Mississippi Grain Sorghum Hybrid Trials, 2017

Brad Burgess
Director, Research Support/Variety Testing
Mississippi State University

Jake Bullard
Assistant Director, Variety Testing
Mississippi State University

Jeff Gore
Associate Extension/Research Professor
Delta Research and Extension Center

Erick Larson
Associate Extension/Research Professor
Mississippi State University

Jason McQuirter
Research Associate II
Variety Testing
Mississippi State University

Brett Rushing
Assistant Extension/Research Professor
Mississippi State University

Mark Silva
Extension Associate and Program Coordinator
Delta Agricultural Weather Center
Delta Research and Extension Center

Randy Vaughan
Assistant Director, Foundation Seed
Mississippi State University

Joshua White
Manager, Forage Variety Testing
Mississippi State University

For more information, contact Burgess at (662) 325-2390; email, Brad.Burgess@msstate.edu. Recognition is given to research technician Jason Hillhouse of the Variety Trial Program for his assistance in packaging, planting, harvesting, and recording plot data. This publication was prepared by Dixie Albright, office associate for MAFES Research Support Units.

This document was approved for publication as Information Bulletin 525 of the Mississippi Agricultural and Forestry Experiment Station. It was published by the Office of Agricultural Communications, a unit of the Mississippi State University Division of Agriculture, Forestry, and Veterinary Medicine.

Copyright 2017 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi Agricultural and Forestry Experiment Station.

Our website address is mafes.msstate.edu/variety-trials.
Trials were conducted on Experiment Station land and on grower-cooperator fields in two geographical areas in Mississippi: Area I, located in the hill region of Mississippi; and Area II, located in the Delta region of Mississippi (see map). Commercial seed companies were given the opportunity to enter hybrids in the trial.

Plots consisted of various row patterns, depending on the location. Plot sizes were one of the following: (1) two 30-inch-wide, 16-foot-long rows; (2) two 40-inch-wide, 19-foot-long rows; or (3) three 19-inch-wide, 18-foot-long rows. These planting patterns were used to accommodate the producer at each location.

Weeds were controlled by cultivation and/or herbicides. Only herbicides currently registered for use on grain sorghum were used in these studies, with strict adherence to all label instructions.

Experimental design was a randomized complete block with four replications at each location.

Seed of all entries were supplied by participating companies. All seed were packaged for planting at seeding rates suggested by the participating company and planted with a cone planter. Fertilizer was applied according to soil test recommendations.

**Grain Sorghum Performance Measurements**

- **Yield**: An Almaco plot combine was used to harvest the total area of each plot. Harvested grain was weighed, moisture was determined, and yields were converted to bushels per acre at 14% moisture.
- **Head Exertion**: This measurement is the average distance in inches from the flag leaf to the base of the panicle.
- **Grain Moisture**: This measurement is expressed as a percent moisture of grain at harvest.
- **Plant Height**: This measurement is the average height in inches from the soil surface to the top of the grain head.
- **Head Compactness**: This variable was measured on a 1–5 scale: 1 = head short and oval; 2 = head long and slender; 3 = head elongated and oval; 4 = head elongated and rectangular; and 5 = head elongated and open.

**USE OF DATA TABLES AND SUMMARY STATISTICS**

The yield potential of a given hybrid cannot be measured with complete accuracy. Consequently, replicate plots of all hybrids are evaluated for yield, and the yield of a given hybrid is estimated as the mean of all replicate plots of that hybrid. Yields vary somewhat from one replicate plot to another, which introduces a certain degree of error to the value. As a result, although the mean yields of some hybrids are numerically different, the two hybrids may not be significantly different from each other within the range of natural variation. That is, the ability to measure yield is not precise enough to determine what the small differences are, other than what might be observed purely by chance.

The least significant difference (LSD) is an estimate of the smallest difference between two hybrids that can be declared to be the result of something other than random variation in a particular trial. Consider the following example for a given trial:
The coefficient of variation (CV) is a measure of the relative precision of a given trial and is used to compare the relative precision of different trials. The CV is generally considered an estimate of the amount of unexplained variation in a given trial. This unexplained variation can be the result of variation between plots with respect to soil type, fertility, insects, diseases, moisture stress, etc. Overall, as the CV increases, the precision of a given trial decreases.

