STS                   | 60 a-f                          |        |        | 75                     |      |      | 68                       |      |      | 32                           |      |      | 62                 |      |      | 52                     |      |      | 58                       |      |      | 69                   |      |      |
| AgriGold G4440RX           | R2X, STS                   | 59 b-i                          | 64 a-b |        | 79                     | 79   |      | 59                       | 68   |      | 41                           | 50   |      | 60                 | 65   |      | 43                     | 52   |      | 58                       | 61   |      | 73                   | 70   |      |
| Local Seed Co. LS4565XS    | R2X, STS                   | 59 a-h                          |        |        | 72                     |      |      | 72                       |      |      | 30                           |      |      | 62                 |      |      | 52                     |      |      | 53                       |      |      | 72                   |      |      |
| Hefty H45X8S               | R2X                        | 59 a-g                          |        |        | 77                     |      |      | 66                       |      |      | 32                           |      |      | 63                 |      |      | 42                     |      |      | 59                       |      |      | 76                   |      |      |
| Armor 42-D27               | R2X                        | 59 a-h                          |        |        | 73                     |      |      | 63                       |      |      | 35                           |      |      | 66                 |      |      | 50                     |      |      | 61                       |      |      | 69                   |      |      |
| Asgrow AG43X7 RR2X/SR      | R2X, STS                   | 58 b-j                          | 62 b-c | 60 a   | 68                     | 68   |      | 60                       | 70   | 66   | 35                           | 45   | 48   | 63                 | 62   | 63   | 54                     | 61   | 64   | 56                       | 57   | 57   | 69                   | 68   |      |
| Dyna-Gro SX18845XT         | R2X                        | 58 b-k                          |        |        | 76                     |      |      | 60                       |      |      | 35                           |      |      | 56                 |      |      | 43                     |      |      | 59                       |      |      | 77                   |      |      |
| NK Seed S42-B9XS           | R2X, STS                   | 58 b-k                          |        |        | 73                     |      |      | 59                       |      |      | 29                           |      |      | 61                 |      |      | 50                     |      |      | 56                       |      |      | 78                   |      |      |
| AgriGold G4190RX           | R2X, STS                   | 58 c-k                          |        |        | 74                     |      |      | 62                       |      |      | 30                           |      |      | 59                 |      |      | 48                     |      |      | 62                       |      |      | 68                   |      |      |
| AgriGold G4579RX           | R2X, STS                   | 58 c-k                          |        |        | 71                     |      |      | 66                       |      |      | 32                           |      |      | 64                 |      |      | 47                     |      |      | 48                       |      |      | 73                   |      |      |
| Armor 45-D43               | R2X                        | 58 b-k                          |        |        | 70                     |      |      | 69                       |      |      | 34                           |      |      | 54                 |      |      | 48                     |      |      | 56                       |      |      | 72                   |      |      |
| Dyna-Gro S43XS27           | R2X, STS                   | 57 c-l                          | 62 b-c | 58 a-b | 73                     | 75   |      | 63                       | 67   | 61   | 33                           | 44   | 46   | 60                 | 62   | 63   | 46                     | 59   | 62   | 55                       | 57   | 57   | 73                   | 72   |      |
| LG Seeds LGS4597RX         | R2X                        | 57 c-l                          |        |        | 70                     |      |      | 64                       |      |      | 30                           |      |      | 56                 |      |      | 47                     |      |      | 62                       |      |      | 73                   |      |      |
| Credenz CZ 4308 LL         | LL                         | 57 d-l                          |        |        | 60                     |      |      | 70                       |      |      | 30                           |      |      | 63                 |      |      | 47                     |      |      | 59                       |      |      | 66                   |      |      |
| NK Seed S45-J3X            | R2X                        | 57 d-m                          |        |        | 67                     |      |      | 63                       |      |      | 32                           |      |      | 59                 |      |      | 46                     |      |      | 53                       |      |      | 76                   |      |      |
| Armor 45-D50               | R2X                        | 57 d-l                          |        |        | 67                     |      |      | 62                       |      |      | 30                           |      |      | 60                 |      |      | 54                     |      |      | 47                       |      |      | 76                   |      |      |
| Progeny 4247LL             | LL                         | 56 e-n                          | 59 d-f | 57 a-c | 70                     | 66   |      | 62                       | 60   | 59   | 30                           | 41   | 46   | 59                 | 62   | 63   | 46                     | 54   | 57   | 64                       | 58   | 58   | 61                   | 68   |      |
| Hefty H43X8                | R2X                        | 56 e-n                          | 58 d-f |        | 62                     | 62   |      | 63                       | 59   |      | 37                           | 42   |      | 63                 | 63   |      | 52                     | 59   |      | 49                       | 51   |      | 69                   | 69   |      |
| MO S13-2743C               | CONV                       | 56 f-o                          | 57 e-h |        | 65                     | 64   |      | 64                       | 63   |      | 32                           | 39   |      | 63                 | 59   |      | 45                     | 53   |      | 56                       | 54   |      | 69                   | 61   |      |
| Local Seed Co. LS4583X     | R2X                        | 56 f-o                          |        |        | 64                     |      |      | 63                       |      |      | 32                           |      |      | 63                 |      |      | 46                     |      |      | 50                       |      |      | 75                   |      |      |
| Asgrow AG42X9 RR2X         | R2X                        | 56 d-m                          |        |        | 65                     |      |      | 65                       |      |      | 29                           |      |      | 66                 |      |      | 51                     |      |      | 56                       |      |      | 62                   |      |      |
| Asgrow AG43X8 RR2X         | R2X                        | 56 f-o                          |        |        | 63                     |      |      | 62                       |      |      | 36                           |      |      | 59                 |      |      | 45                     |      |      | 56                       |      |      | 68                   |      |      |
| Mission Seed A4447NSXR2    | R2X                        | 56 d-m                          |        |        | 67                     |      |      | 64                       |      |      | 33                           |      |      | 64                 |      |      | 51                     |      |      | 57                       |      |      | 61                   |      |      |
| Asgrow AG44X6 RR2X         | R2X                        | 55 i-o                          | 59 c-d | 57 a-c | 59                     | 64   |      | 66                       | 67   | 61   | 36                           | 44   | 44   | 58                 | 67   | 68   | 40                     | 52   | 57   | 50                       | 53   | 53   | 70                   | 67   |      |
| Caverndale Farms CF 427    | RR, STS                    | 55 i-o                          | 58 d-g |        | 65                     | 67   |      | 72                       | 77   |      | 27                           | 36   |      | 57                 | 57   |      | 47                     | 51   |      | 50                       | 51   |      | 67                   | 66   |      |
| MO S13-10590C              | CONV                       | 55 i-o                          | 55 h   |        | 63                     | 60   |      | 60                       | 61   |      | 33                           | 35   |      | 57                 | 59   |      | 46                     | 51   |      | 63                       | 58   |      | 62                   | 60   |      |
| MO S13-3851C               | CONV                       | 55 g-o                          | 57 d-h |        | 60                     | 65   |      | 56                       | 59   |      | 32                           | 35   |      | 52                 | 61   |      | 50                     | 54   |      | 57                       | 56   |      | 74                   | 70   |      |

**Table 9. cont.**

| Variety                                       | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Knoxville Irr. (bu/ac) |      |      | Springfield Irr. (bu/ac) |      |      | Springfield Non-Irr. (bu/ac) |      |      | Milan Irr. (bu/ac) |      |      | Milan Non-Irr. (bu/ac) |      |      | Jackson Non-Irr. (bu/ac) |      |      | Memphis Irr. (bu/ac) |      |      |
|---|----------------------------|---------------------------------|--------|--------|------------------------|------|------|--------------------------|------|------|------------------------------|------|------|--------------------|------|------|------------------------|------|------|--------------------------|------|------|----------------------|------|------|
|   |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                         | 2 yr | 3 yr | 1 yr               | 2 yr | 3 yr | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                 | 2 yr | 3 yr |
| Progeny 4255RX                                | R2X                        | 55 h-o                          | 57 d-h |        | 68                     | 70   |      | 68                       | 68   |      | 28                           | 34   |      | 58                 | 54   |      | 48                     | 51   |      | 56                       | 56   |      | 64                   | 64   |      |
| Credenz CZ 4105 LL                            | LL                         | 54 k-q                          | 56 f-h | 55 b-c | 61                     | 61   |      | 63                       | 64   | 62   | 27                           | 31   | 39   | 55                 | 60   | 60   | 47                     | 55   | 61   | 51                       | 53   | 53   | 74                   | 69   |      |
| Credenz CZ 4222 LL                            | LL,STS                     | 54 j-p                          | 57 d-h | 55 b-c | 75                     | 68   |      | 53                       | 58   | 54   | 23                           | 33   | 38   | 62                 | 63   | 63   | 47                     | 56   | 60   | 63                       | 60   | 60   | 60                   | 62   |      |
| Progeny 4444RXS                               | R2X, STS                   | 54 l-r                          | 59 c-e |        | 70                     | 68   |      | 60                       | 69   |      | 26                           | 39   |      | 56                 | 62   |      | 44                     | 55   |      | 51                       | 55   |      | 69                   | 70   |      |
| Credenz CZ 4548 LL                            | LL                         | 54 j-p                          |        |        | 64                     |      |      | 69                       |      |      | 36                           |      |      | 55                 |      |      | 41                     |      |      | 45                       |      |      | 70                   |      |      |
| GoSoy 43C17S                                  | CONV                       | 53 m-r                          |        |        | 75                     |      |      | 50                       |      |      | 28                           |      |      | 54                 |      |      | 50                     |      |      | 58                       |      |      | 52                   |      |      |
| Credenz CZ 4044 LL                            | LL                         | 52 n-r                          | 55 g-h | 54 c   | 61                     | 59   |      | 62                       | 60   | 59   | 31                           | 40   | 45   | 52                 | 57   | 54   | 51                     | 55   | 58   | 57                       | 56   | 56   | 53                   | 58   |      |
| GoSoy E4510S                                  | CONV                       | 52 o-r                          |        |        | 68                     |      |      | 57                       |      |      | 26                           |      |      | 55                 |      |      | 53                     |      |      | 53                       |      |      | 56                   |      |      |
| Progeny P4318RX                               | R2X                        | 51 p-r                          |        |        | 61                     |      |      | 54                       |      |      | 27                           |      |      | 51                 |      |      | 39                     |      |      | 53                       |      |      | 67                   |      |      |
| Armor X44-D36                                 | R2X                        | 50 q-r                          |        |        | 66                     |      |      | 47                       |      |      | 27                           |      |      | 57                 |      |      | 41                     |      |      | 46                       |      |      | 68                   |      |      |
| Local Seed Co. LS4487XS                       | R2X, STS                   | 50 r                            |        |        | 51                     |      |      | 61                       |      |      | 32                           |      |      | 56                 |      |      | 43                     |      |      | 53                       |      |      | 51                   |      |      |
| VA V14-1219                                   | CONV                       | 46 s                            |        |        | 56                     |      |      | 37                       |      |      | 24                           |      |      | 50                 |      |      | 43                     |      |      | 52                       |      |      | 59                   |      |      |
| MO S13-10592C                                 | CONV                       | 46 s                            |        |        | 54                     |      |      | 58                       |      |      | 34                           |      |      | 43                 |      |      | 44                     |      |      | 45                       |      |      | 45                   |      |      |
| <b>Average</b>                                |                            | 56                              | 60     | 57     | 69                     | 69   | -    | 63                       | 67   | 60   | 32                           | 40   | 44   | 60                 | 62   | 62   | 48                     | 56   | 60   | 56                       | 57   | 56   | 68                   | 67   | -    |
| <b>Standard Error</b>                         |                            | 5                               | 5      | 4      | 4                      | 2    | -    | 3                        | 5    | 5    | 3                            | 9    | 5    | 3                  | 3    | 3    | 3                      | 8    | 6    | 3                        | 2    | 3    | 4                    | 3    | -    |
| <b>L.S.D.<sub>.05</sub></b>                   |                            | 4                               | 3      | 3      | 10                     | 6    | -    | 7                        | 8    | N.S. | 6                            | 6    | N.S. | 7                  | 6    | 5    | 8                      | 6    | 6    | 8                        | 6    | 7    | 10                   | 8    | -    |
| <b>C.V.</b>                                   |                            | 11                              | 11     | 11     | 9                      | 8    | -    | 7                        | 10   | 12   | 12                           | 13   | 12   | 8                  | 9    | 9    | 10                     | 9    | 10   | 9                        | 9    | 10   | 9                    | 10   | -    |
| <b>Plots per entry (reps x locs. x years)</b> |                            | 21                              | 42     | 45     | 3                      | 6    | -    | 3                        | 6    | 9    | 3                            | 6    | 9    | 3                  | 6    | 9    | 3                      | 6    | 9    | 3                        | 6    | 9    | 3                    | 6    | -    |

† Hybrids that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

**Table 10. Yields of 25 Maturity Group IV Early (4.0 - 4.4) Roundup Ready soybean varieties in 10 County Standard Tests in Tennessee and Kentucky during 2018<sup>‡</sup>**

| MS†<br>Avg.<br>Yield | Variety             | Avg.<br>Yield <sup>§</sup><br>(bu/acre) | Avg.<br>Moisture<br>(%) | Percent of<br>locs. with<br>yield above<br>loc. avg. | Call      | Cann      | Ches      | Fult      | Gibs      | Henr      | Lake      | Laud      | Madi      | Weak      |
|----------------------|---------------------|---|-------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                      |                     |   |                         |  | 5/25      | 5/11      | 5/22      | 5/12      | 5/9       | 5/9       | 5/31      | 6/9       | 5/10      | 5/11      |
| A                    | Local Seed 4565     | 65                                      | 12.8                    | 80%  | 65        | 92        | 62        | 75        | 58        | 79        | 37        | 52        | 72        | 54        |
| A                    | Terral REV 44X2     | 64                                      | 12.7                    | 80%  | 61        | 90        | 61        | 76        | 60        | 78        | 47        | 42        | 70        | 55        |
| AB                   | Warren Seed BG 4210 | 63                                      | 12.9                    | 80%  | 50        | 88        | 60        | 78        | 60        | 80        | 41        | 51        | 68        | 57        |
| AB                   | Asgrow 43X8         | 63                                      | 13.2                    | 60%  | 54        | 95        | 56        | 81        | 64        | 77        | 36        | 41        | 75        | 54        |
| AB                   | Armor 42D27         | 63                                      | 13.3                    | 60%  | 60        | 90        | 62        | 81        | 58        | 74        | 43        | 47        | 64        | 51        |
| ABC                  | Dyna-Gro S45XS37    | 63                                      | 12.6                    | 70%  | 56        | 97        | 54        | 80        | 57        | 77        | 42        | 43        | 67        | 56        |
| ABC                  | Asgrow 43X7         | 63                                      | 13.0                    | 80%  | 60        | 92        | 62        | 80        | 59        | 69        | 43        | 48        | 70        | 47        |
| ABCD                 | Terral REV 42X3     | 63                                      | 12.9                    | 70%  | 58        | 88        | 56        | 78        | 64        | 81        | 36        | 39        | 71        | 52        |
| ABCD                 | NK S42-B9XS         | 62                                      | 13.0                    | 40%  | 55        | 95        | 56        | 73        | 63        | 74        | 31        | 40        | 75        | 56        |
| ABCDE                | Asgrow 44X6         | 62                                      | 12.9                    | 50%  | 52        | 96        | 60        | 79        | 58        | 77        | 37        | 41        | 66        | 52        |
| ABCDE                | Progeny 4444        | 62                                      | 12.8                    | 60%  | 54        | 87        | 55        | 84        | 60        | 75        | 40        | 46        | 65        | 50        |
| ABCDE                | Local Seed 4458     | 62                                      | 13.0                    | 50%  | 57        | 79        | 58        | 74        | 57        | 74        | 45        | 46        | 64        | 53        |
| ABCDE                | Croplan 4500S       | 62                                      | 12.8                    | 40%  | 57        | 94        | 56        | 72        | 56        | 73        | 42        | 48        | 63        | 52        |
| ABCDE                | Warren Seed BG 4322 | 61                                      | 12.7                    | 60%  | 62        | 92        | 59        | 78        | 51        | 70        | 43        | 38        | 70        | 50        |
| ABCDE                | Beck's 4119X2       | 61                                      | 13.1                    | 60%  | 56        | 89        | 58        | 75        | 59        | 79        | 38        | 45        | 64        | 52        |
| ABCDE                | Warren Seed BG 4510 | 61                                      | 12.7                    | 40%  | 59        | 86        | 50        | 83        | 56        | 72        | 38        | 46        | 67        | 55        |
| ABCDE                | Dyna-Gro S43XS27    | 61                                      | 12.8                    | 30%  | 55        | 85        | 58        | 78        | 51        | 72        | 36        | 51        | 73        | 50        |
| ABCDE                | AgriGold 4190       | 61                                      | 13.2                    | 50%  | 50        | 92        | 60        | 76        | 52        | 75        | 36        | 43        | 66        | 58        |
| ABCDE                | AgriGold 4579       | 61                                      | 13.3                    | 40%  | 55        | 98        | 61        | 76        | 56        | 66        | 40        | 35        | 67        | 53        |
| ABCDE                | Asgrow 45X8         | 61                                      | 13.0                    | 50%  | 50        | 90        | 62        | 75        | 60        | 63        | 38        | 45        | 74        | 48        |
| ABCDE                | USG 7447            | 60                                      | 12.8                    | 40%  | 54        | 90        | 57        | 81        | 56        | 74        | 48        | 39        | 55        | 48        |
| BCDE                 | LG 4227             | 59                                      | 13.1                    | 50%  | 57        | 59        | 55        | 77        | 58        | 77        | 40        | 42        | 68        | 57        |
| CDE                  | Beck's 4453X2       | 58                                      | 13.0                    | 40%  | 52        | 56        | 60        | 86        | 61        | 71        | 39        | 35        | 73        | 50        |
| DE                   | Croplan 4316        | 58                                      | 12.8                    | 20%  | 45        | 84        | 56        | 70        | 58        | 80        | 37        | 37        | 69        | 46        |
| E                    | Armor 44D40         | 57                                      | 12.8                    | 10%  | 56        | 60        | 55        | 77        | 54        | 74        | 40        | 40        | 66        | 49        |
| <b>Average</b>       |                     | <b>61</b>                               | <b>12.9</b>             |  | <b>56</b> | <b>87</b> | <b>58</b> | <b>78</b> | <b>58</b> | <b>74</b> | <b>40</b> | <b>43</b> | <b>68</b> | <b>52</b> |

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Varieties marked with an asterisk were in the top performing "A" group for two (\*) or three (\*\*) consecutive years within the previous three year evaluation period.

§ All yields are adjusted to 13% moisture.

County Locations include: Calloway KY, Cannon, Chester, Fulton KY, Gibson, Henry, Lake, Lauderdale, Madison, Weakley

**Table 11. Yields of 12 Maturity Group IV Early (4.0 - 4.4) Liberty Link soybean varieties in 3 County Standard Tests in Tennessee and Kentucky during 2018<sup>‡</sup>**

| MS†<br>Avg.<br>Yield | Variety                 | Avg.<br>Yield <sup>§</sup><br>(bu/acre) | Avg.<br>Moisture<br>(%) | Percent of<br>locs. with<br>yield above<br>loc. avg. | Dyer<br>5/16 | Gibs<br>5/8 | Madi<br>5/10 |
|----------------------|-------------------------|---|-------------------------|--|--------------|-------------|--------------|
| A                    | Bayer CZ 3601           | 49                                      | 14.1                    | 66%  | 50           | 38          | 57           |
| A                    | *Warren Seed Micah 4400 | 48                                      | 14.6                    | 100%   | 47           | 36          | 61           |
| A                    | GoSoy 42L16             | 48                                      | 14.5                    | 100%   | 45           | 42          | 58           |
| AB                   | Bayer CZ 4222           | 48                                      | 14.2                    | 100%   | 43           | 38          | 61           |
| AB                   | *Bayer CZ 3841          | 48                                      | 14.3                    | 66%  | 47           | 39          | 56           |
| AB                   | Terral REV 45L5         | 47                                      | 14.2                    | 100%   | 42           | 41          | 58           |
| ABC                  | *Progeny 4247           | 46                                      | 14.3                    | 66%  | 43           | 36          | 60           |
| ABC                  | Bayer CZ 4548           | 46                                      | 14.3                    | 33%  | 42           | 42          | 55           |
| BCD                  | Beck's 424L4            | 42                                      | 14.6                    | 33%  | 39           | 30          | 58           |
| CD                   | Bayer CZ 4105           | 41                                      | 14.2                    | 0%   | 35           | 31          | 57           |
| CD                   | GoSoy 43L16             | 41                                      | 14.5                    | 0%   | 34           | 30          | 58           |
| D                    | Bayer CZ 4308           | 40                                      | 14.3                    | 0%   | 34           | 30          | 55           |
| <b>Average</b>       |                         | <b>45</b>                               | <b>14.3</b>             |  | <b>42</b>    | <b>36</b>   | <b>58</b>    |

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Varieties marked with an asterisk were in the top performing "A" group for two (\*) or three (\*\*) consecutive years within the previous three year evaluation period.

§ All yields are adjusted to 13% moisture.

County Locations include: Dyer, Gibson, Madison

**Table 12. Overall average yields, moistures, and test weights of 21 Maturity Group IV Early (4.0 - 4.4) soybean varieties evaluated in both the County Standard Tests and Research and Education Center Tests in Tennessee during 2018.**

| Variety                  | Herbicide Pkg <sup>†</sup> | Avg. of CST and REC Tests         |                   | CST Tests                         |                   | REC Tests                         |                   |
|--------------------------|----------------------------|-----------------------------------|-------------------|-----------------------------------|-------------------|-----------------------------------|-------------------|
|                          |                            | Avg. Yield <sup>§</sup> (bu/acre) | Avg. Moisture (%) | Avg. Yield <sup>§</sup> (bu/acre) | Avg. Moisture (%) | Avg. Yield <sup>§</sup> (bu/acre) | Avg. Moisture (%) |
| Local Seed Co. LS4565XS  | R2X, STS                   | 62                                | 12.8              | 65                                | 12.8              | 59                                | 12.9              |
| Warren Seed BG 4210 RR2X | R2X                        | 62                                | 12.9              | 63                                | 12.9              | 60                                | 12.9              |
| Dyna-Gro S45XS37         | R2X, STS                   | 61                                | 12.8              | 63                                | 12.6              | 60                                | 13.1              |
| Warren Seed BG 4510 RR2X | R2X                        | 61                                | 12.5              | 61                                | 12.7              | 61                                | 12.2              |
| Armor 42-D27             | R2X                        | 61                                | 13.2              | 63                                | 13.3              | 59                                | 13.1              |
| Asgrow AG45X8 RR2X/SR    | R2X, STS                   | 61                                | 12.9              | 61                                | 13.0              | 61                                | 12.7              |
| Warren Seed BG 4322 RR2X | R2X                        | 61                                | 12.6              | 61                                | 12.7              | 60                                | 12.6              |
| Asgrow AG43X7 RR2X/SR    | R2X, STS                   | 60                                | 12.9              | 63                                | 13.0              | 58                                | 12.8              |
| USG 7447XTS              | R2X, STS                   | 60                                | 12.8              | 60                                | 12.8              | 60                                | 12.8              |
| NK Seed S42-B9XS         | R2X, STS                   | 60                                | 12.9              | 62                                | 13.0              | 58                                | 12.8              |
| Asgrow AG43X8 RR2X       | R2X                        | 60                                | 13.1              | 63                                | 13.2              | 56                                | 12.9              |
| AgriGold G4190RX         | R2X, STS                   | 59                                | 13.1              | 61                                | 13.2              | 58                                | 13.0              |
| AgriGold G4579RX         | R2X, STS                   | 59                                | 13.4              | 61                                | 13.3              | 58                                | 13.5              |
| Dyna-Gro S43XS27         | R2X, STS                   | 59                                | 12.7              | 61                                | 12.8              | 57                                | 12.7              |
| Asgrow AG44X6 RR2X       | R2X                        | 58                                | 12.9              | 62                                | 12.9              | 55                                | 13.0              |
| Progeny 4444RXS          | R2X, STS                   | 58                                | 12.8              | 62                                | 12.8              | 54                                | 12.8              |
| Progeny 4247LL           | LL                         | 51                                | 13.4              | 46                                | 14.3              | 56                                | 12.5              |
| Credenz CZ 4222 LL       | LL,STS                     | 51                                | 13.6              | 48                                | 14.2              | 54                                | 12.9              |
| Credenz CZ 4548 LL       | LL                         | 50                                | 13.5              | 46                                | 14.3              | 54                                | 12.6              |
| Credenz CZ 4308 LL       | LL                         | 48                                | 13.5              | 40                                | 14.3              | 57                                | 12.6              |
| Credenz CZ 4105 LL       | LL                         | 48                                | 13.6              | 41                                | 14.2              | 54                                | 13.0              |
| <b>Average</b>           |                            | <b>58</b>                         | <b>13.0</b>       | <b>58</b>                         | <b>13.3</b>       | <b>58</b>                         | <b>12.8</b>       |

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

**Table 13. Yields and disease ratings of 24 Maturity Group IV Early (4.0-4.5) Roundup Ready soybean varieties in 10 County Standard Tests and in small plot trials at one Research and Education Center and one on-farm location in Tennessee during 2018**

| Summary from County Tests |                     |                    | Summary from Small Plot Research              |             |                   |             |                                   |             |             |                   |             |
|---------------------------|---------------------|--------------------|---|-------------|-------------------|-------------|-----------------------------------|-------------|-------------|-------------------|-------------|
| MS                        | Variety             | Avg. Yield (bu/ac) | Research and Education Center at Milan (RECM) |             |                   |             | On-farm Location in Jackson (JAX) |             |             |                   |             |
|                           |                     |                    | *Treated                                      | Non-treated | Frogeye leaf spot | Target Spot | Other Diseases                    | *Treated    | Non-treated | Frogeye leaf spot | Target Spot |
| A                         | Local Seed 4565     | 64.5               | 52.9  | 52.2        | LOW               | LOW         | SDS, CLB                          | 54.6        | 45.9        | LOW               | LOW         |
| A                         | Terral REV 44X2     | 63.7               | 56.1  | 50.2        | LOW               | MOD         | SC, SDS                           | 56.2        | 48.3        | LOW               | HIGH        |
| AB                        | Warren Seed BG 4210 | 63.3               | 51.6  | 49.9        | HIGH              | LOW         | SDS, CLB                          | 56.1        | 48.2        | MOD               | LOW         |
| AB                        | Asgrow 43X8         | 63.2               | 49.5  | 46.5        | MOD               | LOW         | SDS, CLB                          | 48.0        | 49.2        | MOD               | LOW         |
| AB                        | Armor 42D27         | 63.0               | -   | -           | -                 | -           | -                                 | 53.8        | 48.9        | HIGH              | LOW         |
| ABC                       | Asgrow 43X7         | 62.9               | 47.6  | 45.7        | LOW               | MOD         | SDS, CLB, SC                      | 46.4        | 44.6        | LOW               | MOD         |
| ABCD                      | Terral REV 42X3     | 62.5               | 51.3  | 47.1        | LOW               | LOW         | SDS                               | 54.5        | 48.4        | LOW               | LOW         |
| ABCD                      | NK S42-B9XS         | 61.8               | 49.7  | 43.6        | HIGH              | LOW         | SDS, CLB                          | 58.5        | 51.9        | HIGH              | LOW         |
| ABCDE                     | Asgrow 44X6         | 61.7               | 46.4  | 42.5        | MOD               | LOW         | CLB                               | 48.1        | 44.9        | MOD               | LOW         |
| ABCDE                     | Progeny 4444        | 61.7               | 52.8  | 47.3        | LOW               | LOW         | -                                 | 47.4        | 44.2        | LOW               | MOD         |
| ABCDE                     | Croplan 4500S       | 61.5               | 56.0  | 47.3        | LOW               | LOW         | SDS, SC                           | 46.0        | 44.9        | LOW               | MOD         |
| ABCDE                     | Local Seed 4458     | 61.5               | 47.9  | 45.3        | LOW               | LOW         | SC (HIGH), CLB                    | 53.1        | 52.0        | LOW               | LOW         |
| ABCDE                     | Beck's 4119X2       | 61.3               | 53.0  | 49.6        | HIGH              | LOW         | SDS, CLB                          | 51.2        | 51.8        | HIGH              | LOW         |
| ABCDE                     | Warren Seed BG 4322 | 61.3               | -   | -           | -                 | -           | SDS, SC                           | 51.8        | 48.6        | MOD               | LOW         |
| ABCDE                     | Warren Seed BG 4510 | 61.1               | 51.2  | 52.4        | LOW               | MOD         | SC, CLB                           | 55.1        | 44.4        | LOW               | HIGH        |
| ABCDE                     | AgriGold 4190       | 60.8               | 53.2  | 50.4        | HIGH              | LOW         | CLB                               | 55.9        | 44.4        | HIGH              | LOW         |
| ABCDE                     | Dyna-Gro S43XS27    | 60.8               | 41.7  | 38.2        | HIGH              | LOW         | SC (HIGH)                         | 45.8        | 45.4        | MOD               | LOW         |
| ABCDE                     | AgriGold 4579       | 60.7               | 53.1  | 50.4        | LOW               | MOD         | SDS, CLB                          | 50.9        | 45.3        | LOW               | MOD         |
| ABCDE                     | Asgrow 45X8         | 60.6               | 55.7  | 47.5        | MOD               | LOW         | SDS, CLB                          | 50.4        | 41.3        | LOW               | LOW         |
| ABCDE                     | USG 7447            | 60.2               | 45.4  | 41.4        | MOD               | LOW         | SC (HIGH), CLB                    | 51.3        | 42.0        | MOD               | LOW         |
| BCDE                      | LG 4227             | 59.0               | 51.8  | 47.3        | HIGH              | LOW         | CLB                               | 54.6        | 47.6        | HIGH              | LOW         |
| CDE                       | Beck's 4453X2       | 58.3               | 48.7  | 43.9        | LOW               | LOW         | SC, CLB                           | 51.0        | 45.1        | LOW               | LOW         |
| DE                        | Croplan 4316        | 58.1               | 37.5  | 36.0        | MOD               | LOW         | SC (HIGH), SDS                    | 47.6        | 48.1        | MOD               | LOW         |
| E                         | Armor 44D40         | 57.1               | 51.4  | 48.1        | LOW               | LOW         | SC, CLB                           | 52.6        | 44.0        | LOW               | LOW         |
| <b>Average</b>            |                     | <b>61.3</b>        | <b>50.2</b>                                   | <b>46.5</b> |                   |             |                                   | <b>51.7</b> | <b>46.6</b> |                   |             |

YLD= Avg. Yield @ 15% moisture

MS= Varieties that have any MS letter in common are not statistically different in yield at the 5% level of probability.

Varieties denoted with an asterisks (\*) or (\*\*) etc. were in the top performing group for consecutive years.

County locations include: Cannon, Calloway KY, Chester, Fulton KY, Gibson, Henry, Lake, Lauderdale, Madison, Weakley

\*Treated plots sprayed with Quadris TOP SBX @ 7 oz./Acre + 0.25% Induce @ R3 growth stage. RECM varieties planted June 5 and JAX planted June 14

LOW, MOD, and HIGH is a relative ranking of disease severity at each location. Other diseases noted: SC=Stem Canker, CLB=Cercospora Leaf Blight, SDS=Sudden Death Syndrome; ' - ' indicate variety was not tested at that location

**Disease ratings at RECM:** Frogeye leaf spot ranged from 0 - 9% with an average of 3%; Target spot ranged from 0 -4% with an average of 1%

**Disease ratings at JAX:** Frogeye leaf spot ranged from 1 - 11% with an average of 3%; and Target spot ranged from 0 - 15% with an average of 2%.

Disease ratings & yield data compiled by Dr. Heather Kelly from replicated plots at the Research and Education Center at Milan and on-farm location in Jackson.

County data provided by Ryan Blair, Ext. Area Specialist, and the extension agents.

**Table 14. Yields and disease ratings of 12 Maturity Group IV Early (4.0-4.5) Liberty Link soybean varieties in 3 County Standard Tests and in small plot trials at one Research and Education Center and one on-farm location in Tennessee during 2018**

| Summary from County Tests |                        |                    | Summary from Small Plot Research              |             |           |        |          |                                   |             |           |        |
|---------------------------|------------------------|--------------------|---|-------------|-----------|--------|----------|-----------------------------------|-------------|-----------|--------|
| MS                        | Variety                | Avg. Yield (bu/ac) | Research and Education Center at Milan (RECM) |             |           |        |          | On-farm Location in Jackson (JAX) |             |           |        |
|                           |                        |                    | RECM - YLD                                    |             | Frogeye   | Target | Other    | JAX - YLD                         |             | Frogeye   | Target |
|                           |                        |                    | *Treated                                      | Non-treated | leaf spot | Spot   | Diseases | *Treated                          | Non-treated | leaf spot | Spot   |
| A                         | Bayer CZ 3601          | 48.5               | -   | -           | -         | -      | -        | 60.5                              | 56.6        | MOD       | LOW    |
| A                         | Warren Seed Micah 440C | 48.3               | 47.9  | 40.8        | LOW       | LOW    | CLB      | 58.4                              | 49.1        | LOW       | LOW    |
| A                         | GoSoy 43L16            | 48.1               | 41.1  | 33.3        | LOW       | LOW    | CLB      | 53.7                              | 54.9        | LOW       | LOW    |
| AB                        | Bayer CZ 4222          | 47.8               | 38.5  | 32.8        | HIGH      | LOW    |          | 60.3                              | 51.7        | HIGH      | LOW    |
| AB                        | Bayer CZ 3841*         | 47.5               | 35.9  | 31.2        | MOD       | LOW    | CLB      | 58.2                              | 58.4        | MOD       | LOW    |
| AB                        | Terral REV 45L5        | 47.1               | 49.8  | 41.4        | MOD       | LOW    | SDS      | 57.1                              | 55.6        | MOD       | LOW    |
| ABC                       | Progeny 4247*          | 46.4               | -   | -           | -         | -      | SDS      | 59.3                              | 57.6        | LOW       | LOW    |
| ABC                       | Bayer CZ 4548          | 46.3               | -   | -           | -         | -      | SDS      | 52.8                              | 51.0        | LOW       | LOW    |
| BCD                       | Beck's 424L4           | 42.3               | 38.9  | 31.9        | LOW       | MOD    | CLB      | 60.0                              | 55.9        | LOW       | MOD    |
| CD                        | Bayer CZ 4105          | 41.0               | 40.9  | 32.5        | LOW       | MOD    | CLB      | 58.7                              | 54.2        | MOD       | LOW    |
| CD                        | GoSoy 42L16            | 40.9               | -   | -           | -         | -      |          | 54.7                              | 48.1        | LOW       | LOW    |
| D                         | Bayer CZ 4308          | 39.8               | 43.1  | 37.1        | LOW       | LOW    |          | 54.4                              | 48.4        | LOW       | LOW    |
|                           | <b>Average</b>         | <b>45.3</b>        | <b>42.0</b>                                   | <b>35.1</b> |           |        |          | <b>57.3</b>                       | <b>53.5</b> |           |        |

YLD= Avg. Yield @ 15% moisture

MS= Varieties that have any MS letter in common are not statistically different in yield at the 5% level of probability.

Varieties denoted with an asterisks (\*) or (\*\*) etc. were in the top performing group for consecutive years.

County locations include: Dyer, Gibson, Madison

\*Treated plots sprayed with Quadris TOP SBX @ 7 oz./Acre + 0.25% Induce @ R3 growth stage. RECM varieties planted June 5 and JAX planted June 14.

LOW, MOD, and HIGH is a relative ranking of disease severity at each location. Other diseases noted: SC=Stem Canker, CLB=Cercospora Leaf Blight, SDS=Sudden Death Syndrome; ' - ' indicate variety was not tested at that location

**Disease ratings at RECM:** Frogeye leaf spot ranged from 0 - 31% with an average of 6% and Target spot ranged from 0 - 2% with an average of 1%.

**Disease ratings at JAX:** Frogeye leaf spot ranged from 0 - 56% with an average of 6% and Target spot ranged from 0 - 4% with an average of 1%.

Disease ratings & yield data compiled by Dr. Heather Kelly from replicated plots at the Research and Education Center at Milan and on-farm location in Jackson.

County data provided by Ryan Blair, Ext. Area Specialist, and the extension agents.



**Table 15-a. Mean yield, agronomic traits, and quality of 81 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials at six REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                  | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Moisture at Harvest (%) |          |          | Plant Height (in.) |        |        | Lodging <sup>  </sup> (1-5) |         |         |
|--------------------------|----------------------------|---------------------------------|--------|--------|-------------------------|----------|----------|--------------------|--------|--------|-----------------------------|---------|---------|
|                          |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr                    | 2 yr     | 3 yr     | 1 yr               | 2 yr   | 3 yr   | 1 yr                        | 2 yr    | 3 yr    |
| Local Seed Co. LS4968XS  | R2X, STS                   | 66 a                            |        |        | 14.9 a                  |          |          | 46 d-m             |        |        | 1.8 n-z                     |         |         |
| USG 7496XTS***           | R2X, STS                   | 65 a-b                          | 67 a   | 65 a   | 14.7 a-f                | 13.5 d-i | 13.5 b   | 46 d-m             | 46 b-d | 46 c-d | 1.8 n-z                     | 1.6 h-j | 1.5 c-e |
| USG 7489XT               | R2X                        | 64 a-c                          |        |        | 14.3 b-o                |          |          | 42 w-ff            |        |        | 1.3 bb-gg                   |         |         |
| Dyna-Gro S48XT56**       | R2X                        | 63 a-f                          | 65 a-d | 58 d-g | 14.5 a-j                | 13.7 d-g | 13.6 b   | 41 x-ff            | 41 i-j | 40 i   | 1.3 aa-gg                   | 1.1 m   | 1.1 h   |
| Dyna-Gro S49XS76**       | R2X, STS                   | 63 a-e                          | 65 a-b | 62 a-c | 14.4 a-n                | 13.4 d-i | 13.3 b   | 45 h-q             | 45 d-f | 45 d-e | 1.9 k-y                     | 1.6 g-i | 1.6 c-d |
| Hefty H49X7S**           | R2X, STS                   | 63 a-d                          | 64 a-d |        | 14.7 a-f                | 13.7 d-f |          | 45 f-o             | 45 c-e |        | 1.6 ss-dd                   | 1.6 h-j |         |
| Asgrow AG48X9 RR2X/SR    | R2X, STS                   | 63 a-f                          |        |        | 13.9 j-x                |          |          | 44 l-w             |        |        | 1.7 p-bb                    |         |         |
| Asgrow AG47X6 RR2X/SR*** | R2X, STS                   | 62 a-g                          | 67 a   | 64 a-b | 14.0 h-w                | 12.9 e-i | 12.9 b-c | 47 a-g             | 48 a-b | 48 a-b | 1.8 m-z                     | 1.7 f-h | 1.7 b-c |
| Croplan RX4825           | R2X                        | 62 a-h                          | 63 b-f |        | 14.7 a-e                | 13.5 d-i |          | 42 s-cc            | 41 i-j |        | 1.6 v-ff                    | 1.3 j-m |         |
| Progeny 4757RY**         | RR2                        | 61 a-k                          | 61 c-h | 59 c-e | 13.9 l-y                | 12.8 f-i | 12.7 b-c | 44 j-u             | 44 e-g | 44 e-f | 2.5 c-g                     | 2.3 b-c | 2.1 a   |
| Progeny 4620RXS          | R2X, STS                   | 61 b-l                          | 63 a-e | 61 c-d | 13.4 w-y                | 12.5 i   | 12.1 c   | 43 o-z             | 44 e-g | 44 e-f | 2.2 f-p                     | 1.9 d-g | 1.9 a-b |
| Progeny 4816RX           | R2X                        | 61 a-i                          | 63 a-d | 59 c-f | 14.7 a-f                | 13.7 d-f | 13.5 b   | 41 x-ff            | 41 h-j | 41 i   | 1.5 w-gg                    | 1.2 k-m | 1.2 g-h |
| USG 7487XTS**            | R2X, STS                   | 61 a-j                          | 64 a-d | 61 b-c | 14.3 b-o                | 13.1 d-i | 12.8 b-c | 49 a               | 48 a   | 49 a   | 1.6 r-cc                    | 1.5 h-j | 1.5 c-f |
| Credenz CZ 4918 LL       | LL                         | 60 c-n                          |        |        | 13.8 l-y                |          |          | 42 w-ee            |        |        | 1.6 s-dd                    |         |         |
| Taylor 4808X             | R2X                        | 60 c-n                          |        |        | 13.8 l-y                |          |          | 47 a-f             |        |        | 1.6 u-ff                    |         |         |
| Asgrow AG47X9 RR2X       | R2X, STS                   | 60 c-m                          |        |        | 13.9 j-x                |          |          | 42 w-ee            |        |        | 1.4 z-gg                    |         |         |
| Asgrow AG49X9 RR2X/SR    | R2X                        | 60 c-n                          |        |        | 14.2 d-t                |          |          | 41 z-gg            |        |        | 2.1 f-r                     |         |         |
| LG Seeds C4845RX         | R2X                        | 59 c-o                          | 62 b-g | 59 c-f | 14.5 a-k                | 13.0 d-i | 13.3 b   | 42 t-cc            | 41 h-j | 41 h-i | 1.3 aa-gg                   | 1.2 k-m | 1.2 g-h |
| Progeny 4799RXS          | R2X, STS                   | 59 d-p                          | 61 c-h | 61 c-d | 13.9 i-x                | 12.9 f-i | 12.7 b-c | 47 a-h             | 46 b-d | 47 b-c | 1.5 y-gg                    | 1.4 i-m | 1.3 e-h |
| Asgrow AG49X6 RR2X       | R2X                        | 59 c-n                          |        |        | 14.1 e-v                |          |          | 44 i-s             |        |        | 1.5 x-gg                    |         |         |
| Terral REV 47L38         | LL                         | 59 c-o                          |        |        | 13.5 v-y                |          |          | 41 w-ff            |        |        | 1.7 o-aa                    |         |         |
| Armor 47-D22             | R2X                        | 59 d-p                          |        |        | 13.8 m-y                |          |          | 40 ee-gg           |        |        | 2.0 j-w                     |         |         |
| Terral REV 49L88         | LL                         | 58 g-s                          | 61 c-h |        | 13.8 o-y                | 12.9 f-i |          | 44 m-x             | 44 d-f |        | 2.3 f-m                     | 1.9 e-g |         |
| Local Seed Co. LS4889XS  | R2X, STS                   | 58 e-q                          |        |        | 14.4 a-n                |          |          | 47 a-g             |        |        | 2.5 c-f                     |         |         |
| Mission A4950X           | R2X                        | 58 f-r                          |        |        | 14.2 d-s                |          |          | 45 i-r             |        |        | 2.2 f-n                     |         |         |
| AgriGold G4750RX         | R2X, STS                   | 58 f-r                          |        |        | 14.1 e-v                |          |          | 48 a-e             |        |        | 2.5 d-i                     |         |         |
| Croplan RX4928           | R2X                        | 58 e-q                          |        |        | 14.1 e-t                |          |          | 45 e-m             |        |        | 2.1 g-s                     |         |         |
| Armor X46-D63            | R2X                        | 58 e-q                          |        |        | 14.2 c-q                |          |          | 45 e-n             |        |        | 1.7 q-cc                    |         |         |
| Hefty H46X6              | R2X, STS                   | 57 i-u                          | 59 g-m |        | 14.1 e-v                | 14.0 d-e |          | 45 h-p             | 44 d-f |        | 2.4 e-k                     | 2.2 b-d |         |
| LG Seeds C4710RX         | R2X                        | 57 h-t                          | 61 c-h |        | 14.1 g-w                | 12.8 f-i |          | 47 a-g             | 48 a-b |        | 2.8 b-e                     | 2.3 b   |         |
| Terral REV 4927X         | R2X                        | 57 i-u                          | 59 f-l |        | 13.8 o-y                | 12.4 i   |          | 46 c-l             | 46 b-c |        | 3.1 a-b                     | 2.8 a   |         |
| Warren Seed BG 4911 RR2  | R2X                        | 57 h-t                          | 59 g-l |        | 13.5 u-y                | 12.8 f-i |          | 44 l-w             | 44 e-g |        | 1.6 r-cc                    | 1.6 g-i |         |
| Terral REV 4679X         | R2X                        | 57 h-t                          |        |        | 13.6 s-y                |          |          | 42 w-dd            |        |        | 2.1 f-r                     |         |         |
| Local Seed Co. LS4689X   | R2X                        | 57 i-u                          |        |        | 13.6 p-y                |          |          | 48 a-d             |        |        | 2.1 f-q                     |         |         |
| Local Seed Co. LS4966X   | R2X                        | 57 h-t                          |        |        | 14.1 e-v                |          |          | 41 aa-gg           |        |        | 1.6 v-ff                    |         |         |
| Hefty H48X7              | R2X                        | 57 i-u                          |        |        | 14.8 a-d                |          |          | 42 v-dd            |        |        | 1.4 z-gg                    |         |         |
| Mission Seed A4637NSXR2  | R2X                        | 57 g-s                          |        |        | 13.6 t-y                |          |          | 44 j-s             |        |        | 2.1 f-r                     |         |         |
| Mission A4608X           | R2X                        | 57 i-u                          |        |        | 13.6 s-y                |          |          | 48 a-b             |        |        | 2.1 h-s                     |         |         |

**Table 15-a. cont.**

| Variety                 | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Moisture at Harvest (%) |          |          | Plant Height (in.) |        |        | Lodging <sup>  </sup> (1-5) |         |         |
|-------------------------|----------------------------|---------------------------------|--------|--------|-------------------------|----------|----------|--------------------|--------|--------|-----------------------------|---------|---------|
|                         |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr                    | 2 yr     | 3 yr     | 1 yr               | 2 yr   | 3 yr   | 1 yr                        | 2 yr    | 3 yr    |
| Mission A4618X          | R2X                        | 57 h-t                          |        |        | 14.4 a-m                |          |          | 45 e-m             |        |        | 1.5 w-gg                    |         |         |
| Mission A4828X          | R2X                        | 57 h-t                          |        |        | 14.1 f-v                |          |          | 48 a-c             |        |        | 2.9 a-c                     |         |         |
| Credenz CZ 4748 LL      | LL                         | 56 l-u                          | 60 e-k | 59 c-f | 13.2 y                  | 12.5 i   | 12.5 b-c | 44 l-v             | 42 g-i | 43 g-h | 2.1 g-s                     | 1.7 f-h | 1.6 c-d |
| Asgrow AG46X6 RR2X      | R2X                        | 56 l-u                          | 61 d-j | 58 d-g | 14.2 e-t                | 12.8 f-i | 12.6 b-c | 43 q-aa            | 43 f-h | 43 f-g | 2.2 f-o                     | 1.7 f-h | 1.7 b-c |
| Caverndale Farms CF 478 | RR2,STS                    | 56 k-u                          | 60 e-k | 57 e-h | 13.7 o-y                | 12.7 f-i | 12.7 b-c | 47 b-i             | 46 b-d | 46 c-d | 2.0 i-t                     | 1.6 h-j | 1.5 c-e |
| GoSoy 49G16             | RR                         | 56 m-w                          | 57 i-n | 53 i   | 13.7 o-y                | 12.9 e-i | 12.7 b-c | 37 i-i             | 40 j   | 41 i   | 1.7 q-bb                    | 1.9 e-g | 1.9 a   |
| AgriGold G4685RX        | R2X, STS                   | 56 j-u                          | 65 a-c |        | 14.1 e-v                | 12.8 f-i |          | 48 a-d             | 49 a   |        | 1.7 p-bb                    | 1.3 i-m |         |
| LG Seeds LGS4624RX      | R2X                        | 56 l-v                          |        |        | 13.8 m-y                |          |          | 48 a-b             |        |        | 2.0 i-v                     |         |         |
| Terral REV 46L99        | LL                         | 56 l-u                          |        |        | 13.6 r-y                |          |          | 43 q-aa            |        |        | 1.6 w-ff                    |         |         |
| Local Seed Co. AV49W3X  | R2X                        | 56 k-u                          |        |        | 13.8 o-y                |          |          | 44 i-s             |        |        | 3.0 a-b                     |         |         |
| Warren Seed BG 4922 RR2 | R2X                        | 56 l-v                          |        |        | 14.4 a-l                |          |          | 41 bb-gg           |        |        | 1.4 z-gg                    |         |         |
| Croplan RX4810          | R2X                        | 56 l-v                          |        |        | 14.0 h-w                |          |          | 46 b-j             |        |        | 1.7 r-cc                    |         |         |
| Progeny 4930LL          | LL                         | 55 n-z                          | 58 g-m | 55 h-i | 14.8 a-c                | 16.2 a   | 15.9 a   | 45 f-o             | 44 e-g | 44 e-g | 1.6 t-ee                    | 1.4 i-m | 1.4 d-g |
| MO S14-15-146R          | RR,STS                     | 55 n-y                          | 56 l-o |        | 14.0 h-x                | 13.0 e-i |          | 39 ff-hh           | 40 j-k |        | 1.4 z-gg                    | 1.3 j-m |         |
| LG Seeds LGS4989RX      | R2X                        | 55 n-z                          |        |        | 13.8 l-y                |          |          | 43 p-z             |        |        | 2.1 f-r                     |         |         |
| Credenz CZ 4820 LL      | LL                         | 55 n-z                          |        |        | 13.8 n-y                |          |          | 43 n-y             |        |        | 2.0 i-u                     |         |         |
| AGS GS48X18             | R2X                        | 55 m-x                          |        |        | 13.7 o-y                |          |          | 44 k-u             |        |        | 2.4 e-k                     |         |         |
| Local Seed Co. LS4677X  | R2X                        | 55 n-z                          |        |        | 13.5 w-y                |          |          | 42 r-bb            |        |        | 2.3 e-l                     |         |         |
| Credenz HBK LL4950      | LL                         | 54 p-z                          |        |        | 13.9 i-x                |          |          | 48 a-b             |        |        | 2.2 f-p                     |         |         |
| GoSoy Ireane            | CONV                       | 54 r-aa                         | 56 k-o | 54 h-i | 14.6 a-i                | 13.4 d-i | 13.4 b   | 33 j-j             | 34 m   | 34 j   | 1.1 g-g                     | 1.3 j-m | 1.3 f-h |
| MO S14-9051R            | RR                         | 54 q-z                          | 54 n-o |        | 13.9 i-x                | 13.7 d-h |          | 37 hh-ii           | 37 l   |        | 2.0 k-x                     | 1.7 f-h |         |
| Terral REV 4857X        | R2X                        | 54 s-bb                         | 57 j-n |        | 14.0 h-x                | 12.9 e-i |          | 44 j-t             | 44 e-g |        | 2.2 f-p                     | 2.0 c-f |         |
| Warren Seed BG 4842 RR2 | R2X                        | 54 p-z                          | 61 d-i |        | 13.9 k-x                | 12.7 f-i |          | 48 a-b             | 45 c-e |        | 1.5 x-gg                    | 1.6 h-j |         |
| TN Exp TN16-554R1       | RR                         | 54 p-z                          |        |        | 14.1 e-u                |          |          | 32 jj-kk           |        |        | 1.1 g-g                     |         |         |
| Credenz CZ 4938 LL      | LL                         | 54 p-z                          |        |        | 14.9 a-b                |          |          | 48 a-b             |        |        | 2.5 c-h                     |         |         |
| Local Seed Co. AV47W2X  | R2X                        | 54 q-z                          |        |        | 13.8 m-y                |          |          | 42 u-dd            |        |        | 2.4 e-k                     |         |         |
| Progeny P4955RX         | R2X                        | 54 p-z                          |        |        | 14.1 e-v                |          |          | 45 e-n             |        |        | 2.5 d-i                     |         |         |
| Credenz HBK LL4953      | LL                         | 53 t-cc                         | 58 h-n | 56 f-i | 14.6 a-h                | 15.1 b-c | 15.0 a   | 45 g-o             | 44 e-g | 44 e-f | 1.8 m-z                     | 1.5 h-k | 1.5 c-f |
| MO S14-15138R           | RR,STS                     | 53 s-bb                         |        |        | 14.7 a-g                |          |          | 40 cc-gg           |        |        | 1.6 r-cc                    |         |         |
| VA V14-4140             | CONV                       | 52 u-dd                         |        |        | 13.9 k-x                |          |          | 32 j-j             |        |        | 1.3 aa-gg                   |         |         |
| Progeny 4851RX          | R2X                        | 51 w-ee                         | 58 i-n |        | 13.7 o-y                | 12.6 g-i |          | 44 k-u             | 44 d-f |        | 3.3 a                       | 2.9 a   |         |
| TN Exp TN15-4009        | CONV                       | 51 v-ee                         |        |        | 13.8 l-y                |          |          | 31 jj-kk           |        |        | 1.4 z-gg                    |         |         |
| USG Ellis               | CONV                       | 50 x-ee                         | 57 k-n | 56 g-i | 14.2 c-r                | 12.9 f-i | 12.8 b-c | 30 k-k             | 33 m   | 33 k   | 1.1 ee-gg                   | 1.2 l-m | 1.2 g-h |
| TN Exp TN13-4304        | CONV                       | 50 z-ee                         |        |        | 14.2 c-q                |          |          | 32 jj-kk           |        |        | 1.1 dd-gg                   |         |         |
| Petrus Seed 479 GTS     | RR,STS                     | 50 aa-ff                        | 54 n-o |        | 13.4 x-y                | 12.6 h-i |          | 45 f-o             | 45 c-e |        | 1.8 o-aa                    | 1.4 h-l |         |
| Petrus Seed 4916 GT     | RR                         | 50 z-ee                         | 55 m-o |        | 14.3 b-p                | 13.2 d-i |          | 37 hh-ii           | 40 j   |        | 1.9 l-y                     | 2.0 c-f |         |
| TN Exp TN14-5021        | CONV                       | 50 aa-ff                        | 55 l-o |        | 14.9 a-b                | 14.1 c-d |          | 32 j-j             | 34 m   |        | 1.1 ff-gg                   | 1.5 h-k |         |
| Local Seed Co. LS4988X  | R2X                        | 50 y-ee                         |        |        | 14.2 c-p                |          |          | 41 aa-gg           |        |        | 2.5 c-f                     |         |         |

**Table 15-a. cont.**

| Variety                                       | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |      | Moisture at Harvest (%) |          |      | Plant Height (in.) |        |      | Lodging <sup>  </sup> (1-5) |         |      |
|---|----------------------------|---------------------------------|--------|------|-------------------------|----------|------|--------------------|--------|------|-----------------------------|---------|------|
|   |                            | 1 yr                            | 2 yr   | 3 yr | 1 yr                    | 2 yr     | 3 yr | 1 yr               | 2 yr   | 3 yr | 1 yr                        | 2 yr    | 3 yr |
| USG 74G98L                                    | LL                         | 49 bb-ff                        | 53 o   |      | 14.6 a-g                | 15.5 a-b |      | 46 b-k             | 45 c-e |      | 2.4 d-j                     | 2.1 b-e |      |
| TN Exp TN16-520R1                             | RR                         | 48 cc-ff                        | 56 l-o |      | 14.1 e-v                | 12.9 e-i |      | 36 j-j             | 37 l   |      | 1.2 cc-gg                   | 1.3 j-m |      |
| Progeny P4994RX                               | R2X                        | 48 dd-ff                        |        |      | 13.8 m-y                |          |      | 40 dd-gg           |        |      | 2.3 f-m                     |         |      |
| AGS GS46X17                                   | R2X                        | 47 ee-ff                        | 53 o   |      | 13.9 l-y                | 12.9 f-i |      | 39 gg-hh           | 38 k-l |      | 1.8 n-z                     | 1.5 h-k |      |
| VA V13-0113                                   | RR                         | 45 f-f                          |        |      | 13.6 q-y                |          |      | 45 h-q             |        |      | 2.9 a-d                     |         |      |
| <b>Average</b>                                |                            | 56                              | 60     | 59   | 14.1                    | 13.3     | 13.2 | 43                 | 43     | 43   | 1.9                         | 1.7     | 1.5  |
| <b>Standard Error</b>                         |                            | 5                               | 6      | 4    | 0.4                     | 1.0      | 0.9  | 4                  | 4      | 3    | 0.3                         | 0.3     | 0.2  |
| <b>L.S.D.<sub>.05</sub></b>                   |                            | 5                               | 4      | 3    | 0.6                     | 1.1      | 1.0  | 2                  | 2      | 1    | 0.5                         | 0.3     | 0.2  |
| <b>C.V.</b>                                   |                            | 14                              | 13     | 12   | 7                       | 18       | 18   | 8                  | 8      | 7    | -                           | -       | -    |
| <b>Plots per entry (reps x locs x years.)</b> |                            | 21                              | 36     | 45   | 21                      | 36       | 45   | 18                 | 30     | 45   | 18                          | 30      | 45   |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.