The coefficient of determination ($R^2$) is another measure of the level of precision in a trial and is also used to compare the relative precision of different trials. The $R^2$ is a measure of the amount of variation that is explained, or accounted for, in a given trial. For example, an $R^2$ value of 90 percent indicates that 90 percent of the observed variation in the trial has been accounted for in the trial, with the remaining 10 percent being unaccounted for. The higher the $R^2$ value, the more precise the trial. The $R^2$ is generally considered a better measure of precision than the CV for comparison of different trials.

### Table 1. Hybrids entered in the Mississippi Grain Sorghum Hybrid Trials, 2017.

<table>
<thead>
<tr>
<th>Company</th>
<th>Brand</th>
<th>Hybrid</th>
<th>Nonirrigated planting rate (x1000)</th>
<th>Irrigated planting rate (x1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromatin Inc.</td>
<td>Chromatin Inc.</td>
<td>CHR2042</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Chromatin Inc.</td>
<td>Chromatin Inc.</td>
<td>CHR0029</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Monsanto</td>
<td>DeKalb</td>
<td>DKS54-00</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td>Monsanto</td>
<td>DeKalb</td>
<td>DKS53-67</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td>Monsanto</td>
<td>DeKalb</td>
<td>DKS53-53</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td>Monsanto</td>
<td>DeKalb</td>
<td>DKS51-01</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td>Crop Production Services</td>
<td>Dyna-Gro</td>
<td>M60GB31</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Crop Production Services</td>
<td>Dyna-Gro</td>
<td>GX16855</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Crop Production Services</td>
<td>Dyna-Gro</td>
<td>GX16833</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Crop Production Services</td>
<td>Dyna-Gro</td>
<td>GX15371</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Crop Production Services</td>
<td>Dyna-Gro</td>
<td>GX17818</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Crop Production Services</td>
<td>Dyna-Gro</td>
<td>M73GR55</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Crop Production Services</td>
<td>Dyna-Gro</td>
<td>M74GB17</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>DuPont Pioneer</td>
<td>Pioneer</td>
<td>84P80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>DuPont Pioneer</td>
<td>Pioneer</td>
<td>83P99</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>DuPont Pioneer</td>
<td>Pioneer</td>
<td>83P17</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Chromatin Inc.</td>
<td>Sorghum Partners</td>
<td>SP7715</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Chromatin Inc.</td>
<td>Sorghum Partners</td>
<td>NK6638</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Chromatin Inc.</td>
<td>Sorghum Partners</td>
<td>SP 78M30</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Terral Seed</td>
<td>Terral</td>
<td>REV 9924</td>
<td>85</td>
<td>95</td>
</tr>
<tr>
<td>Terral Seed</td>
<td>Terral</td>
<td>REV 9782</td>
<td>85</td>
<td>95</td>
</tr>
<tr>
<td>Terral Seed</td>
<td>Terral</td>
<td>REV 9562</td>
<td>85</td>
<td>95</td>
</tr>
</tbody>
</table>
Table 2. 2017 yield summary of grain sorghum hybrid trials in Mississippi.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Hybrid</th>
<th>Stoneville</th>
<th>Walker’s Gin</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>bu/A</td>
<td>bu/A</td>
<td>bu/A</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS51-01</td>
<td>131.0</td>
<td>98.5</td>
<td>114.8</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS53-53</td>
<td>129.5</td>
<td>102.9</td>
<td>116.2</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS53-67</td>
<td>128.3</td>
<td>105.7</td>
<td>117.0</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS54-00</td>
<td>114.1</td>
<td>80.7</td>
<td>97.4</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX15371</td>
<td>119.3</td>
<td>104.7</td>
<td>112.0</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX16855</td>
<td>120.5</td>
<td>98.9</td>
<td>109.7</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX17818</td>
<td>109.4</td>
<td>87.9</td>
<td>98.7</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M60GB31</td>
<td>103.9</td>
<td>104.6</td>
<td>104.2</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX16855</td>
<td>105.5</td>
<td>93.6</td>
<td>99.6</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M73GR55</td>
<td>134.1</td>
<td>101.3</td>
<td>117.7</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M74GB17</td>
<td>118.3</td>
<td>97.8</td>
<td>108.0</td>
</tr>
<tr>
<td>Pioneer</td>
<td>B3P17</td>
<td>118.6</td>
<td>85.5</td>
<td>102.1</td>
</tr>
<tr>
<td>Pioneer</td>
<td>B3P99</td>
<td>120.6</td>
<td>93.1</td>
<td>106.9</td>
</tr>
<tr>
<td>Pioneer</td>
<td>B4P80</td>
<td>120.5</td>
<td>106.3</td>
<td>113.4</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>CHR0029</td>
<td>98.0</td>
<td>99.0</td>
<td>98.5</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>CHR2042</td>
<td>103.2</td>
<td>91.8</td>
<td>97.5</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>NK6638</td>
<td>103.0</td>
<td>69.9</td>
<td>86.5</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>SP7715</td>
<td>99.6</td>
<td>93.9</td>
<td>96.8</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>SP78M30</td>
<td>88.6</td>
<td>79.2</td>
<td>83.9</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9562</td>
<td>118.0</td>
<td>89.9</td>
<td>103.9</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9782</td>
<td>124.1</td>
<td>96.3</td>
<td>110.2</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9924</td>
<td>112.7</td>
<td>91.5</td>
<td>102.1</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>114.6</td>
<td>94.2</td>
<td>104.4</td>
</tr>
<tr>
<td>CV</td>
<td></td>
<td>8.0</td>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>LSD (0.05)</td>
<td></td>
<td>13.0</td>
<td>15.9</td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td>70</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Error DF</td>
<td></td>
<td>70</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>
### Table 3. Two-year summary of grain sorghum hybrid trials in Mississippi.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Hybrid</th>
<th>Stoneville</th>
<th>Walker's Gin</th>
<th>Overall average</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeKalb</td>
<td>DKS51-01</td>
<td>113.4</td>
<td>105.5</td>
<td>109.4</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS53-53</td>
<td>119.9</td>
<td>111.6</td>
<td>115.7</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS53-67</td>
<td>113.8</td>
<td>119.8</td>
<td>116.8</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS54-00</td>
<td>109.5</td>
<td>99.7</td>
<td>104.6</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX15371</td>
<td>100.1</td>
<td>120.7</td>
<td>110.4</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M60GB31</td>
<td>91.4</td>
<td>106.5</td>
<td>99.0</td>
</tr>
<tr>
<td>Pioneer</td>
<td>83P17</td>
<td>112.9</td>
<td>109.6</td>
<td>111.2</td>
</tr>
<tr>
<td>Pioneer</td>
<td>83P99</td>
<td>114.3</td>
<td>105.3</td>
<td>109.8</td>
</tr>
<tr>
<td>Pioneer</td>
<td>84P80</td>
<td>109.9</td>
<td>120.3</td>
<td>115.1</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>CHR0029</td>
<td>86.4</td>
<td>107.3</td>
<td>96.9</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>CHR2042</td>
<td>94.3</td>
<td>95.9</td>
<td>95.1</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>NK6638</td>
<td>93.2</td>
<td>80.9</td>
<td>87.0</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>SP7715</td>
<td>97.1</td>
<td>109.3</td>
<td>103.2</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>SP78M30</td>
<td>81.9</td>
<td>92.8</td>
<td>87.3</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9562</td>
<td>112.4</td>
<td>88.4</td>
<td>100.4</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9782</td>
<td>111.7</td>
<td>96.1</td>
<td>103.9</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9924</td>
<td>102.6</td>
<td>101.3</td>
<td>102.0</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>103.8</td>
<td>104.2</td>
<td>104.0</td>
</tr>
</tbody>
</table>