**Table 15-b. Mean yield, agronomic traits, and quality of 81 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in small plot replicated trials at six REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                  | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Maturity (DAP) |         |         | Protein <sup>¶</sup> (%) |      |      | Oil <sup>¶</sup> (%) |      |      |
|--------------------------|----------------------------|---------------------------------|--------|--------|----------------|---------|---------|--------------------------|------|------|----------------------|------|------|
|                          |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr           | 2 yr    | 3 yr    | 1 yr                     | 2 yr | 3 yr | 1 yr                 | 2 yr | 3 yr |
| Local Seed Co. LS4968XS  | R2X, STS                   | 66 a                            |        |        | 139 b-d        |         |         | 40.0 h-t                 |      |      | 22.2 q-y             |      |      |
| USG 7496XTS***           | R2X, STS                   | 65 a-b                          | 67 a   | 65 a   | 138 b-d        | 138 a-c | 133 a   | 40.0 g-v                 |      |      | 22.2 p-z             |      |      |
| USG 7489XT               | R2X                        | 64 a-c                          |        |        | 137 d-i        |         |         | 40.9 b-f                 |      |      | 21.8 y-cc            |      |      |
| Dyna-Gro S48XT56**       | R2X                        | 63 a-f                          | 65 a-d | 58 d-g | 135 j-q        | 135 f-h | 131 c-d | 40.4 d-n                 |      |      | 21.9 v-bb            |      |      |
| Dyna-Gro S49XS76**       | R2X, STS                   | 63 a-e                          | 65 a-b | 62 a-c | 138 b-e        | 137 a-c | 133 a-b | 40.2 e-r                 |      |      | 22.3 p-x             |      |      |
| Hefty H49X7S**           | R2X, STS                   | 63 a-d                          | 64 a-d |        | 138 b-e        | 138 a-b |         | 39.6 o-z                 |      |      | 22.3 p-x             |      |      |
| Asgrow AG48X9 RR2X/SR    | R2X, STS                   | 63 a-f                          |        |        | 133 r-aa       |         |         | 38.9 y-hh                |      |      | 23.0 c-j             |      |      |
| Asgrow AG47X6 RR2X/SR*** | R2X, STS                   | 62 a-g                          | 67 a   | 64 a-b | 133 r-bb       | 132 m-n | 128 h   | 40.9 b-g                 |      |      | 21.7 z-cc            |      |      |
| Croplan RX4825           | R2X                        | 62 a-h                          | 63 b-f |        | 137 d-i        | 136 d-f |         | 40.5 d-l                 |      |      | 22.0 s-bb            |      |      |
| Progeny 4757RY**         | RR2                        | 61 a-k                          | 61 c-h | 59 c-e | 134 p-z        | 134 h-k | 130 f-g | 39.1 u-ee                |      |      | 22.6 j-q             |      |      |
| Progeny 4620RXS          | R2X, STS                   | 61 b-l                          | 63 a-e | 61 c-d | 134 p-y        | 133 j-m | 129 g-h | 39.8 k-x                 |      |      | 21.6 bb-cc           |      |      |
| Progeny 4816RX           | R2X                        | 61 a-i                          | 63 a-d | 59 c-f | 137 f-j        | 136 e-g | 132 c-d | 40.3 d-r                 |      |      | 22.0 s-bb            |      |      |
| USG 7487XTS**            | R2X, STS                   | 61 a-j                          | 64 a-d | 61 b-c | 134 n-u        | 134 i-k | 130 e-g | 39.7 m-y                 |      |      | 22.5 k-r             |      |      |
| Credenz CZ 4918 LL       | LL                         | 60 c-n                          |        |        | 132 w-bb       |         |         | 40.7 c-i                 |      |      | 22.2 p-x             |      |      |
| Taylor 4808X             | R2X                        | 60 c-n                          |        |        | 134 p-z        |         |         | 40.1 g-t                 |      |      | 22.0 s-bb            |      |      |
| Asgrow AG47X9 RR2X       | R2X, STS                   | 60 c-m                          |        |        | 134 n-v        |         |         | 38.2 hh-ii               |      |      | 23.3 b-c             |      |      |
| Asgrow AG49X9 RR2X/SR    | R2X                        | 60 c-n                          |        |        | 134 o-v        |         |         | 38.3 ff-ii               |      |      | 23.1 b-h             |      |      |
| LG Seeds C4845RX         | R2X                        | 59 c-o                          | 62 b-g | 59 c-f | 136 g-k        | 135 f-g | 131 c-d | 40.5 d-k                 |      |      | 21.9 v-bb            |      |      |
| Progeny 4799RXS          | R2X, STS                   | 59 d-p                          | 61 c-h | 61 c-d | 135 k-r        | 133 i-l | 130 g   | 41.0 b-e                 |      |      | 21.4 c-c             |      |      |
| Asgrow AG49X6 RR2X       | R2X                        | 59 c-n                          |        |        | 136 h-m        |         |         | 38.4 ee-ii               |      |      | 22.7 g-n             |      |      |
| Terral REV 47L38         | LL                         | 59 c-o                          |        |        | 131 bb-cc      |         |         | 39.2 t-ee                |      |      | 22.7 f-p             |      |      |
| Armor 47-D22             | R2X                        | 59 d-p                          |        |        | 133 s-bb       |         |         | 38.8 bb-ii               |      |      | 23.3 b-c             |      |      |
| Terral REV 49L88         | LL                         | 58 g-s                          | 61 c-h |        | 135 k-r        | 134 g-i |         | 39.9 i-u                 |      |      | 22.7 f-n             |      |      |
| Local Seed Co. LS4889XS  | R2X, STS                   | 58 e-q                          |        |        | 135 j-q        |         |         | 38.8 aa-ii               |      |      | 23.2 b-e             |      |      |
| Mission A4950X           | R2X                        | 58 f-r                          |        |        | 138 c-h        |         |         | 39.5 q-bb                |      |      | 22.4 m-t             |      |      |
| AgriGold G4750RX         | R2X, STS                   | 58 f-r                          |        |        | 134 n-t        |         |         | 38.3 ee-ii               |      |      | 23.9 a               |      |      |
| Croplan RX4928           | R2X                        | 58 e-q                          |        |        | 138 c-f        |         |         | 39.4 s-dd                |      |      | 22.6 j-q             |      |      |
| Armor X46-D63            | R2X                        | 58 e-q                          |        |        | 133 r-aa       |         |         | 39.6 p-aa                |      |      | 22.9 c-k             |      |      |
| Hefty H46X6              | R2X, STS                   | 57 i-u                          | 59 g-m |        | 135 j-p        | 133 j-m |         | 39.5 r-cc                |      |      | 22.9 c-k             |      |      |
| LG Seeds C4710RX         | R2X                        | 57 h-t                          | 61 c-h |        | 134 o-x        | 134 h-j |         | 38.7 cc-ii               |      |      | 23.5 a-b             |      |      |
| Terral REV 4927X         | R2X                        | 57 i-u                          | 59 f-l |        | 133 r-aa       | 133 j-m |         | 38.9 a-hh                |      |      | 23.0 b-i             |      |      |
| Warren Seed BG 4911 RR2  | R2X                        | 57 h-t                          | 59 g-l |        | 133 t-bb       | 133 j-m |         | 40.4 d-o                 |      |      | 22.0 s-bb            |      |      |
| Terral REV 4679X         | R2X                        | 57 h-t                          |        |        | 132 y-cc       |         |         | 39.2 u-ee                |      |      | 22.8 d-l             |      |      |
| Local Seed Co. LS4689X   | R2X                        | 57 i-u                          |        |        | 132 aa-cc      |         |         | 39.5 r-bb                |      |      | 23.3 b-d             |      |      |
| Local Seed Co. LS4966X   | R2X                        | 57 h-t                          |        |        | 136 h-l        |         |         | 40.6 c-m                 |      |      | 21.8 x-cc            |      |      |
| Hefty H48X7              | R2X                        | 57 i-u                          |        |        | 137 d-i        |         |         | 40.5 d-n                 |      |      | 21.9 w-bb            |      |      |
| Mission Seed A4637NSXR2  | R2X                        | 57 g-s                          |        |        | 133 t-bb       |         |         | 39.3 t-dd                |      |      | 21.9 v-bb            |      |      |
| Mission A4608X           | R2X                        | 57 i-u                          |        |        | 132 z-cc       |         |         | 39.3 s-dd                |      |      | 23.1 b-h             |      |      |

Table 15-b. cont.

| Variety                 | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Maturity (DAP) |         |         | Protein <sup>¶</sup> (%) |      |      | Oil <sup>¶</sup> (%) |      |      |
|-------------------------|----------------------------|---------------------------------|--------|--------|----------------|---------|---------|--------------------------|------|------|----------------------|------|------|
|                         |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr           | 2 yr    | 3 yr    | 1 yr                     | 2 yr | 3 yr | 1 yr                 | 2 yr | 3 yr |
| Mission A4618X          | R2X                        | 57 h-t                          |        |        | 133 r-aa       |         |         | 39.7 n-y                 |      |      | 23.2 b-g             |      |      |
| Mission A4828X          | R2X                        | 57 h-t                          |        |        | 136 i-o        |         |         | 38.4 ee-ii               |      |      | 23.2 b-g             |      |      |
| Credenz CZ 4748 LL      | LL                         | 56 l-u                          | 60 e-k | 59 c-f | 133 s-bb       | 132 l-n | 128 h   | 39.5 p-bb                |      |      | 22.9 c-m             |      |      |
| Asgrow AG46X6 RR2X      | R2X                        | 56 l-u                          | 61 d-j | 58 d-g | 135 j-q        | 135 f-g | 131 d-e | 39.9 h-w                 |      |      | 22.4 l-w             |      |      |
| Caverndale Farms CF 478 | RR2,STS                    | 56 k-u                          | 60 e-k | 57 e-h | 133 v-bb       | 132 l-n | 129 g-h | 40.2 e-r                 |      |      | 21.5 c-c             |      |      |
| GoSoy 49G16             | RR                         | 56 m-w                          | 57 i-n | 53 i   | 134 l-s        | 135 f-i | 131 d-f | 41.1 a-d                 |      |      | 21.9 v-bb            |      |      |
| AgriGold G4685RX        | R2X, STS                   | 56 j-u                          | 65 a-c |        | 134 q-z        | 133 j-m |         | 39.7 l-x                 |      |      | 22.3 n-w             |      |      |
| LG Seeds LGS4624RX      | R2X                        | 56 l-v                          |        |        | 132 x-cc       |         |         | 39.8 i-x                 |      |      | 22.8 e-n             |      |      |
| Terral REV 46L99        | LL                         | 56 l-u                          |        |        | 132 aa-cc      |         |         | 38.6 dd-ii               |      |      | 23.5 a-b             |      |      |
| Local Seed Co. AV49W3X  | R2X                        | 56 k-u                          |        |        | 134 n-t        |         |         | 39.0 x-gg                |      |      | 22.8 f-n             |      |      |
| Warren Seed BG 4922 RR2 | R2X                        | 56 l-v                          |        |        | 137 f-j        |         |         | 40.4 d-q                 |      |      | 22.2 o-z             |      |      |
| Croplan RX4810          | R2X                        | 56 l-v                          |        |        | 134 o-v        |         |         | 40.1 f-s                 |      |      | 22.1 r-aa            |      |      |
| Progeny 4930LL          | LL                         | 55 n-z                          | 58 g-m | 55 h-i | 139 a-c        | 138 a-b | 133 a-b | 40.5 d-m                 |      |      | 22.8 e-m             |      |      |
| MO S14-15-146R          | RR,STS                     | 55 n-y                          | 56 l-o |        | 133 r-aa       | 132 m-n |         | 39.0 w-gg                |      |      | 22.9 c-k             |      |      |
| LG Seeds LGS4989RX      | R2X                        | 55 n-z                          |        |        | 134 p-z        |         |         | 38.8 y-ii                |      |      | 23.0 b-j             |      |      |
| Credenz CZ 4820 LL      | LL                         | 55 n-z                          |        |        | 132 z-cc       |         |         | 38.3 gg-ii               |      |      | 23.2 b-f             |      |      |
| AGS GS48X18             | R2X                        | 55 m-x                          |        |        | 134 o-w        |         |         | 39.8 j-w                 |      |      | 22.7 h-p             |      |      |
| Local Seed Co. LS4677X  | R2X                        | 55 n-z                          |        |        | 132 aa-cc      |         |         | 38.8 z-hh                |      |      | 23.1 b-g             |      |      |
| Credenz HBK LL4950      | LL                         | 54 p-z                          |        |        | 139 a-c        |         |         | 40.6 c-j                 |      |      | 23.0 c-j             |      |      |
| GoSoy Ireane            | CONV                       | 54 r-aa                         | 56 k-o | 54 h-i | 138 c-f        | 137 b-d | 133 a-b | 40.3 e-q                 |      |      | 21.7 aa-cc           |      |      |
| MO S14-9051R            | RR                         | 54 q-z                          | 54 n-o |        | 134 n-t        | 132 k-m |         | 38.8 bb-ii               |      |      | 23.2 b-e             |      |      |
| Terral REV 4857X        | R2X                        | 54 s-bb                         | 57 j-n |        | 132 x-bb       | 132 m-n |         | 41.6 a-b                 |      |      | 22.0 t-bb            |      |      |
| Warren Seed BG 4842 RR2 | R2X                        | 54 p-z                          | 61 d-i |        | 134 n-t        | 131 n-o |         | 38.7 dd-ii               |      |      | 22.7 h-o             |      |      |
| TN Exp TN16-554R1       | RR                         | 54 p-z                          |        |        | 137 e-j        |         |         | 38.8 u-gg                |      |      | 22.0 q-z             |      |      |
| Credenz CZ 4938 LL      | LL                         | 54 p-z                          |        |        | 140 a          |         |         | 41.1 a-d                 |      |      | 22.4 l-s             |      |      |
| Local Seed Co. AV47W2X  | R2X                        | 54 q-z                          |        |        | 132 y-cc       |         |         | 41.8 a                   |      |      | 22.0 u-bb            |      |      |
| Progeny P4955RX         | R2X                        | 54 p-z                          |        |        | 136 h-n        |         |         | 39.7 l-y                 |      |      | 22.4 l-t             |      |      |
| Credenz HBK LL4953      | LL                         | 53 t-cc                         | 58 h-n | 56 f-i | 138 b-d        | 137 a-c | 132 b-c | 40.2 e-r                 |      |      | 22.7 f-n             |      |      |
| MO S14-15138R           | RR,STS                     | 53 s-bb                         |        |        | 133 r-aa       |         |         | 40.5 d-k                 |      |      | 22.4 m-t             |      |      |
| VA V14-4140             | CONV                       | 52 u-dd                         |        |        | 138 c-f        |         |         | 39.5 q-bb                |      |      | 22.3 n-v             |      |      |
| Progeny 4851RX          | R2X                        | 51 w-ee                         | 58 i-n |        | 134 m-t        | 133 i-l |         | 39.1 v-ff                |      |      | 22.6 h-p             |      |      |
| TN Exp TN15-4009        | CONV                       | 51 v-ee                         |        |        | 138 c-g        |         |         | 38.0 i-i                 |      |      | 22.9 c-k             |      |      |
| USG Ellis               | CONV                       | 50 x-ee                         | 57 k-n | 56 g-i | 138 c-f        | 137 c-e | 132 b-c | 40.1 f-s                 |      |      | 21.7 bb-cc           |      |      |
| TN Exp TN13-4304        | CONV                       | 50 z-ee                         |        |        | 138 b-d        |         |         | 40.8 c-h                 |      |      | 22.0 s-bb            |      |      |
| Petrus Seed 479 GTS     | RR,STS                     | 50 aa-ff                        | 54 n-o |        | 131 c-c        | 129 p   |         | 40.5 d-l                 |      |      | 23.4 a-b             |      |      |
| Petrus Seed 4916 GT     | RR                         | 50 z-ee                         | 55 m-o |        | 136 h-m        | 136 e-g |         | 40.8 c-h                 |      |      | 21.9 v-bb            |      |      |
| TN Exp TN14-5021        | CONV                       | 50 aa-ff                        | 55 l-o |        | 138 c-f        | 137 a-c |         | 40.3 d-p                 |      |      | 22.0 s-bb            |      |      |
| Local Seed Co. LS4988X  | R2X                        | 50 y-ee                         |        |        | 133 u-bb       |         |         | 39.8 j-w                 |      |      | 22.4 m-u             |      |      |

**Table 15-b. cont.**

| Variety                                | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |      | Maturity (DAP) |         |      | Protein <sup>¶</sup> (%) |      |      | Oil <sup>¶</sup> (%) |      |      |
|--|----------------------------|---------------------------------|--------|------|----------------|---------|------|--------------------------|------|------|----------------------|------|------|
|  |                            | 1 yr                            | 2 yr   | 3 yr | 1 yr           | 2 yr    | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                 | 2 yr | 3 yr |
| USG 74G98L                             | LL                         | 49 bb-ff                        | 53 o   |      | 140 a-b        | 138 a   |      | 40.1 f-t                 |      |      | 22.6 i-p             |      |      |
| TN Exp TN16-520R1                      | RR                         | 48 cc-ff                        | 56 l-o |      | 139 a-c        | 137 a-c |      | 39.8 j-w                 |      |      | 21.8 x-cc            |      |      |
| Progeny P4994RX                        | R2X                        | 48 dd-ff                        |        |      | 131 bb-cc      |         |      | 39.7 l-x                 |      |      | 22.1 r-aa            |      |      |
| AGS GS46X17                            | R2X                        | 47 ee-ff                        | 53 o   |      | 131 bb-cc      | 130 o-p |      | 39.9 i-u                 |      |      | 23.4 a-b             |      |      |
| VA V13-0113                            | RR                         | 45 f-f                          |        |      | 132 x-bb       |         |      | 41.3 a-c                 |      |      | 22.1 s-bb            |      |      |
| Average                                |                            | 56                              | 60     | 59   | 135            | 134     | 131  | 39.8                     | -    | -    | 22.5                 | -    | -    |
| Standard Error                         |                            | 5                               | 6      | 4    | 3              | 2       | 4    | 0.3                      | -    | -    | 0.2                  | -    | -    |
| L.S.D. <sub>.05</sub>                  |                            | 5                               | 4      | 3    | 2              | 1       | 1    | 0.8                      | -    | -    | 0.4                  | -    | -    |
| C.V.                                   |                            | 14                              | 13     | 12   | 2              | 2       | 2    | 1                        | -    | -    | 1                    | -    | -    |
| Plots per entry (reps x locs x years.) |                            | 21                              | 36     | 45   | 18             | 30      | 45   | 3                        | -    | -    | 3                    | -    | -    |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.

**Table 16. Mean yields across and by location of 81 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in replicated small plot trials at six REC locations in Tennessee during 2018. Analysis included variety performance across a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                  | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Knoxville Irr. (bu/ac) |      |      | Springfield Irr. (bu/ac) |      |      | Springfield Non-Irr. (bu/ac) |      |      | Milan Irr. (bu/ac) |      |      | Milan Non-Irr. (bu/ac) |      |      | Jackson Non-Irr. (bu/ac) |      |      | Memphis Irr. (bu/ac) |      |      |
|--------------------------|----------------------------|---------------------------------|--------|--------|------------------------|------|------|--------------------------|------|------|------------------------------|------|------|--------------------|------|------|------------------------|------|------|--------------------------|------|------|----------------------|------|------|
|                          |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                         | 2 yr | 3 yr | 1 yr               | 2 yr | 3 yr | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                 | 2 yr | 3 yr |
| Local Seed Co. LS4968XS  | R2X, STS                   | 66 a                            |        |        | 86                     |      |      | 72                       |      |      | 36                           |      |      | 75                 |      |      | 53                     |      |      | 68                       |      |      | 68                   |      |      |
| USG 7496XTS***           | R2X, STS                   | 65 a-b                          | 67 a   | 65 a   | 88                     |      |      | 75                       | 77   | 67   | 35                           | 52   | 49   | 76                 | 78   | 77   | 55                     | 65   | 68   | 72                       | 62   | 63   | 55                   | 66   |      |
| USG 7489XT               | R2X                        | 64 a-c                          |        |        | 77                     |      |      | 76                       |      |      | 36                           |      |      | 71                 |      |      | 54                     |      |      | 67                       |      |      | 63                   |      |      |
| Dyna-Gro S48XT56**       | R2X                        | 63 a-f                          | 65 a-d | 58 d-g | 74                     |      |      | 78                       | 70   | 59   | 34                           | 44   | 43   | 63                 | 71   | 69   | 52                     | 60   | 60   | 67                       | 63   | 63   | 72                   | 78   |      |
| Dyna-Gro S49XS76**       | R2X, STS                   | 63 a-e                          | 65 a-b | 62 a-c | 90                     |      |      | 68                       | 78   | 66   | 44                           | 54   | 51   | 66                 | 70   | 69   | 50                     | 61   | 65   | 63                       | 58   | 58   | 64                   | 72   |      |
| Hefty H49X7S**           | R2X, STS                   | 63 a-d                          | 64 a-d |        | 84                     |      |      | 67                       | 75   |      | 38                           | 45   |      | 68                 | 70   |      | 54                     | 63   |      | 66                       | 60   |      | 60                   | 65   |      |
| Asgrow AG48X9 RR2X/SR    | R2X, STS                   | 63 a-f                          |        |        | 75                     |      |      | 77                       |      |      | 43                           |      |      | 67                 |      |      | 52                     |      |      | 63                       |      |      | 64                   |      |      |
| Asgrow AG47X6 RR2X/SR*** | R2X, STS                   | 62 a-g                          | 67 a   | 64 a-b | 86                     |      |      | 67                       | 77   | 69   | 33                           | 56   | 54   | 65                 | 70   | 70   | 54                     | 67   | 69   | 60                       | 60   | 59   | 69                   | 71   |      |
| Croplan RX4825           | R2X                        | 62 a-h                          | 63 b-f |        | 78                     |      |      | 76                       | 74   |      | 34                           | 42   |      | 66                 | 70   |      | 51                     | 60   |      | 62                       | 59   |      | 63                   | 70   |      |
| Progeny 4757RY**         | RR2                        | 61 a-k                          | 61 c-h | 59 c-e | 79                     |      |      | 79                       | 71   | 63   | 37                           | 45   | 45   | 63                 | 68   | 70   | 45                     | 55   | 59   | 58                       | 57   | 57   | 68                   | 72   |      |
| Progeny 4620RXS          | R2X, STS                   | 61 b-l                          | 63 a-e | 61 c-d | 77                     |      |      | 72                       | 78   | 68   | 33                           | 48   | 47   | 60                 | 66   | 68   | 50                     | 62   | 63   | 60                       | 58   | 58   | 71                   | 66   |      |
| Progeny 4816RX           | R2X                        | 61 a-i                          | 63 a-d | 59 c-f | 72                     |      |      | 71                       | 70   | 60   | 34                           | 46   | 43   | 68                 | 69   | 69   | 50                     | 60   | 62   | 62                       | 62   | 62   | 65                   | 72   |      |
| USG 7487XTS**            | R2X, STS                   | 61 a-j                          | 64 a-d | 61 b-c | 81                     |      |      | 65                       | 69   | 63   | 34                           | 54   | 52   | 76                 | 78   | 73   | 54                     | 65   | 65   | 55                       | 54   | 54   | 65                   | 65   |      |
| Credenz CZ 4918 LL       | LL                         | 60 c-n                          |        |        | 79                     |      |      | 67                       |      |      | 37                           |      |      | 62                 |      |      | 52                     |      |      | 62                       |      |      | 59                   |      |      |
| Taylor 4808X             | R2X                        | 60 c-n                          |        |        | 79                     |      |      | 65                       |      |      | 41                           |      |      | 64                 |      |      | 49                     |      |      | 53                       |      |      | 68                   |      |      |
| Asgrow AG47X9 RR2X       | R2X, STS                   | 60 c-m                          |        |        | 77                     |      |      | 66                       |      |      | 28                           |      |      | 68                 |      |      | 45                     |      |      | 69                       |      |      | 67                   |      |      |
| Asgrow AG49X9 RR2X/SR    | R2X                        | 60 c-n                          |        |        | 81                     |      |      | 73                       |      |      | 37                           |      |      | 63                 |      |      | 46                     |      |      | 69                       |      |      | 45                   |      |      |
| LG Seeds C4845RX         | R2X                        | 59 c-o                          | 62 b-g | 59 c-f | 76                     |      |      | 65                       | 66   | 59   | 36                           | 46   | 43   | 66                 | 70   | 70   | 50                     | 59   | 62   | 64                       | 62   | 61   | 62                   | 70   |      |
| Progeny 4799RXS          | R2X, STS                   | 59 d-p                          | 61 c-h | 61 c-d | 82                     |      |      | 78                       | 80   | 70   | 34                           | 50   | 51   | 62                 | 64   | 66   | 46                     | 57   | 61   | 61                       | 57   | 57   | 54                   | 60   |      |
| Asgrow AG49X6 RR2X       | R2X                        | 59 c-n                          |        |        | 77                     |      |      | 71                       |      |      | 34                           |      |      | 67                 |      |      | 54                     |      |      | 55                       |      |      | 61                   |      |      |
| Terral REV 47L38         | LL                         | 59 c-o                          |        |        | 73                     |      |      | 66                       |      |      | 40                           |      |      | 57                 |      |      | 46                     |      |      | 61                       |      |      | 69                   |      |      |
| Armor 47-D22             | R2X                        | 59 d-p                          |        |        | 71                     |      |      | 69                       |      |      | 36                           |      |      | 68                 |      |      | 49                     |      |      | 57                       |      |      | 61                   |      |      |
| Terral REV 49L88         | LL                         | 58 g-s                          | 61 c-h |        | 77                     |      |      | 70                       | 70   |      | 39                           | 49   |      | 55                 | 63   |      | 43                     | 57   |      | 55                       | 58   |      | 62                   | 71   |      |
| Local Seed Co. LS4889XS  | R2X, STS                   | 58 e-q                          |        |        | 81                     |      |      | 66                       |      |      | 47                           |      |      | 70                 |      |      | 50                     |      |      | 52                       |      |      | 42                   |      |      |
| Mission A4950X           | R2X                        | 58 f-r                          |        |        | 76                     |      |      | 71                       |      |      | 32                           |      |      | 66                 |      |      | 47                     |      |      | 58                       |      |      | 52                   |      |      |
| AgriGold G4750RX         | R2X, STS                   | 58 f-r                          |        |        | 95                     |      |      | 70                       |      |      | 32                           |      |      | 62                 |      |      | 49                     |      |      | 49                       |      |      | 54                   |      |      |
| Croplan RX4928           | R2X                        | 58 e-q                          |        |        | 82                     |      |      | 58                       |      |      | 30                           |      |      | 66                 |      |      | 41                     |      |      | 66                       |      |      | 61                   |      |      |
| Armor X46-D63            | R2X                        | 58 e-q                          |        |        | 71                     |      |      | 69                       |      |      | 38                           |      |      | 63                 |      |      | 51                     |      |      | 60                       |      |      | 55                   |      |      |
| Hefty H46X6              | R2X, STS                   | 57 i-u                          | 59 g-m |        | 75                     |      |      | 67                       | 72   |      | 40                           | 46   |      | 55                 | 58   |      | 45                     | 55   |      | 58                       | 59   |      | 55                   | 61   |      |
| LG Seeds C4710RX         | R2X                        | 57 h-t                          | 61 c-h |        | 79                     |      |      | 65                       | 74   |      | 28                           | 45   |      | 61                 | 64   |      | 47                     | 60   |      | 42                       | 50   |      | 76                   | 75   |      |
| Terral REV 4927X         | R2X                        | 57 i-u                          | 59 f-l |        | 77                     |      |      | 65                       | 66   |      | 43                           | 52   |      | 58                 | 64   |      | 48                     | 55   |      | 54                       | 60   |      | 50                   | 56   |      |
| Warren Seed BG 4911 RR2  | R2X                        | 57 h-t                          | 59 g-l |        | 78                     |      |      | 62                       | 70   |      | 37                           | 50   |      | 57                 | 54   |      | 39                     | 49   |      | 61                       | 58   |      | 68                   | 69   |      |
| Terral REV 4679X         | R2X                        | 57 h-t                          |        |        | 71                     |      |      | 60                       |      |      | 38                           |      |      | 54                 |      |      | 43                     |      |      | 55                       |      |      | 74                   |      |      |
| Local Seed Co. LS4689X   | R2X                        | 57 i-u                          |        |        | 68                     |      |      | 69                       |      |      | 32                           |      |      | 73                 |      |      | 45                     |      |      | 52                       |      |      | 57                   |      |      |
| Local Seed Co. LS4966X   | R2X                        | 57 h-t                          |        |        | 72                     |      |      | 66                       |      |      | 35                           |      |      | 67                 |      |      | 46                     |      |      | 66                       |      |      | 45                   |      |      |
| Hefty H48X7              | R2X                        | 57 i-u                          |        |        | 70                     |      |      | 59                       |      |      | 32                           |      |      | 64                 |      |      | 51                     |      |      | 60                       |      |      | 57                   |      |      |
| Mission Seed A4637NSXR2  | R2X                        | 57 g-s                          |        |        | 73                     |      |      | 70                       |      |      | 40                           |      |      | 65                 |      |      | 41                     |      |      | 55                       |      |      | 62                   |      |      |
| Mission A4608X           | R2X                        | 57 i-u                          |        |        | 73                     |      |      | 64                       |      |      | 34                           |      |      | 62                 |      |      | 42                     |      |      | 54                       |      |      | 62                   |      |      |
| Mission A4618X           | R2X                        | 57 h-t                          |        |        | 73                     |      |      | 67                       |      |      | 30                           |      |      | 64                 |      |      | 46                     |      |      | 62                       |      |      | 61                   |      |      |
| Mission A4828X           | R2X                        | 57 h-t                          |        |        | 77                     |      |      | 59                       |      |      | 40                           |      |      | 58                 |      |      | 50                     |      |      | 56                       |      |      | 60                   |      |      |
| Credenz CZ 4748 LL       | LL                         | 56 l-u                          | 60 e-k | 59 c-f | 60                     |      |      | 66                       | 63   | 62   | 39                           | 48   | 49   | 64                 | 69   | 67   | 51                     | 62   | 64   | 51                       | 51   | 51   | 58                   | 64   |      |
| Asgrow AG46X6 RR2X       | R2X                        | 56 l-u                          | 61 d-j | 58 d-g | 74                     |      |      | 59                       | 68   | 60   | 36                           | 53   | 48   | 64                 | 68   | 69   | 47                     | 58   | 59   | 63                       | 56   | 56   | 54                   | 65   |      |
| Coverdale Farms CF 478   | RR2, STS                   | 56 k-u                          | 60 e-k | 57 e-h | 75                     |      |      | 62                       | 66   | 60   | 35                           | 48   | 45   | 65                 | 66   | 66   | 40                     | 55   | 59   | 52                       | 52   | 52   | 62                   | 69   |      |
| GoSoy 49G16              | RR                         | 56 m-w                          | 57 i-n | 53 i   | 66                     |      |      | 68                       | 69   | 58   | 41                           | 46   | 46   | 51                 | 50   | 51   | 43                     | 57   | 53   | 57                       | 58   | 58   | 62                   | 64   |      |
| AgriGold G4685RX         | R2X, STS                   | 56 j-u                          | 65 a-c |        | 69                     |      |      | 68                       | 76   |      | 35                           | 55   |      | 65                 | 72   |      | 48                     | 66   |      | 50                       | 56   |      | 58                   | 66   |      |
| LG Seeds LGS4624RX       | R2X                        | 56 l-v                          |        |        | 73                     |      |      | 65                       |      |      | 30                           |      |      | 67                 |      |      | 47                     |      |      | 56                       |      |      | 51                   |      |      |
| Terral REV 46L99         | LL                         | 56 l-u                          |        |        | 75                     |      |      | 70                       |      |      | 37                           |      |      | 53                 |      |      | 38                     |      |      | 59                       |      |      | 62                   |      |      |
| Local Seed Co. AV49W3X   | R2X                        | 56 k-u                          |        |        | 77                     |      |      | 62                       |      |      | 38                           |      |      | 55                 |      |      | 47                     |      |      | 56                       |      |      | 59                   |      |      |

Table 16. cont.

| Variety                                | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |        | Knoxville Irr. (bu/ac) |      |      | Springfield Irr. (bu/ac) |      |      | Springfield Non-Irr. (bu/ac) |      |      | Milan Irr. (bu/ac) |      |      | Milan Non-Irr. (bu/ac) |      |      | Jackson Non-Irr. (bu/ac) |      |      | Memphis Irr. (bu/ac) |      |      |
|--|----------------------------|---------------------------------|--------|--------|------------------------|------|------|--------------------------|------|------|------------------------------|------|------|--------------------|------|------|------------------------|------|------|--------------------------|------|------|----------------------|------|------|
|  |                            | 1 yr                            | 2 yr   | 3 yr   | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                         | 2 yr | 3 yr | 1 yr               | 2 yr | 3 yr | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                 | 2 yr | 3 yr |
| Warren Seed BG 4922 RR2                | R2X                        | 56 l-v                          |        |        | 73                     |      |      | 63                       |      |      | 39                           |      |      | 67                 |      |      | 47                     |      |      | 64                       |      |      | 43                   |      |      |
| Croplan RX4810                         | R2X                        | 56 l-v                          |        |        | 77                     |      |      | 72                       |      |      | 35                           |      |      | 61                 |      |      | 48                     |      |      | 57                       |      |      | 46                   |      |      |
| Progeny 4930LL                         | LL                         | 55 n-z                          | 58 g-m | 55 h-i | 67                     |      |      | 67                       | 59   | 52   | 31                           | 44   | 45   | 63                 | 68   | 65   | 37                     | 52   | 57   | 57                       | 54   | 54   | 62                   | 71   |      |
| MO S14-15-146R                         | RR,STS                     | 55 n-y                          | 56 l-o |        | 71                     |      |      | 67                       | 63   |      | 29                           | 43   |      | 51                 | 57   |      | 46                     | 51   |      | 56                       | 53   |      | 67                   | 68   |      |
| LG Seeds LGS4989RX                     | R2X                        | 55 n-z                          |        |        | 58                     |      |      | 64                       |      |      | 34                           |      |      | 62                 |      |      | 41                     |      |      | 54                       |      |      | 63                   |      |      |
| Credenz CZ 4820 LL                     | LL                         | 55 n-z                          |        |        | 61                     |      |      | 60                       |      |      | 42                           |      |      | 64                 |      |      | 51                     |      |      | 57                       |      |      | 53                   |      |      |
| AGS GS48X18                            | R2X                        | 55 m-x                          |        |        | 59                     |      |      | 50                       |      |      | 36                           |      |      | 66                 |      |      | 46                     |      |      | 52                       |      |      | 75                   |      |      |
| Local Seed Co. LS4677X                 | R2X                        | 55 n-z                          |        |        | 69                     |      |      | 55                       |      |      | 34                           |      |      | 67                 |      |      | 45                     |      |      | 58                       |      |      | 55                   |      |      |
| Credenz HBK LL4950                     | LL                         | 54 p-z                          |        |        | 74                     |      |      | 57                       |      |      | 34                           |      |      | 54                 |      |      | 41                     |      |      | 54                       |      |      | 62                   |      |      |
| GoSoy Ireane                           | CONV                       | 54 r-aa                         | 56 k-o | 54 h-i | 59                     |      |      | 66                       | 59   | 55   | 34                           | 47   | 45   | 64                 | 65   | 65   | 43                     | 51   | 55   | 54                       | 52   | 51   | 54                   | 62   |      |
| MO S14-9051R                           | RR                         | 54 q-z                          | 54 n-o |        | 65                     |      |      | 63                       | 63   |      | 30                           | 29   |      | 54                 | 57   |      | 41                     | 49   |      | 62                       | 58   |      | 61                   | 67   |      |
| Terral REV 4857X                       | R2X                        | 54 s-bb                         | 57 j-n |        | 72                     |      |      | 59                       | 63   |      | 34                           | 40   |      | 56                 | 65   |      | 41                     | 54   |      | 53                       | 54   |      | 63                   | 68   |      |
| Warren Seed BG 4842 RR2                | R2X                        | 54 p-z                          | 61 d-i |        | 64                     |      |      | 56                       | 66   |      | 38                           | 47   |      | 71                 | 73   |      | 50                     | 61   |      | 51                       | 55   |      | 58                   | 66   |      |
| TN Exp TN16-554R1                      | RR                         | 54 p-z                          |        |        | 67                     |      |      | 57                       |      |      | 28                           |      |      | 59                 |      |      | 46                     |      |      | 59                       |      |      | 65                   |      |      |
| Credenz CZ 4938 LL                     | LL                         | 54 p-z                          |        |        | 61                     |      |      | 58                       |      |      | 33                           |      |      | 59                 |      |      | 42                     |      |      | 47                       |      |      | 74                   |      |      |
| Local Seed Co. AV47W2X                 | R2X                        | 54 q-z                          |        |        | 72                     |      |      | 52                       |      |      | 36                           |      |      | 55                 |      |      | 40                     |      |      | 61                       |      |      | 60                   |      |      |
| Progeny P4955RX                        | R2X                        | 54 p-z                          |        |        | 68                     |      |      | 43                       |      |      | 34                           |      |      | 61                 |      |      | 45                     |      |      | 57                       |      |      | 70                   |      |      |
| Credenz HBK LL4953                     | LL                         | 53 t-cc                         | 58 h-n | 56 f-i | 65                     |      |      | 58                       | 60   | 55   | 35                           | 47   | 48   | 56                 | 64   | 66   | 40                     | 49   | 54   | 57                       | 56   | 57   | 60                   | 71   |      |
| MO S14-15138R                          | RR,STS                     | 53 s-bb                         |        |        | 75                     |      |      | 65                       |      |      | 34                           |      |      | 56                 |      |      | 38                     |      |      | 49                       |      |      | 54                   |      |      |
| VA V14-4140                            | CONV                       | 52 u-dd                         |        |        | 69                     |      |      | 60                       |      |      | 30                           |      |      | 56                 |      |      | 40                     |      |      | 49                       |      |      | 63                   |      |      |
| Progeny 4851RX                         | R2X                        | 51 w-ee                         | 58 i-n |        | 68                     |      |      | 51                       | 66   |      | 37                           | 53   |      | 65                 | 63   |      | 39                     | 57   |      | 52                       | 53   |      | 44                   | 54   |      |
| TN Exp TN15-4009                       | CONV                       | 51 v-ee                         |        |        | 64                     |      |      | 62                       |      |      | 39                           |      |      | 53                 |      |      | 44                     |      |      | 53                       |      |      | 48                   |      |      |
| USG Ellis                              | CONV                       | 50 x-ee                         | 57 k-n | 56 g-i | 43                     |      |      | 62                       | 58   | 57   | 34                           | 46   | 42   | 66                 | 67   | 67   | 45                     | 56   | 56   | 58                       | 54   | 53   | 43                   | 58   |      |
| TN Exp TN13-4304                       | CONV                       | 50 z-ee                         |        |        | 64                     |      |      | 53                       |      |      | 30                           |      |      | 62                 |      |      | 44                     |      |      | 48                       |      |      | 50                   |      |      |
| Petrus Seed 479 GTS                    | RR,STS                     | 50 aa-ff                        | 54 n-o |        | 70                     |      |      | 49                       | 55   |      | 37                           | 48   |      | 53                 | 62   |      | 36                     | 51   |      | 48                       | 49   |      | 55                   | 60   |      |
| Petrus Seed 4916 GT                    | RR                         | 50 z-ee                         | 55 m-o |        | 57                     |      |      | 66                       | 72   |      | 39                           | 49   |      | 44                 | 49   |      | 40                     | 50   |      | 60                       | 59   |      | 45                   | 51   |      |
| TN Exp TN14-5021                       | CONV                       | 50 aa-ff                        | 55 l-o |        | 49                     |      |      | 66                       | 65   |      | 42                           | 48   |      | 45                 | 51   |      | 40                     | 52   |      | 47                       | 52   |      | 63                   | 65   |      |
| Local Seed Co. LS4988X                 | R2X                        | 50 y-ee                         |        |        | 59                     |      |      | 45                       |      |      | 31                           |      |      | 58                 |      |      | 41                     |      |      | 58                       |      |      | 63                   |      |      |
| USG 74G98L                             | LL                         | 49 bb-ff                        | 53 o   |        | 56                     |      |      | 62                       | 56   |      | 30                           | 42   |      | 60                 | 64   |      | 41                     | 53   |      | 47                       | 45   |      | 51                   | 60   |      |
| TN Exp TN16-520R1                      | RR                         | 48 cc-ff                        | 56 l-o |        | 38                     |      |      | 68                       | 60   |      | 35                           | 45   |      | 58                 | 65   |      | 45                     | 50   |      | 51                       | 51   |      | 47                   | 64   |      |
| Progeny P4994RX                        | R2X                        | 48 dd-ff                        |        |        | 72                     |      |      | 53                       |      |      | 30                           |      |      | 53                 |      |      | 38                     |      |      | 53                       |      |      | 39                   |      |      |
| AGS GS46X17                            | R2X                        | 47 ee-ff                        | 53 o   |        | 55                     |      |      | 43                       | 49   |      | 36                           | 37   |      | 55                 | 62   |      | 42                     | 53   |      | 47                       | 48   |      | 55                   | 66   |      |
| VA V13-0113                            | RR                         | 45 f-f                          |        |        | 66                     |      |      | 55                       |      |      | 31                           |      |      | 38                 |      |      | 27                     |      |      | 43                       |      |      | 59                   |      |      |
| Average                                |                            | 56                              | 60     | 59     | 71                     | -    | -    | 64                       | 67   | 61   | 35                           | 47   | 47   | 61                 | 65   | 68   | 46                     | 57   | 61   | 57                       | 56   | 57   | 59                   | 66   | -    |
| Standard Error                         |                            | 5                               | 6      | 4      | 5                      | -    | -    | 6                        | 5    | 8    | 3                            | 12   | 8    | 3                  | 4    | 3    | 3                      | 11   | 7    | 3                        | 3    | 3    | 4                    | 7    | -    |
| L.S.D. <sub>.05</sub>                  |                            | 5                               | 4      | 3      | 14                     | -    | -    | 15                       | 11   | 9    | 6                            | 8    | 6    | 7                  | 6    | 5    | 7                      | 6    | 6    | 8                        | 7    | 6    | 10                   | 9    | -    |
| C.V.                                   |                            | 14                              | 13     | 12     | 12                     | -    | -    | 15                       | 14   | 16   | 11                           | 15   | 12   | 7                  | 8    | 9    | 10                     | 9    | 9    | 9                        | 10   | 9    | 11                   | 12   | -    |
| Plots per entry (reps x locs. x years) |                            | 21                              | 36     | 45     | 3                      | -    | -    | 3                        | 6    | 9    | 3                            | 6    | 9    | 3                  | 6    | 9    | 3                      | 6    | 9    | 3                        | 6    | 9    | 3                    | 6    | -    |

† Hybrids that have any MS letter in common are not significantly different in yield at the 5% level of probability.  
 \* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.  
 ‡ For a full description of abbreviated biotech traits, see table 31.  
 § All yields are adjusted to 15.5% moisture.



**Table 17. Yields of 28 Maturity Group IV Late (4.5 - 4.9) Roundup Ready soybean varieties in 11 County Standard Tests in Tennessee and Kentucky during 2018<sup>‡</sup>**

| MS†<br>Avg.<br>Yield | Variety             | Avg.<br>Yield <sup>§</sup><br>(bu/acre) | Avg.<br>Moisture<br>(%) | Percent of<br>locs. with<br>yield above<br>loc. avg. | Ches      | Coff      | Croc      | Gibs      | Maur      | Henr      | Lake      | Madi      | Mari      | McCr      | Trou      |
|----------------------|---------------------|---|-------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                      |                     |   |                         |  | 5/22      | 5/15      | 5/11      | 5/11      | 5/22      | 5/25      | 5/31      | 5/22      | 5/23      | 6/3       | 5/15      |
| A                    | Asgrow 46X6         | 61                                      | 13.0                    | 73%  | 57        | 70        | 75        | 55        | 29        | 52        | 41        | 82        | 82        | 62        | 68        |
| AB                   | Beck's 4991X2       | 61                                      | 13.3                    | 73%  | 57        | 66        | 63        | 54        | 34        | 56        | 39        | 100       | 67        | 61        | 70        |
| AB                   | Dyna-Gro 48XT56     | 60                                      | 13.4                    | 73%  | 44        | 65        | 62        | 50        | 30        | 58        | 44        | 99        | 76        | 60        | 75        |
| ABC                  | Progeny 4799        | 60                                      | 13.3                    | 55%  | 63        | 62        | 60        | 54        | 31        | 57        | 45        | 86        | 77        | 57        | 66        |
| ABC                  | Local Seed 4968     | 60                                      | 13.6                    | 82%  | 50        | 65        | 73        | 44        | 35        | 57        | 40        | 81        | 77        | 62        | 70        |
| ABC                  | Asgrow 47X6         | 59                                      | 13.0                    | 73%  | 41        | 62        | 68        | 56        | 32        | 56        | 43        | 87        | 84        | 53        | 69        |
| ABC                  | Warren Seed BG 4922 | 59                                      | 13.2                    | 64%  | 37        | 69        | 53        | 48        | 35        | 57        | 40        | 99        | 74        | 63        | 72        |
| ABCD                 | Armor 46D63         | 59                                      | 13.3                    | 55%  | 67        | 65        | 65        | 53        | 30        | 51        | 38        | 80        | 66        | 61        | 71        |
| ABCD                 | Dyna-Gro 49XS76     | 59                                      | 13.2                    | 73%  | 39        | 65        | 67        | 45        | 38        | 60        | 33        | 88        | 74        | 65        | 70        |
| ABCDE                | LG 4845             | 58                                      | 13.1                    | 55%  | 33        | 67        | 61        | 51        | 28        | 60        | 39        | 93        | 74        | 59        | 74        |
| ABCDEF               | AgriGold 4685       | 58                                      | 13.0                    | 55%  | 57        | 67        | 62        | 50        | 32        | 57        | 43        | 77        | 68        | 55        | 68        |
| ABCDEF               | Progeny 4620        | 58                                      | 12.9                    | 64%  | 34        | 69        | 53        | 54        | 33        | 50        | 43        | 98        | 72        | 60        | 70        |
| ABCDEF               | Armor 46D08         | 58                                      | 13.0                    | 55%  | 56        | 65        | 59        | 55        | 29        | 51        | 42        | 87        | 67        | 54        | 69        |
| ABCDEF               | USG 7496            | 58                                      | 13.2                    | 55%  | 37        | 64        | 49        | 43        | 37        | 62        | 39        | 97        | 71        | 65        | 70        |
| ABCDEF               | Progeny 4851        | 57                                      | 12.9                    | 55%  | 47        | 60        | 60        | 48        | 27        | 56        | 43        | 85        | 74        | 64        | 57        |
| ABCDEF               | GoSoy 48X18         | 57                                      | 13.0                    | 27%  | 55        | 64        | 66        | 41        | 30        | 54        | 35        | 82        | 77        | 57        | 61        |
| ABCDEF               | Terral REV 4927     | 57                                      | 13.1                    | 36%  | 41        | 60        | 68        | 55        | 29        | 53        | 37        | 87        | 63        | 66        | 62        |
| BCDEF                | Warren Seed BG 4911 | 56                                      | 13.2                    | 55%  | 38        | 63        | 60        | 44        | 37        | 55        | 47        | 74        | 74        | 62        | 67        |
| BCDEF                | Terral REV 46X4     | 56                                      | 12.5                    | 27%  | 44        | 63        | 60        | 57        | 32        | 50        | 35        | 89        | 73        | 56        | 61        |
| ABCDEF               | Local Seed 4677     | 56                                      | 13.0                    | 36%  | 45        | 68        | 63        | 40        | 30        | 53        | 34        | 85        | 72        | 59        | 68        |
| BCDEF                | Beck's 4669X2       | 56                                      | 13.2                    | 64%  | 52        | 68        | 69        | 49        | 33        | 52        | 42        | 70        | 60        | 61        | 64        |
| BCDEF                | Asgrow 49X6         | 56                                      | 13.2                    | 45%  | 51        | 65        | 74        | 53        | 30        | 50        | 37        | 72        | 58        | 64        | 63        |
| CDEFG                | NK S48-R2X          | 55                                      | 13.1                    | 45%  | 46        | 65        | 56        | 46        | 28        | 54        | 40        | 82        | 69        | 61        | 61        |
| CDEFG                | Warren Seed BG 4842 | 55                                      | 13.3                    | 45%  | 35        | 70        | 77        | 39        | 34        | 55        | 39        | 74        | 60        | 60        | 62        |
| DEFG                 | USG 7487            | 54                                      | 13.2                    | 27%  | 40        | 64        | 70        | 40        | 31        | 54        | 35        | 74        | 57        | 62        | 66        |
| EFG                  | Croplan 4810S       | 53                                      | 13.2                    | 18%  | 35        | 61        | 69        | 41        | 30        | 53        | 42        | 70        | 65        | 58        | 64        |
| FG                   | GoSoy 46X17         | 53                                      | 13.1                    | 9%   | 38        | 57        | 58        | 41        | 26        | 51        | 45        | 83        | 65        | 53        | 62        |
| G                    | LG 4710             | 51                                      | 13.0                    | 18%  | 33        | 60        | 54        | 49        | 36        | 45        | 35        | 68        | 63        | 53        | 64        |
| <b>Average</b>       |                     | <b>57</b>                               | <b>13.1</b>             |  | <b>45</b> | <b>65</b> | <b>63</b> | <b>48</b> | <b>32</b> | <b>54</b> | <b>40</b> | <b>84</b> | <b>70</b> | <b>60</b> | <b>66</b> |

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Varieties marked with an asterisk were in the top performing "A" group for two (\*) or three (\*\*) consecutive years within the previous three year evaluation period.

§ All yields are adjusted to 13% moisture.

County Locations include: Chester, Coffee, Crockett, Gibson, Giles, Henry, Lake, Madison, Marion, McCracken KY, Trousdale

**Table 18. Yields of 19 Maturity Group IV Late (4.5 - 4.9) Liberty Link soybean varieties in 6 County Standard Tests in Tennessee and Kentucky during 2018<sup>‡</sup>**

| MS†<br>Avg.<br>Yield | Variety                | Avg.<br>Yield <sup>§</sup><br>(bu/acre) | Avg.<br>Moisture<br>(%) | Percent of<br>locs. with<br>yield above<br>loc. avg. | Dyer      | Faye      | Fran      | Gibs      | Henr      | Madi      |
|----------------------|------------------------|---|-------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
|                      |                        |   |                         |  | 5/16      | 6/11      | 5/23      | 5/8       | 5/25      | 5/10      |
| A                    | *Bayer CZ 5147         | 52                                      | 14.1                    | 100%   | 49        | 30        | 72        | 46        | 62        | 54        |
| AB                   | *Beck's 494L4          | 51                                      | 14.0                    | 100%   | 46        | 32        | 61        | 48        | 56        | 60        |
| ABC                  | Bayer CZ 5328          | 49                                      | 14.0                    | 50%  | 48        | 35        | 62        | 41        | 55        | 52        |
| ABCD                 | Terral REV 49L88       | 49                                      | 13.7                    | 83%  | 46        | 26        | 65        | 43        | 59        | 55        |
| ABCD                 | Bayer CZ 4918          | 49                                      | 13.8                    | 66%  | 48        | 23        | 54        | 45        | 60        | 62        |
| ABCD                 | *Bayer CZ 4820         | 49                                      | 13.9                    | 66%  | 43        | 36        | 56        | 45        | 56        | 56        |
| ABCD                 | *Bayer HBK 4953        | 48                                      | 14.4                    | 17%  | 42        | 29        | 73        | 38        | 55        | 51        |
| ABCD                 | *Bayer CZ 4748         | 48                                      | 13.9                    | 66%  | 46        | 36        | 53        | 42        | 52        | 58        |
| BCDE                 | GoSoy 4714             | 47                                      | 14.1                    | 50%  | 42        | 31        | 57        | 42        | 53        | 58        |
| BCDE                 | GoSoy 4913             | 47                                      | 14.7                    | 66%  | 46        | 30        | 57        | 42        | 54        | 54        |
| BCDE                 | Progeny 4930           | 47                                      | 14.4                    | 17%  | 42        | 36        | 56        | 41        | 55        | 50        |
| BCDE                 | Terral REV 47L38       | 46                                      | 13.9                    | 33%  | 41        | 25        | 62        | 41        | 57        | 52        |
| BCDE                 | Bayer CZ 4938          | 46                                      | 14.1                    | 33%  | 47        | 31        | 57        | 41        | 53        | 49        |
| BCDE                 | Bayer HBK 4950         | 46                                      | 14.4                    | 17%  | 43        | 30        | 67        | 36        | 55        | 47        |
| CDE                  | USG 74G98              | 45                                      | 14.1                    | 33%  | 44        | 26        | 46        | 47        | 56        | 51        |
| CDE                  | Warren Seed Micah 4910 | 45                                      | 15.0                    | 33%  | 47        | 32        | 47        | 40        | 54        | 47        |
| CDE                  | GoSoy 5115             | 44                                      | 14.4                    | 17%  | 37        | 27        | 60        | 36        | 55        | 52        |
| DE                   | Bayer CZ 5150          | 44                                      | 14.1                    | 0%   | 39        | 27        | 55        | 39        | 53        | 51        |
| E                    | GoSoy 4912             | 42                                      | 14.1                    | 0%   | 40        | 27        | 49        | 37        | 53        | 48        |
| <b>Average</b>       |                        | <b>47</b>                               | <b>14.1</b>             |  | <b>44</b> | <b>30</b> | <b>58</b> | <b>41</b> | <b>55</b> | <b>53</b> |

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Varieties marked with an asterisk were in the top performing "A" group for two (\*) or three (\*\*) consecutive years within the previous three year evaluation period.

§ All yields are adjusted to 13% moisture.

County Locations include: Dyer, Gibson, Madison

**Table 19. Overall average yields, moistures, and test weights of 29 Maturity Group IV Late (4.5 - 4.9) soybean varieties evaluated in both the County Standard Tests and Research and Education Center Tests in Tennessee during 2018.**

| Variety                 | Herbicide Pkg <sup>†</sup> | Avg. of CST and REC Tests         |                   | CST Tests                         |                   | REC Tests                         |                   |
|-------------------------|----------------------------|-----------------------------------|-------------------|-----------------------------------|-------------------|-----------------------------------|-------------------|
|                         |                            | Avg. Yield <sup>§</sup> (bu/acre) | Avg. Moisture (%) | Avg. Yield <sup>§</sup> (bu/acre) | Avg. Moisture (%) | Avg. Yield <sup>§</sup> (bu/acre) | Avg. Moisture (%) |
| Local Seed Co. LS4968XS | R2X, STS                   | 63                                | 14.3              | 60                                | 13.6              | 66                                | 14.9              |
| Dyna-Gro S48XT56        | R2X                        | 62                                | 13.9              | 60                                | 13.4              | 63                                | 14.5              |
| USG 7496XTS             | R2X, STS                   | 61                                | 14.0              | 58                                | 13.2              | 65                                | 14.7              |
| Dyna-Gro S49XS76        | R2X, STS                   | 61                                | 13.8              | 59                                | 13.2              | 63                                | 14.4              |
| Asgrow AG47X6 RR2X/SR   | R2X, STS                   | 61                                | 13.5              | 59                                | 13.0              | 62                                | 14.0              |
| Progeny 4799RXS         | R2X, STS                   | 59                                | 13.6              | 60                                | 13.3              | 59                                | 13.9              |
| Progeny 4620RXS         | R2X, STS                   | 59                                | 13.2              | 58                                | 12.9              | 61                                | 13.4              |
| LG Seeds C4845RX        | R2X                        | 59                                | 13.8              | 58                                | 13.1              | 59                                | 14.5              |
| Asgrow AG46X6 RR2X      | R2X                        | 59                                | 13.6              | 61                                | 13.0              | 56                                | 14.2              |
| Armor X46-D63           | R2X                        | 58                                | 13.8              | 59                                | 13.3              | 58                                | 14.2              |
| Asgrow AG49X6 RR2X      | R2X                        | 58                                | 13.6              | 56                                | 13.2              | 59                                | 14.1              |
| USG 7487XTS             | R2X, STS                   | 57                                | 13.7              | 54                                | 13.2              | 61                                | 14.3              |
| Warren Seed BG 4922 RR2 | R2X                        | 57                                | 13.8              | 59                                | 13.2              | 56                                | 14.4              |
| AgriGold G4685RX        | R2X, STS                   | 57                                | 13.6              | 58                                | 13.0              | 56                                | 14.1              |
| Terral REV 4927X        | R2X                        | 57                                | 13.5              | 57                                | 13.1              | 57                                | 13.8              |
| Warren Seed BG 4911 RR2 | R2X                        | 57                                | 13.4              | 56                                | 13.2              | 57                                | 13.5              |
| Local Seed Co. LS4677X  | R2X                        | 56                                | 13.3              | 56                                | 13.0              | 55                                | 13.5              |
| Croplan RX4810          | R2X                        | 55                                | 13.6              | 53                                | 13.2              | 56                                | 14.0              |
| Warren Seed BG 4842 RR2 | R2X                        | 55                                | 13.6              | 55                                | 13.3              | 54                                | 13.9              |
| Credenz CZ 4918 LL      | LL                         | 54                                | 13.8              | 49                                | 13.8              | 60                                | 13.8              |
| LG Seeds C4710RX        | R2X                        | 54                                | 13.6              | 51                                | 13.0              | 57                                | 14.1              |
| Progeny 4851RX          | R2X                        | 54                                | 13.3              | 57                                | 12.9              | 51                                | 13.7              |
| Terral REV 49L88        | LL                         | 53                                | 13.8              | 49                                | 13.7              | 58                                | 13.8              |
| Terral REV 47L38        | LL                         | 53                                | 13.7              | 46                                | 13.9              | 59                                | 13.5              |
| Credenz CZ 4748 LL      | LL                         | 52                                | 13.6              | 48                                | 13.9              | 56                                | 13.2              |
| Credenz CZ 4820 LL      | LL                         | 52                                | 13.8              | 49                                | 13.9              | 55                                | 13.8              |
| Progeny 4930LL          | LL                         | 51                                | 14.6              | 47                                | 14.4              | 55                                | 14.8              |
| Credenz HBK LL4953      | LL                         | 51                                | 14.5              | 48                                | 14.4              | 53                                | 14.6              |
| Credenz CZ 4938 LL      | LL                         | 50                                | 14.5              | 46                                | 14.1              | 54                                | 14.9              |
| Credenz HBK LL4950      | LL                         | 50                                | 14.1              | 46                                | 14.4              | 54                                | 13.9              |
| USG 74G98L              | LL                         | 47                                | 14.4              | 45                                | 14.1              | 49                                | 14.6              |
| <b>Average</b>          |                            | <b>56</b>                         | <b>13.8</b>       | <b>54</b>                         | <b>13.5</b>       | <b>58</b>                         | <b>14.1</b>       |

† For a full description of abbreviated biotech traits, see table 31.  
§ All yields are adjusted to 15.5% moisture.