### Table 4. Three-year average of grain sorghum hybrid trials in Mississippi.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Hybrid</th>
<th>Stoneville</th>
<th>Walker's Gin</th>
<th>Overall average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyna-Gro</td>
<td>M60GB31</td>
<td>100.7</td>
<td>117.0</td>
<td>108.9</td>
</tr>
<tr>
<td>Pioneer</td>
<td>83P17</td>
<td>112.0</td>
<td>129.9</td>
<td>120.9</td>
</tr>
<tr>
<td>Pioneer</td>
<td>83P99</td>
<td>113.4</td>
<td>127.4</td>
<td>120.4</td>
</tr>
<tr>
<td>Pioneer</td>
<td>84P80</td>
<td>104.8</td>
<td>132.5</td>
<td>118.7</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>NK6638</td>
<td>96.9</td>
<td>105.6</td>
<td>101.3</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>SP7715</td>
<td>99.0</td>
<td>125.1</td>
<td>112.1</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9562</td>
<td>112.7</td>
<td>98.9</td>
<td>105.8</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9782</td>
<td>119.0</td>
<td>109.0</td>
<td>114.0</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9924</td>
<td>104.1</td>
<td>117.1</td>
<td>110.6</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>107.0</td>
<td>118.1</td>
<td>112.5</td>
</tr>
</tbody>
</table>
Crop Summary