**Table 20. Yields and disease ratings of 27 Maturity Group IV Late (4.6-4.9) Roundup Ready soybean varieties in 11 County Standard Tests and in small plot trials at two Research and Education Centers and one on-farm location in Tennessee during 2018**

| Summary from County Tests |                     |                    | Summary from Small Plot Research              |             |                   |             |                |                                       |             |                                   |             |                   |             |
|---------------------------|---------------------|--------------------|---|-------------|-------------------|-------------|----------------|---------------------------------------|-------------|-----------------------------------|-------------|-------------------|-------------|
| MS                        | Variety             | Avg. Yield (bu/ac) | Research and Education Center at Milan (RECM) |             |                   |             |                | West TN Research and Education Center |             | On-farm Location in Jackson (JAX) |             |                   |             |
|                           |                     |                    | RECM - YLD                                    |             | Frogeye leaf spot | Target Spot | Other Diseases | WTREC - YLD                           |             | JAX - YLD                         |             | Frogeye leaf spot | Target Spot |
|                           |                     |                    | *Treated                                      | Non-treated |                   |             |                | *Treated                              | Non-treated | *Treated                          | Non-treated |                   |             |
| A                         | Asgrow 46X6         | 61.2               | 48.5  | 51.2        | MOD               | LOW         | CLB, SDS       | 33.1                                  | 31.0        | 52.2                              | 42.1        | LOW               | LOW         |
| AB                        | Beck's 4991X2       | 60.6               | 50.2  | 44.8        | MOD               | LOW         | CLB            | 35.4                                  | 31.9        | 53.3                              | 48.4        | LOW               | LOW         |
| AB                        | Dyna-Gro 48XT56     | 60.3               | 48.7  | 45.7        | LOW               | MOD         | CLB, SDS       | 36.2                                  | 33.7        | 56.3                              | 45.2        | LOW               | LOW         |
| ABC                       | Progeny 4799        | 59.9               | 51.7  | 50.4        | LOW               | LOW         | CLB            | 36.4                                  | 34.0        | 52.5                              | 44.9        | LOW               | LOW         |
| ABC                       | Local Seed 4968     | 59.5               | 57.1  | 54.7        | HIGH              | LOW         | CLB, SDS       | 33.5                                  | 30.9        | 53.4                              | 45.6        | MOD               | LOW         |
| ABC                       | Asgrow 47X6         | 59.3               | 49.7  | 49.0        | LOW               | MOD         | CLB            | 34.3                                  | 32.1        | 44.0                              | 44.4        | LOW               | MOD         |
| ABC                       | Warren Seed BG 4911 | 58.8               | 34.4  | 32.6        | LOW               | MOD         | CLB, SC (HIGH) | 41.0                                  | 38.5        | 43.6                              | 36.0        | LOW               | MOD         |
| ABCD                      | Armor 46D63         | 58.7               | 54.9  | 50.1        | LOW               | MOD         | CLB            | 32.4                                  | 30.2        | 51.1                              | 42.1        | LOW               | MOD         |
| ABCD                      | Dyna-Gro 49XS76     | 58.5               | 54.6  | 52.6        | MOD               | LOW         | CLB            | 39.4                                  | 34.2        | 53.2                              | 45.1        | MOD               | LOW         |
| ABCDE                     | LG 4845             | 58.2               | 54.1  | 50.8        | MOD               | LOW         | CLB            | 32.3                                  | 27.9        | 53.1                              | 47.5        | LOW               | LOW         |
| ABCDEF                    | AgriGold 4685       | 57.7               | 52.3  | 49.8        | LOW               | HIGH        | SC             | 34.7                                  | 32.0        | 43.8                              | 37.5        | LOW               | MOD         |
| ABCDEF                    | Armor 46D08         | 57.6               | 49.2  | 46.6        | LOW               | LOW         | CLB            | 34.6                                  | 33.1        | 49.4                              | 45.2        | LOW               | LOW         |
| ABCDEF                    | Progeny 4620        | 57.6               | -   | -           | -                 | -           | CLB            | 38.8                                  | 33.2        | 46.6                              | 36.5        | LOW               | LOW         |
| ABCDEF                    | USG 7496            | 57.6               | -   | -           | -                 | -           | CLB            | 36.4                                  | 33.4        | 54.8                              | 45.7        | MOD               | LOW         |
| ABCDEF                    | GoSoy 48X18         | 56.5               | 48.1  | 44.8        | LOW               | MOD         | CLB, SDS       | 39.5                                  | 35.1        | 46.7                              | 41.8        | LOW               | LOW         |
| ABCDEF                    | Progeny 4851        | 56.5               | 44.5  | 46.5        | LOW               | LOW         | CLB, SDS       | 33.6                                  | 31.2        | 39.2                              | 38.8        | LOW               | LOW         |
| ABCDEF                    | Terral REV 4927     | 56.5               | 44.5  | 43.6        | LOW               | LOW         | CLB            | 36.0                                  | 28.8        | 47.6                              | 42.3        | LOW               | LOW         |
| BCDEF                     | Terral REV 46X4     | 56.3               | 50.7  | 51.8        | LOW               | LOW         | CLB            | 39.9                                  | 35.0        | 48.2                              | 45.6        | LOW               | LOW         |
| BCDEF                     | Warren Seed BG 4842 | 56.3               | 51.9  | 51.7        | LOW               | HIGH        | SC             | 38.6                                  | 34.4        | 39.7                              | 35.4        | LOW               | HIGH        |
| BCDEF                     | Beck's 4669X2       | 56.2               | 45.6  | 42.6        | LOW               | MOD         | SC             | 33.5                                  | 29.5        | 38.2                              | 38.5        | LOW               | HIGH        |
| ABCDEF                    | Local Seed 4677     | 56.2               | -   | -           | -                 | -           | CLB, SDS       | 33.7                                  | 31.8        | 51.0                              | 41.6        | LOW               | LOW         |
| BCDEF                     | Asgrow 49X6         | 56.1               | 56.2  | 50.3        | LOW               | HIGH        | SDS, SC        | 38.3                                  | 35.8        | 45.0                              | 38.1        | LOW               | HIGH        |
| CDEFG                     | NK S48-R2X          | 55.3               | 51.5  | 45.2        | HIGH              | LOW         | CLB            | 34.5                                  | 32.1        | 51.4                              | 44.1        | HIGH              | LOW         |
| CDEFG                     | Warren Seed BG 4710 | 55.1               | 53.1  | 52.6        | MOD               | LOW         | CLB            | 37.5                                  | 35.9        | 53.6                              | 47.7        | LOW               | LOW         |
| DEFG                      | USG 7487            | 53.9               | 51.2  | 52.6        | LOW               | HIGH        | SC             | 38.8                                  | 33.3        | 39.4                              | 30.2        | LOW               | MOD         |
| EFG                       | Croplan 4810S       | 53.4               | 45.6  | 44.2        | LOW               | MOD         | SC             | 36.2                                  | 31.7        | 38.2                              | 35.0        | LOW               | MOD         |
| G                         | LG 4710             | 51.1               | 48.4  | 47.5        | LOW               | MOD         | CLB, SC        | 30.9                                  | 29.6        | 36.8                              | 35.8        | LOW               | HIGH        |
|                           | <b>Average</b>      | <b>57.2</b>        | <b>49.9</b>                                   | <b>48.0</b> |                   |             |                | <b>35.9</b>                           | <b>32.6</b> | <b>47.5</b>                       | <b>41.5</b> |                   |             |

YLD= Avg. Yield @ 15% moisture

MS= Varieties that have any MS letter in common are not statistically different in yield at the 5% level of probability.

Varieties denoted with an asterisks (\*) or (\*\*) etc. were in the top performing group for consecutive years.

County locations include: Chester, Coffee, Crockett, Gibson, Giles, Henry, Lake, Madison, Marion, McCracken KY, Trousdale

\*Treated plots sprayed with Quadris TOP SBX @ 7 oz./Acre + 0.25% Induce @ R3 growth stage. RECM varieties planted June 5, JAX planted June 14, and WTREC planted after wheat June 14.

LOW, MOD, and HIGH is a relative ranking of disease severity at each location. Other diseases noted: SC=Stem Canker, CLB=Cercospora Leaf Blight, SDS=Sudden Death Syndrome; ' - ' indicate variety was not tested at that location

**Disease ratings at RECM:** Frogeye leaf spot ranged from 0 - 26% with an average of 3%; Target spot ranged from 0 - 12% with an average of 3%.

**Disease ratings at JAX:** Frogeye leaf spot ranged from 0 - 25% with an average of 3%; Target spot ranged from 0 - 28% with an average of 6%.

**Disease ratings at WTREC:** Disease pressure was too low (<5%) at this location to take ratings.

Disease ratings & yield data compiled by Dr. Heather Kelly from replicated plots at the Research and Education Center at Milan, the West Tennessee Research and Education Center, and on-farm location in Jackson.

County data provided by Ryan Blair, Ext. Area Specialist, and the extension agents.

**Table 21. Yields and disease ratings of 18 Maturity Group IV Late (4.6-4.9) Liberty Link soybean varieties in 6 County Standard Tests and in small plot trials at two Research and Education Center and one on-farm location in Tennessee during 2018**

| Summary from County Tests |                        |                    | Summary from Small Plot Research              |             |                   |             |                                       |             |                                   |             |             |                   |             |
|---------------------------|------------------------|--------------------|---|-------------|-------------------|-------------|---------------------------------------|-------------|-----------------------------------|-------------|-------------|-------------------|-------------|
| MS                        | Variety                | Avg. Yield (bu/ac) | Research and Education Center at Milan (RECM) |             |                   |             | West TN Research and Education Center |             | On-farm Location in Jackson (JAX) |             |             |                   |             |
|                           |                        |                    | RECM - YLD                                    |             | Frogeye leaf spot | Target Spot | Other Diseases                        | WTREC - YLD |                                   | JAX - YLD   |             | Frogeye leaf spot | Target Spot |
|                           |                        |                    | *Treated                                      | Non-treated |                   |             |                                       | *Treated    | Non-treated                       | *Treated    | Non-treated |                   |             |
| A                         | Bayer CZ 5147*         | 52.2               | 53.6  | 45.7        | LOW               | LOW         |                                       | 37.5        | 31.1                              | 53.3        | 47.8        | LOW               | LOW         |
| AB                        | Beck's 494L4*          | 50.6               | 47.0  | 40.1        | LOW               | MOD         |                                       | 33.7        | 30.6                              | 50.2        | 43.1        | LOW               | HIGH        |
| ABC                       | Bayer CZ 5328          | 49.0               | 48.1  | 43.9        | LOW               | LOW         | CLB                                   | 29.0        | 23.2                              | 52.8        | 50.2        | LOW               | LOW         |
| ABCD                      | Bayer CZ 4918          | 48.7               | 48.5  | 44.5        | LOW               | LOW         | CLB                                   | 35.8        | 36.4                              | 55.3        | 48.3        | LOW               | LOW         |
| ABCD                      | Bayer CZ 4820*         | 48.5               | 45.5  | 38.2        | LOW               | MOD         | CLB                                   | 32.6        | 31.1                              | 50.9        | 44.6        | LOW               | HIGH        |
| ABCD                      | Bayer CZ 4748*         | 48.0               | 45.8  | 37.9        | LOW               | MOD         | CLB                                   | 28.3        | 28.9                              | 49.3        | 41.0        | LOW               | HIGH        |
| ABCD                      | Bayer HBK 4953*        | 48.0               | 45.1  | 39.8        | LOW               | LOW         | SDS                                   | 31.7        | 31.6                              | 47.6        | 43.0        | LOW               | LOW         |
| BCDE                      | GoSoy 4714             | 47.2               | 42.0  | 40.0        | LOW               | MOD         | CLB, SC                               | 31.4        | 30.9                              | 46.1        | 38.6        | LOW               | HIGH        |
| BCDE                      | GoSoy 4913             | 47.2               | -   | -           | -                 | -           | SDS                                   | 38.2        | 34.5                              | 45.7        | 37.5        | LOW               | LOW         |
| BCDE                      | Progeny 4930           | 46.7               | 48.3  | 42.6        | LOW               | LOW         | SDS                                   | 37.1        | 31.5                              | 41.8        | 34.8        | LOW               | LOW         |
| BCDE                      | Bayer CZ 4938          | 46.4               | 45.4  | 40.1        | LOW               | LOW         | CLB, SDS                              | 29.1        | 27.1                              | 52.2        | 42.2        | LOW               | LOW         |
| BCDE                      | Bayer HBK 4950         | 46.2               | 42.6  | 37.7        | LOW               | LOW         | SDS                                   | 31.5        | 29.9                              | 42.8        | 35.7        | LOW               | LOW         |
| CDE                       | USG 74G98              | 45.0               | 46.9  | 43.1        | LOW               | LOW         | SDS                                   | 30.3        | 27.8                              | 48.9        | 43.1        | LOW               | LOW         |
| CDE                       | Warren Seed Micah 4910 | 44.5               | 41.5  | 36.7        | LOW               | LOW         | SDS                                   | 31.6        | 34.0                              | 42.1        | 40.4        | LOW               | LOW         |
| CDE                       | GoSoy 5115             | 44.3               | 44.2  | 41.9        | LOW               | LOW         | SDS                                   | 36.7        | 34.2                              | 41.9        | 36.0        | LOW               | LOW         |
| DE                        | Bayer CZ 5150          | 43.9               | 45.9  | 41.4        | LOW               | LOW         | SDS                                   | 35.0        | 30.3                              | 47.2        | 41.2        | LOW               | LOW         |
| E                         | GoSoy 4912             | 42.4               | 45.3  | 37.2        | LOW               | LOW         | SDS                                   | 32.7        | 32.7                              | 43.7        | 37.1        | LOW               | LOW         |
|                           | Dyna-Gro S45LL97       | -                  | -   | -           | -                 | -           | CLB                                   | 29.1        | 30.1                              | 54.4        | 43.9        | LOW               | LOW         |
|                           | <b>Average</b>         | <b>47.0</b>        | <b>46.0</b>                                   | <b>40.7</b> |                   |             |                                       | <b>32.9</b> | <b>30.9</b>                       | <b>48.1</b> | <b>41.6</b> |                   |             |

YLD= Avg. Yield @ 15% moisture

MS= Varieties that have any MS letter in common are not statistically different in yield at the 5% level of probability.

Varieties denoted with an asterisks (\*) or (\*\*) etc. were in the top performing group for consecutive years.

County locations include: Dyer, Fayette, Franklin, Gibson, Henry, Madison

\*Treated plots sprayed with Quadris TOP SBX @ 7 oz./Acre + 0.25% Induce @ R3 growth stage. RECM varieties planted June 5, JAX planted June 14, and WTREC planted after wheat June 14.

LOW, MOD, and HIGH is a relative ranking of disease severity at each location. Other diseases noted: SC=Stem Canker, CLB=Cercospora Leaf Blight, SDS=Sudden Death Syndrome; '-' indicate variety was not tested at that location

**Disease ratings at RECM:** Frogeye leaf spot ranged from 0 - 1.8% with an average of 0.2%; Target spot ranged from 0 - 15% with an average of 3%.

**Disease ratings at JAX:** Frogeye leaf spot ranged from 0 - 1% with an average of 0.1%; Target spot ranged from 0 - 25% with an average of 5%.

**Disease ratings at WTREC:** Disease pressure was too low (<5%) at this location to take ratings.

Disease ratings & yield data compiled by Dr. Heather Kelly from replicated plots at the Research and Education Center at Milan, the West Tennessee Research and Education Center, and on-farm location in Jackson.

County data provided by Ryan Blair, Ext. Area Specialist, and the extension agents.

**Table 22-a. Mean yield, agronomic traits, and quality of 43 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials at seven REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |      | Moisture at Harvest (%) |          |          | Plant Height (in.) |      |        | Lodging <sup>  </sup> (1-5) |         |         |
|------------------------|----------------------------|---------------------------------|--------|------|-------------------------|----------|----------|--------------------|------|--------|-----------------------------|---------|---------|
|                        |                            | 1 yr                            | 2 yr   | 3 yr | 1 yr                    | 2 yr     | 3 yr     | 1 yr               | 2 yr | 3 yr   | 1 yr                        | 2 yr    | 3 yr    |
| Asgrow AG53X9 RR2X     | R2X                        | 67 a                            |        |      | 14.2 b-f                |          |          | 41 e-g             |      |        | 1.4 h-k                     |         |         |
| Asgrow AG52X9 RR2X/SR  | R2X                        | 64 a-b                          |        |      | 13.8 d-i                |          |          | 45 a-d             |      |        | 1.4 h-k                     |         |         |
| Progeny 5016RXS***     | R2X, STS                   | 63 a-c                          | 67 a   | 65 a | 14.2 b-f                | 13.8 a-b | 13.5 a   | 46 a-c             | 45 a | 45 a   | 1.9 d-g                     | 1.7 d-f | 1.5 c   |
| AgriGold G5000RX**     | R2X, STS                   | 63 a-d                          | 67 a   |      | 14.3 b-e                | 13.8 a-b |          | 45 a-d             | 45 a |        | 1.7 e-i                     | 1.7 c-e |         |
| Progeny P5018RX        | R2X                        | 63 a-d                          |        |      | 13.8 d-i                |          |          | 42 d-f             |      |        | 2.2 c-d                     |         |         |
| Asgrow AG54X9 RR2X     | R2X                        | 61 b-e                          |        |      | 14.1 b-h                |          |          | 34 k-m             |      |        | 1.2 j-k                     |         |         |
| AgriGold G5288RX       | R2X, STS                   | 61 b-e                          |        |      | 14.1 b-g                |          |          | 42 d-f             |      |        | 1.7 e-i                     |         |         |
| Credenz CZ 5147 LL     | LL                         | 60 b-f                          | 63 a-b | 62 a | 13.6 e-i                | 13.5 b-d | 13.2 a-b | 31 n-p             | 33 e | 34 e   | 1.2 j-k                     | 1.3 g   | 1.2 c-d |
| Credenz CZ 5328 LL     | LL                         | 60 b-h                          |        |      | 13.4 i                  |          |          | 37 i-k             |      |        | 1.3 i-k                     |         |         |
| Progeny P5554RX        | R2X                        | 60 b-g                          |        |      | 13.8 d-i                |          |          | 36 j-l             |      |        | 1.4 h-k                     |         |         |
| MO S14-9017R           | RR                         | 59 b-i                          | 61 b-c |      | 15.2 a                  | 14.3 a   |          | 40 f-h             | 39 c |        | 1.4 h-k                     | 1.4 f-g |         |
| MO S13-1955C           | CONV                       | 59 c-j                          | 61 b-e |      | 13.6 e-i                | 13.5 b-d |          | 34 l-m             | 35 d |        | 1.6 f-i                     | 2.1 a-b |         |
| GoSoy 53C16            | CONV                       | 59 c-j                          |        |      | 14.0 b-i                |          |          | 33 l-o             |      |        | 1.4 h-k                     |         |         |
| MO S15-10434           | CONV                       | 59 c-j                          |        |      | 13.8 d-i                |          |          | 35 k-l             |      |        | 1.7 e-h                     |         |         |
| Credenz CZ 5150 LL     | LL                         | 58 d-k                          | 60 b-e | 58 b | 13.9 c-i                | 13.6 b-d | 13.1 a-b | 43 c-e             | 42 b | 43 b-c | 1.5 g-j                     | 1.4 f-g | 1.3 c-d |
| Progeny 5226RYS        | RR2,STS                    | 58 d-j                          |        |      | 14.0 c-i                |          |          | 47 a               |      |        | 2.4 b-d                     |         |         |
| Asgrow AG55X7 RR2X     | R2X                        | 58 d-k                          | 61 b-d | 59 b | 13.7 d-i                | 13.2 d   | 12.8 b   | 29 p-q             | 32 e | 33 e   | 1.0 k                       | 1.2 g   | 1.1 d   |
| GoSoy 51C17            | CONV                       | 58 c-j                          |        |      | 14.2 b-f                |          |          | 34 l-n             |      |        | 1.4 h-k                     |         |         |
| Local Seed Co. LS5087X | R2X                        | 58 d-j                          |        |      | 13.4 i                  |          |          | 47 a-b             |      |        | 2.5 b-c                     |         |         |
| Progeny P5279RXS       | R2X, STS                   | 58 c-j                          |        |      | 13.4 g-i                |          |          | 46 a-b             |      |        | 2.0 d-f                     |         |         |
| TN Exp TN16-630R1      | RR                         | 57 d-k                          |        |      | 13.4 i                  |          |          | 31 o-q             |      |        | 1.1 j-k                     |         |         |
| TN Exp TN16-5858R1     | RR                         | 57 e-l                          |        |      | 13.6 d-i                |          |          | 32 m-p             |      |        | 1.2 j-k                     |         |         |
| GoSoy 50G17            | RR                         | 57 e-l                          |        |      | 13.4 h-i                |          |          | 35 j-l             |      |        | 2.7 a-b                     |         |         |
| MO MO5201D CONV        | CONV                       | 57 e-l                          |        |      | 13.7 d-i                |          |          | 34 l-n             |      |        | 1.2 j-k                     |         |         |
| Armor 49-D13           | R2X                        | 57 e-l                          |        |      | 14.0 b-i                |          |          | 45 a-c             |      |        | 2.1 c-e                     |         |         |
| GoSoy 54G16            | RR                         | 56 e-l                          | 58 d-f |      | 13.9 c-i                | 13.8 b   |          | 38 h-j             | 38 c |        | 1.4 h-k                     | 1.5 e-g |         |
| AGS GS51X18S           | R2X                        | 56 e-l                          |        |      | 13.4 i                  |          |          | 43 c-e             |      |        | 2.0 d-f                     |         |         |
| MO S11-20242C          | CONV                       | 56 e-l                          |        |      | 13.6 f-i                |          |          | 39 g-i             |      |        | 2.6 b-c                     |         |         |
| Croplan RX5110         | R2X                        | 56 e-l                          |        |      | 13.6 f-i                |          |          | 45 a-d             |      |        | 2.4 b-d                     |         |         |
| Credenz CZ 5242 LL     | LL                         | 55 g-n                          | 59 c-f | 58 b | 14.5 b-c                | 13.8 a-b | 13.4 a   | 47 a               | 45 a | 44 a-b | 2.3 b-d                     | 2.0 a-c | 1.8 b   |
| GoSoy Leland           | CONV                       | 55 g-n                          | 59 c-f | 58 b | 13.6 e-i                | 13.4 b-d | 13.2 a-b | 35 k-l             | 36 d | 37 d   | 1.7 e-i                     | 2.2 a   | 2.2 a   |
| Progeny 5414LLS        | LL,STS                     | 55 h-n                          | 57 e-f | 57 b | 14.2 b-e                | 13.7 b-c | 13.6 a   | 39 g-i             | 42 b | 42 c   | 1.6 f-i                     | 1.9 b-d | 1.8 b   |
| NK Seed S50-G9X        | R2X                        | 55 f-m                          |        |      | 13.5 f-i                |          |          | 42 e-f             |      |        | 3.1 a                       |         |         |
| Credenz CZ 5445 LL     | LL                         | 54 j-n                          |        |      | 13.6 d-i                |          |          | 32 m-p             |      |        | 1.4 h-k                     |         |         |
| Credenz CZ 5225 LL     | LL,STS                     | 54 i-n                          |        |      | 14.0 c-i                |          |          | 33 l-o             |      |        | 1.3 h-k                     |         |         |
| TN Exp TN16-619R1      | RR                         | 54 j-n                          |        |      | 13.5 f-i                |          |          | 34 l-n             |      |        | 1.1 j-k                     |         |         |
| TN Exp TN16-510R1      | RR                         | 54 j-n                          |        |      | 13.6 d-i                |          |          | 31 o-q             |      |        | 1.1 k                       |         |         |
| Dyna-Gro S52XT08       | R2X                        | 53 k-o                          |        |      | 13.7 d-i                |          |          | 32 m-p             |      |        | 1.3 h-k                     |         |         |

**Table 22-a. cont.**

| Variety                               | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |      |      | Moisture at Harvest (%) |          |      | Plant Height (in.) |        |      | Lodging <sup>  </sup> (1-5) |       |      |
|---------------------------------------|----------------------------|---------------------------------|------|------|-------------------------|----------|------|--------------------|--------|------|-----------------------------|-------|------|
|                                       |                            | 1 yr                            | 2 yr | 3 yr | 1 yr                    | 2 yr     | 3 yr | 1 yr               | 2 yr   | 3 yr | 1 yr                        | 2 yr  | 3 yr |
| VA V14-3762                           | CONV                       | 53 l-o                          |      |      | 14.7 a-b                |          |      | 28 q               |        |      | 1.1 k                       |       |      |
| TN Exp TN11-5104                      | CONV                       | 52 m-o                          | 56 f |      | 13.6 e-i                | 13.3 c-d |      | 32 m-p             | 34 d-e |      | 1.1 j-k                     | 1.2 g |      |
| Armor X51D77                          | R2X                        | 51 n-p                          |      |      | 13.9 c-i                |          |      | 42 e-f             |        |      | 2.3 c-d                     |       |      |
| Dyna-Gro SX18652XS                    | R2X, STS                   | 48 o-p                          |      |      | 13.6 d-i                |          |      | 44 b-e             |        |      | 2.3 b-d                     |       |      |
| Progeny P5252RX                       | R2X                        | 47 p                            |      |      | 14.3 b-d                |          |      | 41 e-g             |        |      | 2.4 b-d                     |       |      |
| <b>Average</b>                        |                            | 57                              | 61   | 60   | 13.8                    | 13.6     | 13.3 | 38                 | 39     | 40   | 1.7                         | 1.6   | 1.6  |
| <b>Standard Error</b>                 |                            | 4                               | 4    | 3    | 0.5                     | 0.5      | 0.5  | 3                  | 3      | 2    | 0.3                         | 0.3   | 0.3  |
| <b>L.S.D.<sub>.05</sub></b>           |                            | 5                               | 4    | 3    | 0.7                     | 0.5      | 0.5  | 3                  | 2      | 2    | 0.5                         | 0.3   | 0.2  |
| <b>C.V.</b>                           |                            | 14                              | 14   | 14   | 8                       | 8        | 9    | 11                 | 10     | 10   | -                           | -     | -    |
| <b>Plots per entry (reps x locs.)</b> |                            | 21                              | 42   | 63   | 21                      | 42       | 63   | 18                 | 36     | 54   | 18                          | 36    | 54   |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.

**Table 22-b. Mean yield, agronomic traits, and quality of 43 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in small plot replicated trials at seven REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |        |      | Maturity (DAP) |         |         | Protein <sup>¶</sup> (%) |          |          | Oil <sup>¶</sup> (%) |          |          |
|------------------------|----------------------------|---------------------------------|--------|------|----------------|---------|---------|--------------------------|----------|----------|----------------------|----------|----------|
|                        |                            | 1 yr                            | 2 yr   | 3 yr | 1 yr           | 2 yr    | 3 yr    | 1 yr                     | 2 yr     | 3 yr     | 1 yr                 | 2 yr     | 3 yr     |
| Asgrow AG53X9 RR2X     | R2X                        | 67 a                            |        |      | 141 i-l        |         |         | 41.5 a-c                 |          |          | 21.4 m-o             |          |          |
| Asgrow AG52X9 RR2X/SR  | R2X                        | 64 a-b                          |        |      | 138 m-o        |         |         | 39.9 i-o                 |          |          | 22.8 c-d             |          |          |
| Progeny 5016RXS***     | R2X, STS                   | 63 a-c                          | 67 a   | 65 a | 141 i-k        | 140 c   | 136 d   | 40.5 e-j                 | 40.5 b-c | 40.1 b-c | 21.8 h-m             | 21.3 f   | 21.7 c-d |
| AgriGold G5000RX**     | R2X, STS                   | 63 a-d                          | 67 a   |      | 141 i-k        | 140 c   |         | 40.7 d-j                 | 40.4 b-d |          | 21.9 g-l             | 21.6 d-e |          |
| Progeny P5018RX        | R2X                        | 63 a-d                          |        |      | 140 k-m        |         |         | 40.1 g-l                 |          |          | 22.2 f-g             |          |          |
| Asgrow AG54X9 RR2X     | R2X                        | 61 b-e                          |        |      | 140 k-m        |         |         | 40.0 h-m                 |          |          | 21.6 k-n             |          |          |
| AgriGold G5288RX       | R2X, STS                   | 61 b-e                          |        |      | 144 b-h        |         |         | 38.6 q-r                 |          |          | 22.8 c-d             |          |          |
| Credenz CZ 5147 LL     | LL                         | 60 b-f                          | 63 a-b | 62 a | 141 i-l        | 141 b-c | 138 c   | 40.7 d-i                 | 40.4 b-c | 40.5 b   | 21.7 j-n             | 21.4 e-f | 21.3 d   |
| Credenz CZ 5328 LL     | LL                         | 60 b-h                          |        |      | 142 f-k        |         |         | 41.0 b-f                 |          |          | 21.6 l-o             |          |          |
| Progeny P5554RX        | R2X                        | 60 b-g                          |        |      | 144 a-f        |         |         | 40.1 g-l                 |          |          | 21.7 k-n             |          |          |
| MO S14-9017R           | RR                         | 59 b-i                          | 61 b-c |      | 145 a-b        | 143 a   |         | 38.0 r                   | 37.9 g   |          | 24.1 a               | 23.7 a   |          |
| MO S13-1955C           | CONV                       | 59 c-j                          | 61 b-e |      | 146 a          | 144 a   |         | 40.4 f-j                 | 40.1 c-e |          | 21.9 g-l             | 21.7 d-e |          |
| GoSoy 53C16            | CONV                       | 59 c-j                          |        |      | 145 a-e        |         |         | 38.8 q-r                 |          |          | 21.7 i-n             |          |          |
| MO S15-10434           | CONV                       | 59 c-j                          |        |      | 145 a-c        |         |         | 40.9 c-g                 |          |          | 21.2 o               |          |          |
| Credenz CZ 5150 LL     | LL                         | 58 d-k                          | 60 b-e | 58 b | 141 h-k        | 141 b-c | 137 c-d | 40.3 f-k                 | 39.5 e   | 39.2 d   | 22.8 c               | 22.6 b   | 22.9 a   |
| Progeny 5226RYS        | RR2,STS                    | 58 d-j                          |        |      | 143 e-j        |         |         | 41.4 a-d                 |          |          | 22.1 f-i             |          |          |
| Asgrow AG55X7 RR2X     | R2X                        | 58 d-k                          | 61 b-d | 59 b | 142 h-k        | 141 b-c | 137 c-d | 40.3 f-k                 | 39.8 d-e | 39.6 c-d | 21.9 g-l             | 21.9 c-d | 22.0 c   |
| GoSoy 51C17            | CONV                       | 58 c-j                          |        |      | 140 k-m        |         |         | 41.2 a-e                 |          |          | 23.0 b-c             |          |          |
| Local Seed Co. LS5087X | R2X                        | 58 d-j                          |        |      | 141 i-l        |         |         | 40.0 h-n                 |          |          | 22.1 f-j             |          |          |
| Progeny P5279RXS       | R2X, STS                   | 58 c-j                          |        |      | 137 o          |         |         | 41.0 b-f                 |          |          | 21.6 k-n             |          |          |
| TN Exp TN16-630R1      | RR                         | 57 d-k                          |        |      | 143 d-j        |         |         | 39.8 i-o                 |          |          | 22.0 f-k             |          |          |
| TN Exp TN16-5858R1     | RR                         | 57 e-l                          |        |      | 144 a-g        |         |         | 39.1 o-q                 |          |          | 22.2 e-i             |          |          |
| GoSoy 50G17            | RR                         | 57 e-l                          |        |      | 140 k-m        |         |         | 39.5 l-q                 |          |          | 22.6 c-e             |          |          |
| MO MO5201D CONV        | CONV                       | 57 e-l                          |        |      | 145 a-d        |         |         | 38.8 q-r                 |          |          | 22.1 f-j             |          |          |
| Armor 49-D13           | R2X                        | 57 e-l                          |        |      | 141 j-l        |         |         | 40.3 f-k                 |          |          | 22.2 f-h             |          |          |
| GoSoy 54G16            | RR                         | 56 e-l                          | 58 d-f |      | 142 h-k        | 141 b   |         | 39.1 p-q                 | 38.6 f   |          | 22.4 d-f             | 22.1 c   |          |
| AGS GS51X18S           | R2X                        | 56 e-l                          |        |      | 139 l-n        |         |         | 40.8 c-h                 |          |          | 22.1 f-j             |          |          |
| MO S11-20242C          | CONV                       | 56 e-l                          |        |      | 142 f-k        |         |         | 39.2 n-q                 |          |          | 22.8 c               |          |          |
| Croplan RX5110         | R2X                        | 56 e-l                          |        |      | 141 k-l        |         |         | 39.9 h-n                 |          |          | 22.1 f-k             |          |          |
| Credenz CZ 5242 LL     | LL                         | 55 g-n                          | 59 c-f | 58 b | 145 a-e        | 143 a   | 139 b   | 41.7 a-b                 | 41.1 a   | 40.6 b   | 22.2 e-g             | 22.0 c   | 22.5 b   |
| GoSoy Leland           | CONV                       | 55 g-n                          | 59 c-f | 58 b | 142 f-k        | 141 b-c | 137 c-d | 40.3 f-k                 | 40.4 b-c | 40.3 b   | 22.2 f-h             | 21.4 e-f | 21.9 c   |
| Progeny 5414LLS        | LL,STS                     | 55 h-n                          | 57 e-f | 57 b | 145 a-d        | 144 a   | 140 a   | 41.3 a-e                 | 40.8 a-b | 41.2 a   | 22.4 d-f             | 22.0 c   | 21.9 c   |
| NK Seed S50-G9X        | R2X                        | 55 f-m                          |        |      | 137 o          |         |         | 39.3 m-q                 |          |          | 23.3 b               |          |          |
| Credenz CZ 5445 LL     | LL                         | 54 j-n                          |        |      | 142 g-k        |         |         | 39.6 k-p                 |          |          | 22.8 c               |          |          |
| Credenz CZ 5225 LL     | LL,STS                     | 54 i-n                          |        |      | 141 i-l        |         |         | 39.6 k-p                 |          |          | 22.8 c               |          |          |
| TN Exp TN16-619R1      | RR                         | 54 j-n                          |        |      | 142 g-k        |         |         | 39.9 j-p                 |          |          | 21.8 g-l             |          |          |
| TN Exp TN16-510R1      | RR                         | 54 j-n                          |        |      | 142 f-k        |         |         | 40.1 g-l                 |          |          | 21.6 k-n             |          |          |
| Dyna-Gro S52XT08       | R2X                        | 53 k-o                          |        |      | 138 n-o        |         |         | 40.5 e-j                 |          |          | 21.8 g-l             |          |          |



**Table 22-b. cont.**

| Variety                               | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |           |           | Maturity (DAP) |            |            | Protein <sup>¶</sup> (%) |             |             | Oil <sup>¶</sup> (%) |             |             |
|---------------------------------------|----------------------------|---------------------------------|-----------|-----------|----------------|------------|------------|--------------------------|-------------|-------------|----------------------|-------------|-------------|
|                                       |                            | 1 yr                            | 2 yr      | 3 yr      | 1 yr           | 2 yr       | 3 yr       | 1 yr                     | 2 yr        | 3 yr        | 1 yr                 | 2 yr        | 3 yr        |
| VA V14-3762                           | CONV                       | 53 l-o                          |           |           | 145 a-e        |            |            | 40.6 d-j                 |             |             | 22.2 e-i             |             |             |
| TN Exp TN11-5104                      | CONV                       | 52 m-o                          | 56 f      |           | 142 f-k        | 140 b-c    |            | 41.1 b-f                 | 41.2 a      |             | 21.6 l-o             | 21.1 f      |             |
| Armor X51D77                          | R2X                        | 51 n-p                          |           |           | 143 c-i        |            |            | 41.7 a-b                 |             |             | 22.0 f-k             |             |             |
| Dyna-Gro SX18652XS                    | R2X, STS                   | 48 o-p                          |           |           | 141 j-l        |            |            | 41.8 a                   |             |             | 21.3 n-o             |             |             |
| Progeny P5252RX                       | R2X                        | 47 p                            |           |           | 143 c-i        |            |            | 41.8 a-b                 |             |             | 22.2 e-h             |             |             |
| <b>Average</b>                        |                            | <b>57</b>                       | <b>61</b> | <b>60</b> | <b>142</b>     | <b>142</b> | <b>138</b> | <b>40.3</b>              | <b>40.1</b> | <b>40.2</b> | <b>22.2</b>          | <b>21.9</b> | <b>22.0</b> |
| <b>Standard Error</b>                 |                            | <b>4</b>                        | <b>4</b>  | <b>3</b>  | <b>4</b>       | <b>2</b>   | <b>4</b>   | <b>0.3</b>               | <b>0.4</b>  | <b>0.3</b>  | <b>0.2</b>           | <b>0.3</b>  | <b>0.3</b>  |
| <b>L.S.D.<sub>.05</sub></b>           |                            | <b>5</b>                        | <b>4</b>  | <b>3</b>  | <b>2</b>       | <b>1</b>   | <b>1</b>   | <b>0.7</b>               | <b>0.5</b>  | <b>0.6</b>  | <b>0.4</b>           | <b>0.3</b>  | <b>0.4</b>  |
| <b>C.V.</b>                           |                            | <b>14</b>                       | <b>14</b> | <b>14</b> | <b>2</b>       | <b>2</b>   | <b>2</b>   | <b>1</b>                 | <b>1</b>    | <b>2</b>    | <b>1</b>             | <b>1</b>    | <b>2</b>    |
| <b>Plots per entry (reps x locs.)</b> |                            | <b>21</b>                       | <b>42</b> | <b>63</b> | <b>18</b>      | <b>36</b>  | <b>54</b>  | <b>3</b>                 | <b>6</b>    | <b>9</b>    | <b>3</b>             | <b>6</b>    | <b>9</b>    |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.

**Table 23. Mean yields across and by location of 43 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in replicated small plot trials at seven REC locations in Tennessee during 2018. Analysis included hybrid performance across a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                        | Herbicide Pkg† | Avg. Yield§ (bu/ac) |        |      | Knoxville Irr. (bu/ac) |      |      | Springfield Irr. (bu/ac) |      |      | Springfield Non-Irr. (bu/ac) |      |      | Milan Irr. (bu/ac) |      |      | Milan Non-Irr. (bu/ac) |      |      | Jackson Non-Irr. (bu/ac) |      |      | Memphis Irr. (bu/ac) |      |      |
|--------------------------------|----------------|---------------------|--------|------|------------------------|------|------|--------------------------|------|------|------------------------------|------|------|--------------------|------|------|------------------------|------|------|--------------------------|------|------|----------------------|------|------|
|                                |                | 1 yr                | 2 yr   | 3 yr | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                         | 2 yr | 3 yr | 1 yr               | 2 yr | 3 yr | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                 | 2 yr | 3 yr |
| Asgrow AG53X9 RR2X             | R2X            | 67 a                |        |      | 69                     |      |      | 79                       |      |      | 46                           |      |      | 74                 |      |      | 61                     |      |      | 64                       |      |      | 74                   |      |      |
| Asgrow AG52X9 RR2X/SR          | R2X            | 64 a-b              |        |      | 80                     |      |      | 75                       |      |      | 41                           |      |      | 68                 |      |      | 57                     |      |      | 65                       |      |      | 61                   |      |      |
| Progeny 5016RXS***             | R2X, STS       | 63 a-c              | 67 a   | 65 a | 75                     | 72   | 70   | 74                       | 78   | 66   | 48                           | 58   | 51   | 71                 | 74   | 75   | 60                     | 69   | 70   | 60                       | 58   | 58   | 53                   | 57   | 57   |
| AgriGold G5000RX**             | R2X, STS       | 63 a-d              | 67 a   |      | 70                     | 71   |      | 71                       | 77   |      | 44                           | 56   |      | 68                 | 74   |      | 59                     | 65   |      | 67                       | 59   |      | 63                   | 63   |      |
| Progeny P5018RX                | R2X            | 63 a-d              |        |      | 74                     |      |      | 70                       |      |      | 38                           |      |      | 63                 |      |      | 47                     |      |      | 64                       |      |      | 82                   |      |      |
| Asgrow AG54X9 RR2X             | R2X            | 61 b-e              |        |      | 69                     |      |      | 69                       |      |      | 47                           |      |      | 60                 |      |      | 47                     |      |      | 54                       |      |      | 78                   |      |      |
| AgriGold G5288RX               | R2X, STS       | 61 b-e              |        |      | 53                     |      |      | 73                       |      |      | 44                           |      |      | 68                 |      |      | 56                     |      |      | 61                       |      |      | 64                   |      |      |
| Credenz CZ 5147 LL             | LL             | 60 b-f              | 63 a-b | 62 a | 77                     | 74   | 69   | 66                       | 66   | 61   | 45                           | 49   | 47   | 66                 | 69   | 72   | 53                     | 59   | 64   | 50                       | 56   | 55   | 67                   | 72   | 73   |
| Credenz CZ 5328 LL             | LL             | 60 b-h              |        |      | 58                     |      |      | 68                       |      |      | 51                           |      |      | 60                 |      |      | 55                     |      |      | 48                       |      |      | 72                   |      |      |
| Progeny P5554RX                | R2X            | 60 b-g              |        |      | 72                     |      |      | 72                       |      |      | 43                           |      |      | 68                 |      |      | 48                     |      |      | 48                       |      |      | 72                   |      |      |
| MO S14-9017R                   | RR             | 59 b-i              | 61 b-c |      | 64                     | 64   |      | 80                       | 75   |      | 39                           | 44   |      | 67                 | 72   |      | 56                     | 64   |      | 54                       | 56   |      | 56                   | 56   |      |
| MO S13-1955C                   | CONV           | 59 c-j              | 61 b-e |      | 58                     | 59   |      | 74                       | 69   |      | 53                           | 59   |      | 64                 | 62   |      | 54                     | 59   |      | 57                       | 57   |      | 55                   | 62   |      |
| GoSoy 53C16                    | CONV           | 59 c-j              |        |      | 49                     |      |      | 71                       |      |      | 49                           |      |      | 65                 |      |      | 50                     |      |      | 64                       |      |      | 62                   |      |      |
| MO S15-10434                   | CONV           | 59 c-j              |        |      | 67                     |      |      | 67                       |      |      | 39                           |      |      | 52                 |      |      | 54                     |      |      | 61                       |      |      | 69                   |      |      |
| Credenz CZ 5150 LL             | LL             | 58 d-k              | 60 b-e | 58 b | 81                     | 69   | 64   | 63                       | 66   | 62   | 40                           | 48   | 46   | 60                 | 64   | 64   | 41                     | 53   | 54   | 47                       | 49   | 48   | 72                   | 72   | 71   |
| Progeny 5226RYS                | RR2, STS       | 58 d-j              |        |      | 66                     |      |      | 51                       |      |      | 46                           |      |      | 65                 |      |      | 61                     |      |      | 56                       |      |      | 61                   |      |      |
| Asgrow AG55X7 RR2X             | R2X            | 58 d-k              | 61 b-d | 59 b | 66                     | 66   | 63   | 57                       | 59   | 55   | 42                           | 46   | 41   | 67                 | 76   | 74   | 49                     | 56   | 57   | 56                       | 55   | 56   | 68                   | 66   | 66   |
| GoSoy 51C17                    | CONV           | 58 c-j              |        |      | 61                     |      |      | 64                       |      |      | 45                           |      |      | 63                 |      |      | 55                     |      |      | 47                       |      |      | 72                   |      |      |
| Local Seed Co. LS5087X         | R2X            | 58 d-j              |        |      | 60                     |      |      | 80                       |      |      | 45                           |      |      | 64                 |      |      | 50                     |      |      | 53                       |      |      | 55                   |      |      |
| Progeny P5279RXS               | R2X, STS       | 58 c-j              |        |      | 73                     |      |      | 70                       |      |      | 38                           |      |      | 59                 |      |      | 53                     |      |      | 55                       |      |      | 61                   |      |      |
| TN Exp TN16-630R1              | RR             | 57 d-k              |        |      | 64                     |      |      | 54                       |      |      | 46                           |      |      | 68                 |      |      | 50                     |      |      | 53                       |      |      | 69                   |      |      |
| TN Exp TN16-5858R1             | RR             | 57 e-l              |        |      | 76                     |      |      | 54                       |      |      | 44                           |      |      | 64                 |      |      | 49                     |      |      | 53                       |      |      | 64                   |      |      |
| GoSoy 50G17                    | RR             | 57 e-l              |        |      | 66                     |      |      | 61                       |      |      | 43                           |      |      | 60                 |      |      | 54                     |      |      | 46                       |      |      | 68                   |      |      |
| MO MO5201D CONV                | CONV           | 57 e-l              |        |      | 62                     |      |      | 60                       |      |      | 48                           |      |      | 63                 |      |      | 49                     |      |      | 56                       |      |      | 55                   |      |      |
| Armor 49-D13                   | R2X            | 57 e-l              |        |      | 64                     |      |      | 64                       |      |      | 43                           |      |      | 61                 |      |      | 49                     |      |      | 55                       |      |      | 55                   |      |      |
| GoSoy 54G16                    | RR             | 56 e-l              | 58 d-f |      | 65                     | 65   |      | 60                       | 60   |      | 39                           | 44   |      | 60                 | 59   |      | 48                     | 57   |      | 51                       | 51   |      | 71                   | 65   |      |
| AGS GS51X18S                   | R2X            | 56 e-l              |        |      | 69                     |      |      | 58                       |      |      | 36                           |      |      | 59                 |      |      | 47                     |      |      | 53                       |      |      | 70                   |      |      |
| MO S11-20242C                  | CONV           | 56 e-l              |        |      | 45                     |      |      | 71                       |      |      | 48                           |      |      | 54                 |      |      | 43                     |      |      | 52                       |      |      | 75                   |      |      |
| Croplan RX5110                 | R2X            | 56 e-l              |        |      | 61                     |      |      | 66                       |      |      | 39                           |      |      | 68                 |      |      | 57                     |      |      | 49                       |      |      | 53                   |      |      |
| Credenz CZ 5242 LL             | LL             | 55 g-n              | 59 c-f | 58 b | 65                     | 62   | 61   | 65                       | 63   | 61   | 45                           | 49   | 46   | 57                 | 63   | 64   | 40                     | 51   | 53   | 44                       | 47   | 47   | 71                   | 76   | 78   |
| GoSoy Leland                   | CONV           | 55 g-n              | 59 c-f | 58 b | 48                     | 51   | 54   | 69                       | 66   | 62   | 44                           | 50   | 48   | 56                 | 54   | 57   | 47                     | 60   | 61   | 61                       | 60   | 60   | 62                   | 74   | 72   |
| Progeny 5414LLS                | LL, STS        | 55 h-n              | 57 e-f | 57 b | 56                     | 55   | 55   | 60                       | 68   | 65   | 46                           | 52   | 49   | 62                 | 62   | 61   | 48                     | 56   | 61   | 46                       | 46   | 46   | 67                   | 62   | 62   |
| NK Seed S50-G9X                | R2X            | 55 f-m              |        |      | 56                     |      |      | 58                       |      |      | 43                           |      |      | 59                 |      |      | 54                     |      |      | 50                       |      |      | 65                   |      |      |
| Credenz CZ 5445 LL             | LL             | 54 j-n              |        |      | 60                     |      |      | 60                       |      |      | 35                           |      |      | 64                 |      |      | 50                     |      |      | 47                       |      |      | 56                   |      |      |
| Credenz CZ 5225 LL             | LL, STS        | 54 i-n              |        |      | 61                     |      |      | 69                       |      |      | 42                           |      |      | 58                 |      |      | 47                     |      |      | 49                       |      |      | 58                   |      |      |
| TN Exp TN16-619R1              | RR             | 54 j-n              |        |      | 64                     |      |      | 49                       |      |      | 42                           |      |      | 61                 |      |      | 44                     |      |      | 52                       |      |      | 68                   |      |      |
| TN Exp TN16-510R1              | RR             | 54 j-n              |        |      | 61                     |      |      | 51                       |      |      | 41                           |      |      | 68                 |      |      | 48                     |      |      | 55                       |      |      | 56                   |      |      |
| Dyna-Gro S52XT08               | R2X            | 53 k-o              |        |      | 60                     |      |      | 54                       |      |      | 41                           |      |      | 62                 |      |      | 42                     |      |      | 43                       |      |      | 67                   |      |      |
| VA V14-3762                    | CONV           | 53 l-o              |        |      | 60                     |      |      | 53                       |      |      | 44                           |      |      | 60                 |      |      | 47                     |      |      | 38                       |      |      | 65                   |      |      |
| TN Exp TN11-5104               | CONV           | 52 m-o              | 56 f   |      | 55                     | 58   |      | 46                       | 50   |      | 39                           | 48   |      | 61                 | 66   |      | 46                     | 54   |      | 43                       | 51   |      | 73                   | 68   |      |
| Armor X51D77                   | R2X            | 51 n-p              |        |      | 50                     |      |      | 51                       |      |      | 44                           |      |      | 58                 |      |      | 42                     |      |      | 54                       |      |      | 57                   |      |      |
| Dyna-Gro SX18652XS             | R2X, STS       | 48 o-p              |        |      | 50                     |      |      | 40                       |      |      | 40                           |      |      | 56                 |      |      | 34                     |      |      | 55                       |      |      | 64                   |      |      |
| Progeny P5252RX                | R2X            | 47 p                |        |      | 54                     |      |      | 45                       |      |      | 40                           |      |      | 53                 |      |      | 38                     |      |      | 47                       |      |      | 53                   |      |      |
| Average                        |                | 57                  | 61     | 60   | 63                     | 64   | 62   | 63                       | 66   | 62   | 43                           | 50   | 47   | 62                 | 66   | 67   | 50                     | 59   | 60   | 53                       | 54   | 53   | 65                   | 66   | 68   |
| Standard Error                 |                | 4                   | 4      | 3    | 7                      | 4    | 4    | 4                        | 3    | 5    | 3                            | 7    | 5    | 3                  | 4    | 3    | 3                      | 9    | 6    | 3                        | 2    | 3    | 4                    | 4    | 4    |
| L.S.D. <sub>.05</sub>          |                | 5                   | 4      | 3    | 18                     | 12   | 11   | 12                       | 8    | N.S. | 7                            | 6    | N.S. | 9                  | 7    | 5    | 7                      | 6    | 6    | 9                        | 6    | 7    | 11                   | 10   | 10   |
| C.V.                           |                | 14                  | 14     | 14   | 17                     | 17   | 18   | 12                       | 10   | 12   | 10                           | 11   | 12   | 9                  | 9    | 9    | 9                      | 8    | 10   | 11                       | 9    | 10   | 10                   | 13   | 11   |
| Plots per entry (reps x locs.) |                | 21                  | 42     | 63   | 3                      | 6    | 9    | 3                        | 6    | 9    | 3                            | 6    | 9    | 3                  | 6    | 9    | 3                      | 6    | 9    | 3                        | 6    | 9    | 3                    | 6    | 9    |

† Hybrids that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

**Table 24. Yields of 14 Maturity Group V Early (5.0 - 5.4) Roundup Ready soybean varieties in 4 County Standard Tests in Tennessee and Kentucky during 2018<sup>‡</sup>**

| MS†<br>Avg.<br>Yield | Variety         | Avg.<br>Yield <sup>§</sup><br>(bu/acre) | Avg.<br>Moisture<br>(%) | Percent of<br>locs. with<br>yield above<br>loc. avg. | Gibs      | Hayw      | Lake      | Wayn      |
|----------------------|-----------------|---|-------------------------|--|-----------|-----------|-----------|-----------|
|                      |                 |   |                         |  | 5/11      | 6/18      | 5/31      | 5/16      |
| A                    | Asgrow 53X9     | 57                                      | 13.2                    | 100%   | 66        | 72        | 49        | 39        |
| AB                   | USG 7568        | 52                                      | 13.1                    | 75%  | 57        | 64        | 49        | 40        |
| AB                   | Beck's 5119X2   | 52                                      | 13.5                    | 50%  | 65        | 64        | 42        | 37        |
| AB                   | NK S52Y7X       | 52                                      | 13.4                    | 50%  | 53        | 73        | 41        | 39        |
| AB                   | *Progeny 5016   | 52                                      | 13.3                    | 50%  | 60        | 65        | 44        | 37        |
| AB                   | Local Seed 5087 | 51                                      | 12.8                    | 50%  | 51        | 68        | 44        | 42        |
| B                    | Asgrow 55X7     | 50                                      | 13.2                    | 50%  | 56        | 62        | 45        | 36        |
| B                    | Croplan 5110S   | 50                                      | 13.3                    | 25%  | 55        | 66        | 44        | 35        |
| B                    | Asgrow 52X9     | 49                                      | 13.4                    | 50%  | 49        | 63        | 46        | 37        |
| B                    | Terral REV 51X2 | 49                                      | 13.4                    | 25%  | 54        | 68        | 39        | 34        |
| B                    | AgriGold 5000   | 49                                      | 13.4                    | 50%  | 55        | 59        | 44        | 35        |
| B                    | Asgrow 54X9     | 49                                      | 13.3                    | 25%  | 58        | 64        | 38        | 33        |
| B                    | Armor 50D13     | 48                                      | 13.4                    | 50%  | 44        | 71        | 45        | 34        |
| B                    | GoSoy 51X18     | 48                                      | 13.0                    | 25%  | 49        | 61        | 47        | 33        |
| <b>Average</b>       |                 | <b>50</b>                               | <b>13.3</b>             |  | <b>55</b> | <b>66</b> | <b>44</b> | <b>37</b> |

‡ Data Provided by Ryan Blair, Ext. Area Specialist, Grain and Cotton Variety Testing, and Extension agents in counties shown above.

† Varieties that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Varieties marked with an asterisk were in the top performing "A" group for two (\*) or three (\*\*) consecutive years within the previous three year evaluation period.

§ All yields are adjusted to 13% moisture.