The grain sorghum plots were planted into a well-prepared seedbed where the tops of the beds were do-alled just prior to planting. Soil moisture was adequate at planting, and all plots germinated quickly and emerged to a stand. Three insecticide applications were made to prevent any damage from pests during the season. The plots were harvested in a timely manner without difficulties.

Planting date . . . .May 9
Harvest date . . . .September 8
Soil type . . . . . . . .Bosket and Beulah very fine sandy loam
Soil pH . . . . . . . .6.8
Soil fertility . . . . . P= H, K= H
Fertilizer . . . . . . . .N @ 120 lb/A (32% UAN)
Herbicides . . . . . Preemergence — Atrazine @ 1 qt/A and Dual II Magnum @ 1.33 pt/A
Postemergence — Plow and Layby with Atrazine @ 1 qt/A + Dual @ 1/33 pt/A on June 14
Insecticides . . . .Karatez @ 2 oz/A (Midge) on July 5 and July 10; Transform @ 1 oz/A (sugarcane aphid) on August 2
Previous crop . . .Cotton

Rainfall Summary

<table>
<thead>
<tr>
<th>Month</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>3.26</td>
</tr>
<tr>
<td>June</td>
<td>5.06</td>
</tr>
<tr>
<td>July</td>
<td>6.53</td>
</tr>
<tr>
<td>August</td>
<td>5.48</td>
</tr>
<tr>
<td>September</td>
<td>0.30</td>
</tr>
<tr>
<td>Total</td>
<td>20.63</td>
</tr>
</tbody>
</table>
Table 5. Performance results of 22 hybrids grown with furrow irrigation at MAFES Delta Branch, Stoneville, 2017.