County Locations include: Gibson, Haywood, Lake, Wayne

**Table 25. Overall average yields, moistures, and test weights of 13 Maturity Group V Early (5.0 - 5.4) soybean varieties evaluated in both the County Standard Tests and Research and Education Center Tests in Tennessee during 2018.**

| Variety                | Herbicide<br>Pkg <sup>†</sup> | Avg. of CST and REC Tests               |                         | CST Tests                               |                         | REC Tests                            |                         |
|------------------------|-------------------------------|---|-------------------------|---|-------------------------|--------------------------------------|-------------------------|
|                        |                               | Avg.<br>Yield <sup>§</sup><br>(bu/acre) | Avg.<br>Moisture<br>(%) | Avg.<br>Yield <sup>§</sup><br>(bu/acre) | Avg.<br>Moisture<br>(%) | Avg. Yield <sup>§</sup><br>(bu/acre) | Avg.<br>Moisture<br>(%) |
| Asgrow AG53X9 RR2X     | R2X                           | 62                                      | 13.7                    | 57                                      | 13.2                    | 67                                   | 14.2                    |
| Progeny 5016RXS        | R2X, STS                      | 57                                      | 13.7                    | 52                                      | 13.3                    | 63                                   | 14.2                    |
| Asgrow AG52X9 RR2X/SR  | R2X                           | 56                                      | 13.6                    | 49                                      | 13.4                    | 64                                   | 13.8                    |
| Credenz CZ 5147 LL     | LL                            | 56                                      | 13.9                    | 52                                      | 14.1                    | 60                                   | 13.6                    |
| AgriGold G5000RX       | R2X, STS                      | 56                                      | 13.8                    | 49                                      | 13.4                    | 63                                   | 14.3                    |
| Asgrow AG54X9 RR2X     | R2X                           | 55                                      | 13.7                    | 49                                      | 13.3                    | 61                                   | 14.1                    |
| Local Seed Co. LS5087X | R2X                           | 55                                      | 13.1                    | 51                                      | 12.8                    | 58                                   | 13.4                    |
| Credenz CZ 5328 LL     | LL                            | 55                                      | 13.7                    | 49                                      | 14.0                    | 60                                   | 13.4                    |
| Asgrow AG55X7 RR2X     | R2X                           | 54                                      | 13.5                    | 50                                      | 13.2                    | 58                                   | 13.7                    |
| Croplan RX5110         | R2X                           | 53                                      | 13.4                    | 50                                      | 13.3                    | 56                                   | 13.6                    |
| Armor X50D13           | R2X                           | 53                                      | 13.7                    | 48                                      | 13.4                    | 57                                   | 14.0                    |
| USG 7568XTS            | R2X, STS                      | 53                                      | 13.5                    | 52                                      | 13.1                    | 53                                   | 14.0                    |
| Credenz CZ 5150 LL     | LL                            | 51                                      | 14.0                    | 44                                      | 14.1                    | 58                                   | 13.9                    |
| <b>Average</b>         |                               | <b>55</b>                               | <b>13.6</b>             | <b>50</b>                               | <b>13.4</b>             | <b>60</b>                            | <b>13.9</b>             |

† For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

**Table 26. Yields and disease ratings of 15 Maturity Group V Early (5.0-5.5) Roundup Ready soybean varieties in 4 County Standard Tests and in small plot trials at one Research and Education Center and one on-farm location in Tennessee during 2018**

| Summary from County Tests |                 |                    | Summary from Small Plot Research              |             |           |        |                                   |             |             |           |        |
|---------------------------|-----------------|--------------------|---|-------------|-----------|--------|-----------------------------------|-------------|-------------|-----------|--------|
| MS                        | Variety         | Avg. Yield (bu/ac) | Research and Education Center at Milan (RECM) |             |           |        | On-farm Location in Jackson (JAX) |             |             |           |        |
|                           |                 |                    | RECM - YLD                                    |             | Frogeye   | Target | Other                             | JAX - YLD   |             | Frogeye   | Target |
|                           |                 |                    | *Treated                                      | Non-treated | leaf spot | Spot   | Diseases                          | *Treated    | Non-treated | leaf spot | Spot   |
| A                         | Asgrow 53X9     | 56.7               | 49.0  | 57.8        | MOD       | LOW    | CLB                               | 60.2        | 54.2        | LOW       | LOW    |
| AB                        | USG 7568        | 52.4               | 50.0  | 53.7        | LOW       | LOW    | CLB, SDS, SC                      | 42.1        | 40.1        | LOW       | LOW    |
| AB                        | Beck's 5119X2   | 51.7               | 54.8  | 49.8        | HIGH      | LOW    | CLB, SDS                          | 56.8        | 50.5        | MOD       | LOW    |
| AB                        | NK S52Y7X       | 51.6               | -   | -           | -         | -      | SDS                               | 43.4        | 36.4        | HIGH      | HIGH   |
| AB                        | Progeny 5016    | 51.5               | 44.9  | 52.4        | HIGH      | LOW    | CLB                               | 55.1        | 49.4        | HIGH      | LOW    |
| AB                        | Local Seed 5087 | 51.1               | -   | -           | -         | -      | CLB, SDS                          | 51.7        | 43.2        | MOD       | LOW    |
| B                         | Asgrow 55X7     | 49.8               | 55.8  | 49.5        | HIGH      | LOW    | CLB, SDS                          | 59.2        | 45.9        | LOW       | LOW    |
| B                         | Croplan 5110S   | 49.8               | -   | -           | -         | -      | CLB, SDS, SC                      | 44.4        | 39.1        | LOW       | LOW    |
| B                         | Asgrow 52X9     | 48.9               | -   | -           | -         | -      | CLB                               | 63.8        | 49.4        | MOD       | LOW    |
| B                         | Terral REV 51X2 | 48.7               | 44.3  | 50.1        | LOW       | LOW    | CLB                               | 47.5        | 39.2        | LOW       | LOW    |
| B                         | AgriGold 5000   | 48.6               | 54.8  | 51.7        | HIGH      | LOW    | CLB                               | 56.1        | 49.8        | HIGH      | LOW    |
| B                         | Asgrow 54X9     | 48.5               | 54.0  | 48.3        | LOW       | LOW    | CLB, SDS                          | 56.4        | 47.9        | LOW       | LOW    |
| B                         | Armor 50D13     | 48.4               | 49.8  | 45.1        | MOD       | LOW    | CLB, SDS                          | 49.5        | 45.7        | MOD       | LOW    |
| B                         | GoSoy 51X18     | 47.5               | 48.1  | 47.4        | LOW       | LOW    | CLB, SDS                          | 51.0        | 40.6        | LOW       | LOW    |
|                           | GoSoy 54G16     | -                  | -   | -           | -         | -      | CLB                               | 54.7        | 46.5        | LOW       | LOW    |
|                           | <b>Average</b>  | <b>50.4</b>        | <b>50.6</b>                                   | <b>50.6</b> |           |        |                                   | <b>52.8</b> | <b>45.2</b> |           |        |

YLD= Avg. Yield @ 15% moisture

MS= Varieties that have any MS letter in common are not statistically different in yield at the 5% level of probability.

Varieties denoted with an asterisks (\*) or (\*\*) etc. were in the top performing group for consecutive years.

County locations include: Gibson, Haywood, Lake, Wayne

\*Treated plots sprayed with Quadris TOP SBX @ 7 oz./Acre + 0.25% Induce @ R3 growth stage. RECM varieties planted June 5 and JAX planted June 14.

LOW, MOD, and HIGH is a relative ranking of disease severity at each location. Other diseases noted: SC=Stem Canker, CLB=Cercospora Leaf Blight, SDS=Sudden Death Syndrome; '-' indicate variety was not tested at that location

**Disease ratings at RECM:** Frogeye leaf spot ranged from 0 - 13% with an average of 6% and no Target spot was observed.

**Disease ratings at JAX:** Frogeye leaf spot ranged from 0 - 16% with an average of 4% and Target spot was only observed on NK S52Y7X

Disease ratings & yield data compiled by Dr. Heather Kelly from replicated plots at the Research and Education Center at Milan and on-farm location in Jackson.

County data provided by Ryan Blair, Ext. Area Specialist, and the extension agents.

**Table 27-a. Mean yield, agronomic traits, and quality of 9 Maturity Group V Late (5.5 - 5.9) soybean varieties evaluated in small plot replicated trials at six REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                                | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |      |      | Moisture at Harvest (%) |      |      | Plant Height (in.) |      |      | Lodging <sup>  </sup> (1-5) |      |      |
|--|----------------------------|---------------------------------|------|------|-------------------------|------|------|--------------------|------|------|-----------------------------|------|------|
|  |                            | 1 yr                            | 2 yr | 3 yr | 1 yr                    | 2 yr | 3 yr | 1 yr               | 2 yr | 3 yr | 1 yr                        | 2 yr | 3 yr |
| USG 75B75R**                           | RR2                        | 59 a                            | 61 a | 58 a | 14 b-d                  | 14 a | 13 a | 38 a               | 38 a | 39 a | 1 a-b                       | 2 b  | 2 a  |
| Progeny 5752RY                         | RR2                        | 57 a-b                          | 59 a | 57 a | 15 a-b                  | 14 a | 13 a | 37 a-b             | 38 a | 39 a | 1 a-b                       | 2 b  | 1 a  |
| USG 7568XTS                            | R2X, STS                   | 53 b-c                          | 59 a |      | 14 c-d                  | 14 a |      | 33 c               | 36 b |      | 2 a-b                       | 2 a  |      |
| VA V12-0045R2                          | RR2                        | 51 c-d                          |      |      | 15 a-c                  |      |      | 31 d               |      |      | 2 a-b                       |      |      |
| USG 5618V                              | CONV                       | 51 c-d                          |      |      | 15 a-d                  |      |      | 31 d               |      |      | 1 a-b                       |      |      |
| TN Exp TN16-5004                       | CONV                       | 50 c-d                          |      |      | 16 a                    |      |      | 36 b               |      |      | 2 a                         |      |      |
| Progeny 5688RX                         | R2X                        | 48 c-e                          | 57 a |      | 14 b-d                  | 14 a |      | 33 c               | 36 b |      | 2 a                         | 2 a  |      |
| VA V12-1416                            | RR                         | 47 d-e                          |      |      | 14 d                    |      |      | 30 d               |      |      | 1 b-c                       |      |      |
| VA V14-3983                            | CONV                       | 45 e                            |      |      | 14 c-d                  |      |      | 25 e               |      |      | 1 c                         |      |      |
| Average                                |                            | 51                              | 59   | 58   | 15                      | 14   | 13   | 33                 | 37   | 39   | 1.4                         | 1.8  | 1.5  |
| Standard Error                         |                            | 4                               | 5    | 4    | 0                       | 1    | 1    | 2                  | 2    | 2    | 0.3                         | 0.3  | 0.2  |
| L.S.D. <sub>.05</sub>                  |                            | 5                               | N.S. | N.S. | 1                       | N.S. | N.S. | 2                  | 1    | N.S. | 0.4                         | 0.2  | N.S. |
| C.V.                                   |                            | 14                              | 12   | 10   | 11                      | 8    | 8    | 8                  | 9    | 8    | -                           | -    | -    |
| Plots per entry (reps x locs x years.) |                            | 18                              | 36   | 54   | 18                      | 36   | 54   | 18                 | 36   | 54   | 18                          | 36   | 54   |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.

**Table 27-b. Mean yield, agronomic traits, and quality of 9 Maturity Group V Late (5.5 - 5.9) soybean varieties evaluated in small plot replicated trials at six REC locations in Tennessee during 2018. Analysis included variety performance over a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                                | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |      |      | Maturity (DAP) |       |       | Protein <sup>¶</sup> (%) |      |      | Oil <sup>¶</sup> (%) |      |      |
|--|----------------------------|---------------------------------|------|------|----------------|-------|-------|--------------------------|------|------|----------------------|------|------|
|  |                            | 1 yr                            | 2 yr | 3 yr | 1 yr           | 2 yr  | 3 yr  | 1 yr                     | 2 yr | 3 yr | 1 yr                 | 2 yr | 3 yr |
| USG 75B75R**                           | RR2                        | 59 a                            | 61 a | 58 a | 148 b          | 146 a | 142 a | 41 b                     | 41 a | 41 a | 21 e-f               | 21 a | 21 b |
| Progeny 5752RY                         | RR2                        | 57 a-b                          | 59 a | 57 a | 148 b          | 146 a | 141 a | 41 b                     | 41 a | 41 b | 21 e-f               | 21 a | 22 a |
| USG 7568XTS                            | R2X, STS                   | 53 b-c                          | 59 a |      | 147 b          | 146 a |       | 40 d                     | 40 b |      | 22 c-d               | 21 a |      |
| VA V12-0045R2                          | RR2                        | 51 c-d                          |      |      | 145 c          |       |       | 40 d                     |      |      | 21 f                 |      |      |
| USG 5618V                              | CONV                       | 51 c-d                          |      |      | 144 c          |       |       | 42 a                     |      |      | 22 b                 |      |      |
| TN Exp TN16-5004                       | CONV                       | 50 c-d                          |      |      | 152 a          |       |       | 42 a                     |      |      | 21 g                 |      |      |
| Progeny 5688RX                         | R2X                        | 48 c-e                          | 57 a |      | 148 b          | 146 a |       | 40 d                     | 39 b |      | 21 d-e               | 21 a |      |
| VA V12-1416                            | RR                         | 47 d-e                          |      |      | 143 c-d        |       |       | 39 e                     |      |      | 23 a                 |      |      |
| VA V14-3983                            | CONV                       | 45 e                            |      |      | 142 d          |       |       | 41 c                     |      |      | 22 b-c               |      |      |
| Average                                |                            | 51                              | 59   | 58   | 146            | 146   | 142   | 40.7                     | 40.4 | 41.2 | 21.5                 | 21.3 | 21.5 |
| Standard Error                         |                            | 4                               | 5    | 4    | 4              | 2     | 5     | 0.2                      | 0.2  | 0.2  | 0.1                  | 0.1  | 0.2  |
| L.S.D. <sub>.05</sub>                  |                            | 5                               | N.S. | N.S. | 2              | N.S.  | N.S.  | 0.4                      | 0.5  | 0.5  | 0.3                  | N.S. | 0.2  |
| C.V.                                   |                            | 14                              | 12   | 10   | 2              | 1     | 1     | 0.6                      | 0.9  | 1.2  | 0.7                  | 0.8  | 0.8  |
| Plots per entry (reps x locs x years.) |                            | 18                              | 36   | 54   | 18             | 36    | 54    | 3                        | 6    | 9    | 3                    | 6    | 9    |

† Hybrids that have any MS letter in common are not significantly different at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.

|| Lodging was evaluated on a scale of 1 (no lodging) to 5 (complete lodging). C.V. is not reported for lodging since it was not measured using a ratio scale.

¶ Protein and oil on a dry weight basis.

**Table 28. Mean yields across and by location of 9 Maturity Group V Late (5.5 - 5.9) soybean varieties evaluated in replicated small plot trials at six REC locations in Tennessee during 2018. Analysis included variety performance across a 1 yr (2018), 2 yr (2017-2018), and 3 yr (2016-2018) period.**

| Variety                                | Herbicide Pkg <sup>†</sup> | Avg. Yield <sup>§</sup> (bu/ac) |      |      | Knoxville Irr. (bu/ac) |      |      | Springfield Irr. (bu/ac) |      |      | Springfield Non-Irr. (bu/ac) |      |      | Milan Irr. (bu/ac) |      |      | Milan Non-Irr. (bu/ac) |      |      | Jackson Non-Irr. (bu/ac) |      |      |
|--|----------------------------|---------------------------------|------|------|------------------------|------|------|--------------------------|------|------|------------------------------|------|------|--------------------|------|------|------------------------|------|------|--------------------------|------|------|
|  |                            | 1 yr                            | 2 yr | 3 yr | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr | 1 yr                         | 2 yr | 3 yr | 1 yr               | 2 yr | 3 yr | 1 yr                   | 2 yr | 3 yr | 1 yr                     | 2 yr | 3 yr |
| USG 75B75R**                           | RR2                        | 59 a                            | 61 a | 58 a | 76                     | 69   | 67   | 46                       | 56   | 50   | 44                           | 51   | 45   | 71                 | 71   | 67   | 46                     | 54   | 56   | 69                       | 62   | 62   |
| Progeny 5752RY                         | RR2                        | 57 a-b                          | 59 a | 57 a | 74                     | 65   | 63   | 44                       | 52   | 47   | 44                           | 52   | 46   | 66                 | 68   | 69   | 56                     | 60   | 59   | 56                       | 57   | 57   |
| USG 7568XT                             | R2X, STS                   | 53 b-c                          | 59 a |      | 71                     | 69   |      | 45                       | 61   |      | 44                           | 55   |      | 57                 | 62   |      | 39                     | 52   |      | 62                       | 58   |      |
| VA V12-0045R2                          | RR2                        | 51 c-d                          |      |      | 60                     |      |      | 41                       |      |      | 45                           |      |      | 68                 |      |      | 38                     |      |      | 52                       |      |      |
| USG 5618V                              | CONV                       | 51 c-d                          |      |      | 53                     |      |      | 45                       |      |      | 46                           |      |      | 54                 |      |      | 46                     |      |      | 62                       |      |      |
| TN Exp TN16-5004                       | CONV                       | 50 c-d                          |      |      | 62                     |      |      | 40                       |      |      | 44                           |      |      | 51                 |      |      | 50                     |      |      | 53                       |      |      |
| Progeny 5688RX                         | R2X                        | 48 c-e                          | 57 a |      | 65                     | 64   |      | 40                       | 58   |      | 39                           | 53   |      | 53                 | 61   |      | 30                     | 49   |      | 63                       | 59   |      |
| VA V12-1416                            | RR                         | 47 d-e                          |      |      | 59                     |      |      | 42                       |      |      | 38                           |      |      | 58                 |      |      | 41                     |      |      | 45                       |      |      |
| VA V14-3983                            | CONV                       | 45 e                            |      |      | 53                     |      |      | 46                       |      |      | 42                           |      |      | 48                 |      |      | 39                     |      |      | 41                       |      |      |
| Average                                |                            | 51                              | 59   | 58   | 64                     | 67   | 65   | 43                       | 57   | 49   | 43                           | 53   | 46   | 58                 | 66   | 68   | 43                     | 54   | 58   | 56                       | 59   | 60   |
| Standard Error                         |                            | 4                               | 5    | 5    | 4                      | 5    | 5    | 3                        | 13   | 7    | 3                            | 10   | 7    | 4                  | 4    | 2    | 5                      | 11   | 3    | 4                        | 4    | 3    |
| L.S.D. <sub>.05</sub>                  |                            | 5                               | N.S. | N.S. | 10                     | N.S. | N.S. | N.S.                     | N.S. | N.S. | 5                            | N.S. | N.S. | 13                 | 7    | N.S. | 9                      | N.S. | N.S. | 13                       | N.S. | N.S. |
| C.V.                                   |                            | 14                              | 12   | 12   | 9                      | 9    | 6    | 9                        | 14   | 11   | 7                            | 11   | 7    | 12                 | 9    | 10   | 13                     | 15   | 8    | 14                       | 11   | 10   |
| Plots per entry (reps x locs. x years) |                            | 18                              | 36   | 54   | 3                      | 6    | 9    | 3                        | 6    | 9    | 3                            | 6    | 9    | 3                  | 6    | 9    | 3                      | 6    | 9    | 3                        | 6    | 9    |

† Hybrids that have any MS letter in common are not significantly different in yield at the 5% level of probability.

\* Hybrids marked with an asterisk were in the top performing "A" group for two (\*\*) or three (\*\*\*) years within the previous three year evaluation period.

‡ For a full description of abbreviated biotech traits, see table 31.

§ All yields are adjusted to 15.5% moisture.



**Table 29. Characteristics of soybean varieties evaluated in Tennessee during 2018, as provided by the seed company.**

| Variety                             | Rel. Mat. | Herb. Tol.† | SCN‡           | Stem Canker‡ | SDS‡ | Frogeye‡ | Flower Color§ | Pub. Color | Seed Treatment        |
|-------------------------------------|-----------|-------------|----------------|--------------|------|----------|---------------|------------|-----------------------|
| AgriGold G4440RX                    | 4.4       | R2X, STS    | R3, MR14, PI88 | S            | S    | S        | W             | T          | AgriShield F+I        |
| AgriGold G4190RX                    | 4.1       | R2X, STS    | R3,MR14        | R            | S    | R        | P             | T          | AgriShield F+I        |
| AgriGold G4579RX                    | 4.5       | R2X, STS    | R3,MR14        | R            | R    | S        | P             | T          | AgriShield F+I        |
| AgriGold G4685RX                    | 4.6       | R2X, STS    | R3, MR14, PI88 | R            | S    | S        | P             | T          | AgriShield F+I        |
| AgriGold G4750RX                    | 4.7       | R2X, STS    | R3,MR14        | R            | R    | R        | P             | T          | AgriShield F+I        |
| AgriGold G5000RX                    | 5.0       | R2X, STS    | R3, MR14, PI88 | R            | R    | S        | P             | T          | AgriShield F+I        |
| AgriGold G5288RX                    | 5.2       | R2X, STS    | R3,MR14        | R            | S    | R        | P             | T          | AgriShield F+I        |
| AGS GS46X17                         | 4.6       | R2X         | 3,14           | R            | MR   | R        | P             | LT         | CruiserMaxx Vibrance  |
| AGS GS48X18                         | 4.8       | R2X         | 3,14           | R            | MR   | MR       | W             | LT         | CruiserMaxx Vibrance  |
| AGS GS51X18S                        | 5.1       | R2X         | 3,14           | R            | MR   | MR       | W             | G          | CruiserMaxx Vibrance  |
| Armor 42-D27                        | 4.2       | R2X         |                |              |      |          |               |            | Defend Extra          |
| Armor 45-D43                        | 4.3       | R2X         |                |              |      |          |               |            | Defend Extra          |
| Armor X44-D36                       | 4.4       | R2X         |                |              |      |          |               |            | Defend Extra          |
| Armor 45-D50                        | 4.5       | R2X         |                |              |      |          |               |            | Defend Extra          |
| Armor X46-D63                       | 4.6       | R2X         |                |              |      |          |               |            | Defend Extra          |
| Armor 47-D22                        | 4.7       | R2X         |                |              |      |          |               |            | Defend Extra          |
| Armor 49-D13                        | 5.0       | R2X         |                |              |      |          |               |            | Defend Extra          |
| Armor X51D77                        | 5.1       | R2X         |                |              |      |          |               |            | Defend Extra          |
| Asgrow AG36X6 RR2X                  | 3.6       | R2X         | R3             | R            | MR   | MS       | P             | G          | Acceleron I           |
| Asgrow AG37X8 RR2X                  | 3.7       | R2X         | R3             | R            | MR   | MS       | P             | G          | Acceleron I           |
| Asgrow AG38X8 RR2X                  | 3.8       | R2X         | R3             | R            | MS   | R        | P             | G          | Acceleron I           |
| Asgrow AG39X7 RR2X/SR               | 3.9       | R2X, STS    | R3             | R            | MS   | MR       | P             | G          | Acceleron I           |
| Asgrow AG37X9 RR2X                  | 3.8       | R2X         | R3             | R            | MR   | MS       |               | T          | Acceleron I           |
| Asgrow AG43X7 RR2X/SR               | 4.3       | R2X, STS    | R3             | R            | MS   | R        | L             | T          | Acceleron I           |
| Asgrow AG44X6 RR2X                  | 4.4       | R2X         | R3             | R            | MR   | MR       | W             | LT         | Acceleron I           |
| Asgrow AG45X8 RR2X/SR               | 4.5       | R2X, STS    | R3             | R            | MS   | MS       | P             | LT         | Acceleron I           |
| Asgrow AG42X9 RR2X                  | 4.1       | R2X         | R3             | R            | MS   | MS       |               | T          | Acceleron I           |
| Asgrow AG43X8 RR2X                  | 4.3       | R2X         | R3             | R            | MS   | R        | W             | LT         | Acceleron I           |
| Asgrow AG46X6 RR2X                  | 4.6       | R2X         | R3             | MR           | MR   | MR       | P             | LT         | Acceleron I           |
| Asgrow AG47X6 RR2X/SR               | 4.7       | R2X, STS    | R3             | R            | MR   | R        | W             | LT         | Acceleron I           |
| Asgrow AG49X6 RR2X                  | 4.9       | R2X         | R3             | MR           | R    | R        | P             | LT         | Acceleron I           |
| Asgrow AG47X9 RR2X                  | 4.7       | R2X, STS    | R3             | R            | MS   | R        |               | LT         | Acceleron I           |
| Asgrow AG48X9 RR2X/SR               | 4.8       | R2X, STS    | R3             | R            | MS   | MS       |               | LT         | Acceleron I           |
| Asgrow AG49X9 RR2X/SR               | 4.9       | R2X         | R3             | R            | MS   | R        |               | LT         | Acceleron I           |
| Asgrow AG55X7 RR2X                  | 5.5       | R2X         | S              | R            | MS   | MS       |               | T          | Acceleron I           |
| Asgrow AG52X9 RR2X/SR               | 5.2       | R2X         | R3             | R            | MR   | MS       |               | LT         | Acceleron I           |
| Asgrow AG53X9 RR2X                  | 5.3       | R2X         | R3             | R            | R    | MS       |               | G          | Acceleron I           |
| Asgrow AG54X9 RR2X                  | 5.4       | R2X         | R3             | MR           | MS   | R        |               | T          | Acceleron I           |
| Caverndale Farms CF 387 HT-GLYn     | 3.8       | RR          | 3, 14          | MR           | MR   | MR       |               |            | TEN + Vibrance        |
| Caverndale Farms CF 427 HT-GLY/STSn | 4.2       | RR,STS      | 3, 14          | MR           | MR   | MR       |               |            | TEN + Vibrance        |
| Caverndale Farms CF 478 RR2Y/STSn   | 4.7       | RR2,STS     | 3, 14          | MR           | MR   | MR       | P             | LT         | TEN + Vibrance        |
| Credenz CZ 3841 LL                  | 3.8       | LL          |                | 2/9          | 3/9  | 3/9      | W             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 3601 LL                  | 3.6       | LL          |                |              |      |          | W             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 4044 LL                  | 4.0       | LL          |                | 3/9          | 4/9  | 3/9      | W             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 4105 LL                  | 4.1       | LL          |                | 3/9          | 3/9  | 2/9      | W             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 4222 LL                  | 4.2       | LL,STS      |                |              | 4/9  | 6/9      | P             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 4308 LL                  | 4.3       | LL          |                |              |      |          | P             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 4548 LL                  | 4.5       | LL          |                |              |      |          | P             | T          | Poncho Votivo + ILeVo |
| Credenz HBK LL4950                  | 4.9       | LL          |                | S            | S    | R        | G             | T          | Poncho, Votivo, ILeVo |
| Credenz CZ 4748 LL                  | 4.7       | LL          |                | 1/9          | 5/9  | 1/9      | W             | T          | Poncho Votivo + ILeVo |
| Credenz HBK LL4953                  | 4.9       | LL          |                | 1/9          | 6/9  | 1/9      | P             | G          | Poncho Votivo + ILeVo |
| Credenz CZ 4820 LL                  | 4.8       | LL          |                |              |      |          | W             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 4918 LL                  | 4.9       | LL          |                |              |      |          | P             | G          | Poncho Votivo + ILeVo |
| Credenz CZ 4938 LL                  | 4.9       | LL          |                |              |      |          | P             | G          | Poncho Votivo + ILeVo |
| Credenz CZ 5150 LL                  | 5.1       | LL          |                | 1/9          | 5/9  | 1/9      | P             | G          | Poncho Votivo + ILeVo |
| Credenz CZ 5242 LL                  | 5.2       | LL          |                | 1/9          | 5/9  | 3/9      | P             | G          | Poncho Votivo + ILeVo |
| Credenz CZ 5147 LL                  | 5.1       | LL          |                | 1/9          | 1/9  | 3/9      | P             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 5445 LL                  | 5.4       | LL          |                | 1/9          | 4/9  | 1/9      | W             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 5225 LL                  | 5.2       | LL,STS      |                |              |      |          | W             | T          | Poncho Votivo + ILeVo |
| Credenz CZ 5328 LL                  | 5.3       | LL          |                |              |      |          | P             | T          | Poncho Votivo + ILeVo |
| Croplan RX4825                      | 4.8       | R2X         | R3, MR14       | R            | R    | R        | P             | LT         | Both F&I              |
| Croplan RX4810                      | 4.8       | R2X         | R3,MR14        | R            |      | R        | P             | LT         | AgriShield F+I        |
| Croplan RX4928                      | 4.9       | R2X         | R3,MR14        | NA           |      | NA       | NA            | NA         | AgriShield F+I        |
| Croplan RX5110                      | 5.1       | R2X         | R3,MR14        | R            |      | NA       | P             | LT         | AgriShield F+I        |
| Dyna-Gro S39XT08                    | 3.9       | R2X         | 3, 14          | MR           | MR   | MR       | P             | G          | Equity VIP            |
| Dyna-Gro S43XS27                    | 4.3       | R2X, STS    | 3, 14          | S            | MR   | MR       | W             | LT         | Equity VIP            |
| Dyna-Gro S41XS98                    | 4.1       | R2X, STS    | 3, 14          | MR           | MR   | MS       | P             | G          | Equity VIP            |
| Dyna-Gro S45XS37                    | 4.5       | R2X, STS    | 3, 14          | R            | MR   | R        | W             | T          | Equity VIP            |
| Dyna-Gro S44XS68                    | 4.4       | R2X, STS    | 3,14           | R            | MR   | R        | P             | LT         | Equity VIP            |
| Dyna-Gro SX18845XT                  | 4.5       | R2X         | 3,14           | R            | MR   | MR       | P             | LT         | Equity VIP            |
| Dyna-Gro S48XT56                    | 4.8       | R2X         | 3, 14          | R            | R    | MR       | P             | LT         | Equity VIP            |

**Table 29. cont.**

| Variety                 | Rel. Mat. | Herb. Tol. <sup>†</sup> | SCN <sup>‡</sup> | Stem Canker <sup>‡</sup> | SDS <sup>‡</sup> | Frogeye <sup>‡</sup> | Flower Color <sup>§</sup> | Pub. Color <sup>  </sup> | Seed Treatment                                 |
|-------------------------|-----------|-------------------------|------------------|--------------------------|------------------|----------------------|---------------------------|--------------------------|--|
| Dyna-Gro S49XS76        | 4.9       | R2X, STS                | 3, 14            | R                        | MR               | MS                   | P                         | LT                       | Equity VIP                                     |
| Dyna-Gro S52XT08        | 5.2       | R2X                     | 3,14             | MR                       | MS               | R                    | W                         | T                        | Equity VIP                                     |
| Dyna-Gro SX18652XS      | 5.2       | R2X, STS                | S                | R                        | MS               |                      | W                         | G                        | Equity VIP                                     |
| GoSoy 43C17S            | 4.3       | CONV                    | 3,14             | R                        | MR               |                      | P                         | T                        | CruiserMaxx Vibrance                           |
| GoSoy E4510S            | 4.5       | CONV                    | 3,14             | R                        | MR               | R                    | P                         | T                        | CruiserMaxx Vibrance                           |
| GoSoy Ireane            | 4.9       | CONV                    | 2,5              | R                        | MR               | R                    | W                         | G                        | CruiserMaxx Vibrance                           |
| GoSoy 49G16             | 4.9       | RR                      | 1,2,3,5,14       | R                        | MR               | R                    | P                         | T                        | CruiserMaxx Vibrance                           |
| GoSoy Leland            | 5.0       | CONV                    | 1,2,3,5,14       | MS                       | R                | MR                   | W                         | T                        | CruiserMaxx Vibrance                           |
| GoSoy 54G16             | 5.4       | RR                      | 3,14             | MR                       | MR               | MR                   |                           |                          | CruiserMaxx Vibrance                           |
| GoSoy 51C17             | 5.1       | CONV                    | 3,14             | R                        | MR               | R                    | P                         | G                        | CruiserMaxx Vibrance                           |
| GoSoy 53C16             | 5.3       | CONV                    | 2,3,5            | R                        | R                | MR                   | P                         | T                        | CruiserMaxx Vibrance                           |
| GoSoy 50G17             | 5.0       | RR                      | 1,2,3,5,14       | R                        | MR               | MS                   | P                         | T                        | CruiserMaxx Vibrance                           |
| Hefty H43X8             | 4.3       | R2X                     | R3, MR14         | R                        | 2.3              | 2.0                  | P                         | G                        | Dominance 2                                    |
| Hefty H45X8S            | 4.5       | R2X                     |                  |                          |                  |                      |                           |                          |  |
| Hefty H46X6             | 4.6       | R2X, STS                | MR3, MR14        | R                        | MR               | 1.9                  | P                         | LT                       | Dominance 2                                    |
| Hefty H49X7S            | 4.9       | R2X, STS                | R3, MR14         | R                        | R                | MR                   | P                         | LT                       | Dominance 2                                    |
| Hefty H48X7             | 4.8       | R2X                     | 3,14             | R                        | R                | R                    | P                         | T                        | Dominance II                                   |
| LG Seeds C4845RX        | 4.8       | R2X                     | R3, MR14         | R                        | R                | R                    | P                         | LT                       | AgriShield F+I+Ilevo                           |
| LG Seeds C4710RX        | 4.7       | R2X                     | R3, MR14         | R                        | MR               | R                    | W                         | B?                       | AgriShield F+I+Ilevo                           |
| LG Seeds LGS4597RX      | 4.5       | R2X                     | R3, MR14         | R                        | MR               | MR                   | P                         | LT                       | AgriShield F+I+Ilevo                           |
| LG Seeds LGS4624RX      | 4.6       | R2X                     | R3, MR14         | MR                       | MR               | MR                   | P                         | T                        | AgriShield F+I+Ilevo                           |
| LG Seeds LGS4989RX      | 4.9       | R2X                     | R3, MR14         | MR                       | N/A              | MR                   | W                         | LT                       | AgriShield F+I+Ilevo                           |
| Local Seed Co. LS4487XS | 4.4       | R2X, STS                |                  |                          |                  |                      | P                         | LT                       | Truis Elite                                    |
| Local Seed Co. LS4565XS | 4.5       | R2X, STS                |                  |                          |                  |                      | S                         | T                        | Truis Elite                                    |
| Local Seed Co. LS4583X  | 4.5       | R2X                     |                  |                          |                  |                      | P                         | LT                       | Truis Elite                                    |
| Local Seed Co. LS4689X  | 4.6       | R2X                     |                  |                          |                  |                      | P                         | T                        | Truis Elite                                    |
| Local Seed Co. AV47W2X  | 4.7       | R2X                     |                  |                          |                  |                      | W                         | G                        | Truis Elite                                    |
| Local Seed Co. LS4966X  | 4.8       | R2X                     |                  |                          |                  |                      | P                         | LT                       | Truis Elite                                    |
| Local Seed Co. LS4889XS | 4.8       | R2X, STS                |                  |                          |                  |                      | P                         | LT                       | Truis Elite                                    |
| Local Seed Co. AV49W3X  | 4.9       | R2X                     |                  |                          |                  |                      |                           |                          | Truis Elite                                    |
| Local Seed Co. LS4968XS | 4.9       | R2X, STS                |                  |                          |                  |                      | P                         | LT                       | Truis Elite                                    |
| Local Seed Co. LS4988X  | 4.9       | R2X                     |                  |                          |                  |                      | P                         | G                        | Truis Elite                                    |
| Local Seed Co. LS4677X  | 4.6       | R2X                     | R3, MR14         | R                        | G                | VG                   | W                         | LT                       |  |
| Local Seed Co. LS5087X  | 5.0       | R2X                     |                  |                          |                  |                      | P                         | LT                       | Truis Elite                                    |
| Mission Seed A4447NSXR2 | 4.4       | R2X                     | YES              | R                        | R                | R                    | P                         | G                        | Revize PBI                                     |
| Mission Seed A4637NSXR2 | 4.6       | R2X                     | YES              | R                        | R                | R                    | P                         | G                        | Revize PBI                                     |
| Mission A4608X          | 4.6       | R2X                     | YES              | R                        | R                | R                    | P                         | G                        | Revize PBI                                     |
| Mission A4618X          | 4.6       | R2X                     | YES              | R                        | R                | R                    | P                         | G                        | Revize PBI                                     |
| Mission A4828X          | 4.8       | R2X                     | YES              | R                        | R                | R                    | P                         | G                        | Revize PBI                                     |
| Mission A4950X          | 4.9       | R2X                     | YES              | R                        | R                | R                    | P                         | G                        | Revize PBI                                     |
| MO S13-2743C            | 4.1       | CONV                    | 3,14             | R                        |                  | MS                   | W                         | G                        | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO S13-10590C           | 4.3       | CONV                    | 5                | R                        | R                | R                    | W                         | T                        | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO S13-3851C            | 4.4       | CONV                    | 5                | R                        |                  | R                    | P                         | LT                       | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO S13-10592C           | 4.5       | CONV                    |                  | R                        | R                | R                    | W                         | T                        | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO S14-9051R            | 4.7       | RR                      | 5                | R                        |                  | R                    | W                         | G                        | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO S14-15-146R          | 4.6       | RR,STS                  |                  | R                        |                  | R                    | W                         | T                        | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO S14-15138R           | 4.8       | RR,STS                  | 3,14             | R                        |                  | R                    | W                         | T                        | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO S14-9017R            | 5.3       | RR                      | 1,3,5            | R                        |                  | R                    | W                         | LT                       | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO S13-1955C            | 5.5       | CONV                    | 3,14             | MS                       | MR               | R                    | W                         | T                        | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |

**Table 29. cont.**

| Variety             | Rel. Mat. | Herb. Tol. <sup>†</sup> | SCN <sup>‡</sup>   | Stem Canker <sup>‡</sup> | SDS <sup>‡</sup> | Frogeye <sup>‡</sup> | Flower Color <sup>§</sup> | Pub. Color <sup>  </sup> | Seed Treatment                                 |
|---------------------|-----------|-------------------------|--------------------|--------------------------|------------------|----------------------|---------------------------|--------------------------|--|
| MO S11-20242C       | 5.1       | CONV                    | 2,3,5,14           | MS                       | R                | R                    | W                         | T                        | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO MO5201D CONV     | 5.3       | CONV                    | 3,14               | R                        | MR               | R                    | W                         | LT                       | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| MO S15-10434        | 5.5       | CONV                    | 1,2,3,5,14         | S                        |                  |                      | P                         | T                        | CruiserMaxx<br>Advanced+Apron<br>XLILEVO+Maxim |
| NK Seed S42-B9XS    | 4.2       | R2X, STS                | 3,14               |                          |                  |                      | P                         | T                        | Clarivia Complete                              |
| NK Seed S45-J3X     | 4.5       | R2X                     | 3,14               |                          |                  |                      | P                         | G                        | Clarivia Complete                              |
| NK Seed S50-G9X     | 5         | R2X                     | 3,14               |                          |                  |                      | P                         | T                        | Clarivia Complete                              |
| Petrus Seed 479 GTS | 4.7       | RR,STS                  | MR3, R14           |                          | R                | S                    | W                         | T                        | Inovate 4.74/cwt                               |
| Petrus Seed 4916 GT | 4.9       | RR                      | MR -<br>1,2,3,5,14 | R                        | MR               | R                    | P                         | T                        | Inovate 4.74/cwt                               |
| Progeny 4247LL      | 4.2       | LL                      |                    | MR                       | MR               | MR                   | SEG                       | LT                       | Poncho 600, Votivo,<br>Trilex 2000             |
| Progeny 4255RX      | 4.2       | R2X                     | R3, MR14           | S                        | MR/MS            | MR/MS                | P                         | G                        | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny 4444RXS     | 4.4       | R2X, STS                | R3, MR14           | R                        | MR/MS            | MR                   | P                         | LT                       | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny P4318RX     | 4.2       | R2X                     | UNKNOW<br>N        | R                        | U                | MR                   | W                         | G                        | Poncho 600, Trilex 2000,<br>Votivo, iLevo      |
| Progeny P4570RXS    | 4.5       | R2X, STS                | R3,MR14            | R                        | MR               | R                    | P                         | G                        | Poncho 600, Trilex 2000,<br>Votivo, iLevo      |
| Progeny 4930LL      | 4.9       | LL                      | MR3                | MR                       | MR               | R                    | P                         | G                        | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny 4757RY      | 4.7       | RR2                     | R3, MR14           | R                        | MR               | R                    | W                         | LT                       | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny 4620RXS     | 4.6       | R2X, STS                | R3, MR14           | R                        | MR               | MR                   | W                         | T                        | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny 4799RXS     | 4.7       | R2X, STS                | R3                 | R                        | MR               | R                    | W                         | LT                       | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny 4816RX      | 4.8       | R2X                     | R3                 | R                        | MR               | MR                   | P                         | LT                       | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny 4851RX      | 4.8       | R2X                     | R3, MR14           | R                        | MR/MS            | MR                   | P                         | LT                       | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny P4955RX     | 4.9       | R2X                     | UNKNOW<br>N        | R                        | U                | MR                   | P                         | G                        | Poncho 600, Trilex 2000,<br>Votivo, iLevo      |
| Progeny P4994RX     | 4.9       | R2X                     | UNKNOW<br>N        | R                        | MR               | U                    | W                         | LT                       | Poncho 600, Trilex 2000,<br>Votivo, iLevo      |
| Progeny 5226RYS     | 5.2       | RR2,STS                 | R3, MR14           | R                        | MR               | MS                   | P                         | LT                       | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny 5414LLS     | 5.4       | LL,STS                  |                    |                          |                  | MR                   | W                         | T                        | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny 5016RXS     | 5         | R2X, STS                | R3, MR14           | R                        | MR               | MR                   | P                         | LT                       | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny P5018RX     | 5.0       | R2X                     | R3,MR14            | R                        | MR               | R                    | P                         | LT                       | Poncho 600, Trilex 2000,<br>Votivo, iLevo      |
| Progeny P5252RX     | 5.2       | R2X                     | UNKNOW<br>N        | R                        | U                | U                    | W                         | G                        | Poncho 600, Trilex 2000,<br>Votivo, iLevo      |
| Progeny P5279RXS    | 5.2       | R2X, STS                | Susc               | R                        | R                | MR                   | P                         | G                        | Poncho 600, Trilex 2000,<br>Votivo, iLevo      |
| Progeny P5554RX     | 5.5       | R2X                     | R-1, R-3           | MR                       | MR               | R                    | W                         | T                        | Poncho 600, Trilex 2000,<br>Votivo, iLevo      |
| Progeny 5752RY      | 5.7       | RR2                     |                    | R                        | MR               | R                    | P                         | T                        | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Progeny 5688RX      | 5.6       | R2X                     | R1, R3             | S                        | MR/MS            | R                    | W                         | T                        | Poncho 600, Votivo,<br>Trilex 2000, iLevo      |
| Taylor 3908X        | 3.9       | R2X                     |                    |                          |                  |                      |                           |                          |  |
| Taylor 4209X        | 4.2       | R2X                     |                    |                          |                  |                      |                           |                          |  |
| Taylor 4308X        | 4.4       | R2X                     |                    |                          |                  |                      |                           |                          |  |
| Taylor 4808X        | 4.8       | R2X                     |                    |                          |                  |                      |                           |                          |  |
| Terral REV 4857X    | 4.8       | R2X                     | 9/3, 9/14          | R                        | R                | S                    | W                         |                          | Apron + EvergolEnergy +<br>Gaucho + PPST2030   |
| Terral REV 4927X    | 4.9       | R2X                     | 9/3, 6/14          | R                        | R                | R                    | P                         |                          | Apron + EvergolEnergy +<br>Gaucho + PPST2030   |
| Terral REV 49L88    | 4.9       | LL                      | 8/3 4/14           | R                        | R                | R                    | W                         |                          | Apron + EvergolEnergy +<br>Gaucho + PPST2030   |
| Terral REV 47L38    | 4.7       | LL                      | 9/3, 6/14          | R                        | R                | R                    | P                         |                          | Apron + EvergolEnergy +<br>Gaucho + PPST2030   |
| Terral REV 46L99    | 4.6       | LL                      | 8/3, 8/14          | R                        |                  | S                    | P                         |                          | Apron + EvergolEnergy +<br>Gaucho + PPST2030   |
| Terral REV 4679X    | 4.6       | R2X                     | 9/3, 8/14          | R                        | R                | R                    | P                         |                          | Apron + EvergolEnergy +<br>Gaucho + PPST2030   |
| TN Exp TN13-4304    | 4.9       | CONV                    |                    | R                        |                  |                      | W                         | G                        | Warden RTA                                     |
| TN Exp TN14-5021    | 4L        | CONV                    | 2,3,5              | R                        |                  |                      | W                         | G                        | Warden RTA                                     |
| TN Exp TN16-520R1   | 4L        | RR                      |                    | R                        |                  |                      | W                         | G                        | Warden RTA                                     |
| TN Exp TN15-4009    | 4.8       | CONV                    | R5                 |                          |                  |                      | W                         | T                        | Warren RTA                                     |

**Table 29. cont.**

| Variety                  | Rel. Mat. | Herb. Tol. <sup>†</sup> | SCN <sup>‡</sup> | Stem Canker <sup>‡</sup> | SDS <sup>‡</sup> | Frogeye <sup>‡</sup> | Flower Color <sup>§</sup> | Pub. Color <sup>  </sup> | Seed Treatment                                      |
|--------------------------|-----------|-------------------------|------------------|--------------------------|------------------|----------------------|---------------------------|--------------------------|---|
| TN Exp TN16-554R1        | 4.9       | RR                      |                  | R                        |                  |                      | W                         | G                        | Warren RTA  |
| TN Exp TN11-5104         | 5E        | CONV                    |                  | R                        |                  |                      | W                         | G                        | Warden RTA  |
| TN Exp TN16-619R1        | 5.0       | RR                      |                  | R                        |                  |                      | W                         | G                        | Warren RTA  |
| TN Exp TN16-630R1        | 5.0       | RR                      |                  | R                        |                  |                      | W                         | G                        | Warren RTA  |
| TN Exp TN16-510R1        | 5.1       | RR                      |                  | R                        |                  |                      | W                         | G                        | Warren RTA  |
| TN Exp TN16-5858R1       | 5.4       | RR                      | R5               | R                        |                  |                      | W                         | G                        | Warren RTA  |
| TN Exp TN16-5004         | 5.8       | CONV                    |                  |                          |                  |                      | W                         | G                        | Warren RTA  |
| USG 7447XTS              | 4.4       | R2X, STS                | R3, MR14         | MS                       | MR               | MS                   | W                         | LT                       | Ipconazole/Metalaxy/Imidiclopid                     |
| USG Ellis                | 4.9       | CONV                    |                  | R                        |                  |                      | W                         | G                        | Ipconazole, Metalaxyl, Imidiclopid                  |
| USG 7487XTS              | 4.8       | R2X, STS                | R3, MR14         | R                        | MR               | MS                   | P                         | G                        | Ipconazole, Metalaxyl, Imidiclopid                  |
| USG 7496XTS              | 4.9       | R2X, STS                | R3, MR14         | R                        | MR               | MS                   | P                         | LT                       | Ipconazole/Metalaxy/Imidiclopid                     |
| USG 74G98L               | 4.9       | LL                      |                  | R                        |                  | R                    | P                         | G                        | Ipconazole/Metalaxy/Imidiclopid                     |
| USG 7489XT               | 4.8       | R2X                     | R3, MR14         | R                        | MR               | MR                   | P                         | LT                       | Ipconazole/Metalaxy/Imidiclopid                     |
| USG 75B75R               | 5.7       | RR2                     | MR14             | R                        | R                | R                    | P                         | T                        | Ipconazole, Metalaxyl, Imidiclopid                  |
| USG 7568XTS              | 5.6       | R2X, STS                | R1,R3            | S                        | MR               | R                    | W                         | T                        | Ipconazole/Metalaxy/Imidiclopid                     |
| USG 5618V                | 5.6       | CONV                    |                  | R                        | MR               | R                    | W                         | T                        | Ipconazole/Metalaxy/Imidiclopid                     |
| VA V14-1219              | 4         | CONV                    |                  |                          |                  |                      | P                         | T                        | Rancona Summitt                                     |
| VA V14-4140              | 4.6       | CONV                    |                  |                          |                  |                      | W                         | T                        | Rancona Summitt                                     |
| VA V13-0113              | 4.6       | RR                      |                  |                          |                  |                      | P                         | T                        | Rancona Summitt                                     |
| VA V14-3762              | 5.0       | CONV                    |                  |                          |                  |                      | P                         | T                        | Rancona Summitt                                     |
| VA V12-0045R2            | 5.6       | RR2                     |                  |                          |                  | R                    | P                         | G                        | Apron Maxx (4 oz/100 lb) + Gaucho 600 (3 oz/100 lb) |
| VA V14-3983              | 5.6       | CONV                    |                  |                          |                  |                      | P                         | T                        | Rancona Summitt                                     |
| VA V12-1416              | 5.6       | RR                      |                  |                          |                  |                      | W                         | G                        | Rancona Summitt                                     |
| Warren Seed BG 3821 RR2X | 3.8       | R2X                     | 3,14             |                          |                  |                      | P                         | G                        | CruiserMaxx   |
| Warren Seed BG 4210 RR2X | 4.2       | R2X                     | 3,14             |                          |                  |                      | P                         | G                        | Cruiser Maxx  |
| Warren Seed BG 4510 RR2X | 4.5       | R2X                     | 3,14             |                          |                  |                      | P                         | LT                       | Cruiser Maxx  |
| Warren Seed BG 4322 RR2X | 4.3       | R2X                     | 3,14             |                          |                  |                      | W                         | LT                       | Cruiser Maxx  |
| Warren Seed BG 4911 RR2X | 4.8       | R2X                     | 3,14             |                          |                  |                      | P                         | LT                       | Cruiser Maxx  |
| Warren Seed BG 4842 RR2X | 4.8       | R2X                     | 3,14             |                          |                  |                      | P                         | G                        | Cruiser Maxx  |
| Warren Seed BG 4922 RR2X | 4.9       | R2X                     | 3,14             |                          |                  |                      | P                         | LT                       | CruiserMaxx   |

† For a full description of abbreviated biotech traits, see table 31.

‡ R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, VS = very susceptible.

§ Flower colors: P = purple, W = white, S = segregating,

|| Pubescence colors: T = tawny, LT = light tawny, B = brown, G = gray, S=segregating

**Table 30. Contact information for soybean seed companies evaluated in yield tests in Tennessee during 2018.**

| Company   | Contact                                       | Phone        | Email  | Web site   |
|---|---|--------------|--|--|
| AgriGold Hybrids                                  | Eddie Kahle (Jackson, TN)                     | 217-823-1198 | <a href="mailto:ed.kahle@agrigold.com">ed.kahle@agrigold.com</a>                   | <a href="http://www.agrigold.com">www.agrigold.com</a>   |
|   | Chad Stanfield (Murfreesboro, TN)             | 731-225-6906 | <a href="mailto:chad.stanfield@agrigold.com">chad.stanfield@agrigold.com</a>       |  |
| Armor Seed  | Lane Dill                                     | 901-233-0274 | <a href="mailto:lanedill@armorseed.com">lanedill@armorseed.com</a>                 | <a href="http://www.armorseed.com">www.armorseed.com</a>   |
| Asgrow (Monsanto)                                 | Larry Ganann (Lakeland, TN)                   | 901-326-7140 | <a href="mailto:larry.w.ganann@monsanto.com">larry.w.ganann@monsanto.com</a>       | <a href="http://www.asgrowanddekalb.com">www.asgrowanddekalb.com</a>   |
| Caverndale Farms                                  | Ag Central Coop                               | 423-745-0443 |  | <a href="http://www.caverndalefarms.com">www.caverndalefarms.com</a>   |
|   | Johnson City Chemical Company                 | 423-257-5079 |  |  |
| Credenz (Bayer)                                   | Lucas Owen                                    | 731-793-3530 | <a href="mailto:lucas.owen@bayer.com">lucas.owen@bayer.com</a>                     | <a href="http://www.cropscience.bayer.us/products/seeds/credenz">www.cropscience.bayer.us/products/seeds/credenz</a> |
| Croplan (WinField Solutions)                      | Caleb Robertson                               | 731-614-5234 | <a href="mailto:clrobertson@landolakes.com">clrobertson@landolakes.com</a>         | <a href="http://www.winfield.com/farmer/croplan/">http://www.winfield.com/farmer/croplan/</a>                        |
| Dyna-Gro (Crop Production Services)               | Jonathan Fant (Union City, TN)                | 731-819-6713 | <a href="mailto:jonathan.fant@cpsagu.com">jonathan.fant@cpsagu.com</a>             | <a href="http://www.dynagroseed.com">www.dynagroseed.com</a>   |
| Hefty Seed Company                                | Barry Gilmore                                 | 573-359-0765 | <a href="mailto:barry.gilmore@heftyseed.com">barry.gilmore@heftyseed.com</a>       | <a href="http://www.heftyseed.com">www.heftyseed.com</a>   |
| LG Seeds  | Dan Mitchell                                  | 812-457-3132 | <a href="mailto:dan.mitchell@lgseeds.com">dan.mitchell@lgseeds.com</a>             | <a href="http://www.lgseeds.com">www.lgseeds.com</a>   |
| Local Seed Company                                | Doug Messersmith                              | 570-419-3692 | <a href="mailto:doug.messersmith@localseed.com">doug.messersmith@localseed.com</a> | <a href="http://www.localseed.com">www.localseed.com</a>   |
| Mission Seed Solutions                            | Sandrick Howard                               | 270-775-3497 | <a href="mailto:sandrick.howard@pinnacleag.com">sandrick.howard@pinnacleag.com</a> | <a href="http://www.pinnacleag.com">www.pinnacleag.com</a>   |
| NK Brand (Syngenta)                               | Chuck Leonard                                 | 270-519-9600 | <a href="mailto:chuck.leonard@syngenta.com">chuck.leonard@syngenta.com</a>         | <a href="http://www.nk-us.com">www.nk-us.com</a>   |
| Petrus Seed & Grain Co., Inc.                     | John Petrus                                   | 870-255-5001 | <a href="mailto:john@petrusseed.com">john@petrusseed.com</a>                       | <a href="http://petrusseed.com">petrusseed.com</a>   |
| Progeny Ag  | Hillary Spain                                 | 870-208-6032 | <a href="mailto:hillary@progenyag.com">hillary@progenyag.com</a>                   | <a href="http://www.progenyag.com">www.progenyag.com</a>   |
| Stratton Seed Company (AgSouth Genetics & Go Soy) | Heath North                                   | 870-830-5889 | <a href="mailto:hnorth@strattonseed.com">hnorth@strattonseed.com</a>               | <a href="http://www.strattonseed.com">www.strattonseed.com</a>   |
| Taylor  | Brad Taylor                                   | 785-595-3236 | <a href="mailto:brad@taylorseedfarms.com">brad@taylorseedfarms.com</a>             | <a href="http://www.taylorseedfarms.com">www.taylorseedfarms.com</a>   |
| Terral Seed Inc                                   | Ricky F. Davis                                | 901-355-2463 | <a href="mailto:rdavis@terralseed.com">rdavis@terralseed.com</a>                   | <a href="http://www.terralseed.com">www.terralseed.com</a>   |
| UniSouth Genetics, Inc. (USG)                     | Fandrich Supply Co. (Belvidere, TN)           | 931-967-3377 |  | <a href="http://www.usgseed.com">www.usgseed.com</a>   |
|   | Huffstetler & Sons Seed Inc. (Greenfield, TN) | 731-235-2167 |  |  |
|   | Hurt Seed Co. Inc. (Halls, TN)                | 731-836-7574 |  |  |
|   | Sellers Seed (Obion, TN)                      | 731-538-2990 |  |  |
| University of Missouri                            | Pengyin Chen                                  | 573-379-5431 | <a href="mailto:chenpe@missouri.edu">chenpe@missouri.edu</a>                       | <a href="http://www.missouri.edu">www.missouri.edu</a>   |
| University of Tennessee                           | Vince Pantalone                               | 865-974-8801 | <a href="mailto:vpantalo@utk.edu">vpantalo@utk.edu</a>                             |  |
| Virginia Tech                                     | Bo Zhang                                      | 540-231-3431 | <a href="mailto:bozhang@vt.edu">bozhang@vt.edu</a>                                 | <a href="http://cropgenetics.cses.vt.edu/soybean-breeding.html">cropgenetics.cses.vt.edu/soybean-breeding.html</a>   |
| Warren Seed                                       | Lanny Warren                                  | 731-234-2921 | <a href="mailto:lanny.warren@charter.net">lanny.warren@charter.net</a>             | <a href="mailto:lanny.warren@charter.net">lanny.warren@charter.net</a>   |

**Table 31. Abbreviations used to identify biotech traits of soybean varieties evaluated in Tennessee during 2018.**

| <b>Abbreviation</b> | <b>Name</b>                      | <b>Characteristic</b>                   |
|---------------------|----------------------------------|---|
| LL                  | Bayer CropScience LibertyLink®   | Glufosinate tolerance.                  |
| RR                  | Monsanto Roundup Ready®          | Glyphosate tolerance.                   |
| RR2                 | Monsanto Roundup Ready 2®        | Glyphosate tolerance.                   |
| R2X                 | Monsanto Roundup Ready 2 eXtend® | Glyphosate tolerance, Dicamba tolerance |
| GT                  |                                  | Glyphosate tolerance.                   |
| STS                 |                                  | Sulfonylurea tolerance                  |