<table>
<thead>
<tr>
<th>Brand</th>
<th>Hybrid</th>
<th>2017 yield</th>
<th>2-year average</th>
<th>3-year average</th>
<th>Plant height</th>
<th>Head exertion</th>
<th>Head compactness</th>
<th>Moisture content</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>bu/A</td>
<td>bu/A</td>
<td>bu/A</td>
<td>in</td>
<td>in</td>
<td>(1-5)</td>
<td>%</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M73GR55</td>
<td>134.1</td>
<td>—</td>
<td>—</td>
<td>55</td>
<td>2</td>
<td>1</td>
<td>9.0</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS51-01</td>
<td>131.0</td>
<td>113.4</td>
<td>—</td>
<td>58</td>
<td>6</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS53-53</td>
<td>129.5</td>
<td>119.9</td>
<td>—</td>
<td>57</td>
<td>3</td>
<td>1</td>
<td>9.7</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS53-67</td>
<td>128.3</td>
<td>113.8</td>
<td>—</td>
<td>58</td>
<td>9</td>
<td>2</td>
<td>9.6</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9782</td>
<td>124.1</td>
<td>111.7</td>
<td>119.0</td>
<td>49</td>
<td>4</td>
<td>2</td>
<td>9.0</td>
</tr>
<tr>
<td>Pioneer</td>
<td>83P99</td>
<td>120.6</td>
<td>114.3</td>
<td>113.4</td>
<td>51</td>
<td>4</td>
<td>1</td>
<td>8.6</td>
</tr>
<tr>
<td>Pioneer</td>
<td>84P80</td>
<td>120.5</td>
<td>109.9</td>
<td>104.8</td>
<td>54</td>
<td>6</td>
<td>4</td>
<td>8.5</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX16855</td>
<td>120.5</td>
<td>—</td>
<td>—</td>
<td>55</td>
<td>3</td>
<td>1</td>
<td>8.5</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX16571</td>
<td>119.3</td>
<td>100.1</td>
<td>—</td>
<td>54</td>
<td>4</td>
<td>2</td>
<td>8.4</td>
</tr>
<tr>
<td>Pioneer</td>
<td>83P17</td>
<td>118.6</td>
<td>112.9</td>
<td>112.0</td>
<td>54</td>
<td>3</td>
<td>2</td>
<td>9.7</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M74GB17</td>
<td>118.3</td>
<td>—</td>
<td>—</td>
<td>57</td>
<td>6</td>
<td>2</td>
<td>8.8</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9562</td>
<td>118.0</td>
<td>112.4</td>
<td>112.7</td>
<td>53</td>
<td>7</td>
<td>3</td>
<td>8.7</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS54-00</td>
<td>114.1</td>
<td>109.5</td>
<td></td>
<td>52</td>
<td>6</td>
<td>3</td>
<td>9.7</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9924</td>
<td>112.7</td>
<td>102.6</td>
<td>104.1</td>
<td>56</td>
<td>4</td>
<td>2</td>
<td>8.4</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX17818</td>
<td>109.4</td>
<td>—</td>
<td>—</td>
<td>54</td>
<td>4</td>
<td>2</td>
<td>8.5</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX16855</td>
<td>105.5</td>
<td>—</td>
<td>—</td>
<td>57</td>
<td>5</td>
<td>2</td>
<td>8.6</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M60GB31</td>
<td>103.9</td>
<td>91.4</td>
<td>100.7</td>
<td>54</td>
<td>8</td>
<td>5</td>
<td>8.2</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>CHR2042</td>
<td>103.2</td>
<td>94.3</td>
<td>—</td>
<td>56</td>
<td>4</td>
<td>5</td>
<td>10.7</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>NK6638</td>
<td>103.0</td>
<td>93.2</td>
<td>96.9</td>
<td>56</td>
<td>4</td>
<td>4</td>
<td>7.9</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>SP7715</td>
<td>99.6</td>
<td>97.1</td>
<td>99.0</td>
<td>57</td>
<td>5</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>CHR0029</td>
<td>98.0</td>
<td>86.4</td>
<td>—</td>
<td>56</td>
<td>4</td>
<td>2</td>
<td>9.9</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>SP78M30</td>
<td>88.6</td>
<td>81.9</td>
<td>—</td>
<td>51</td>
<td>6</td>
<td>4</td>
<td>9.0</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>114.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CV</td>
<td></td>
<td>8.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSD (0.05)</td>
<td></td>
<td>13.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td>70.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error DF</td>
<td></td>
<td>70.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crop Summary

All grain sorghum plots were planted into a stale seedbed, prepared the previous fall. Soil moisture was adequate at planting for germination. All plots emerged to a stand. Only one application of Sivanto insecticide was required during the growing season to control the presence of sugarcane aphids. Harvest was completed in a timely manner without delays.

Planting date . . . .April 25
Harvest date . . . .September 11
Soil type . . . . . . . .Mathiston silt loam
Soil pH . . . . . . . .5.8
Soil fertility . . . . .P= M, K= M
Fertilizer . . . . . .N @ 55 lb/A (Urea) and 9-23-30 @ 200 lb/A on May 3; N @ 25 lb/A (33-0-0) on June 29
Herbicides . . . . . .Preemergence — Lexar @ 2 qt/A on April 28
Postemergence — Atrazine @ 1 qt/A, Huskie @ 1 pt/A, and Me-Too Lachlor II @ 1 pt/A on May 25
Insecticides . . . . .Prevathon @ 14 oz/A (sorghum headworm) on July 19; Sivanto @ 4 oz/A (sugarcane aphid) on June 30
Previous crop . . . .Soybean

Rainfall Summary

<table>
<thead>
<tr>
<th>Month</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>1.64</td>
</tr>
<tr>
<td>May</td>
<td>7.77</td>
</tr>
<tr>
<td>June</td>
<td>6.94</td>
</tr>
<tr>
<td>July</td>
<td>1.93</td>
</tr>
<tr>
<td>August</td>
<td>8.43</td>
</tr>
<tr>
<td>September</td>
<td>1.09</td>
</tr>
<tr>
<td>Total</td>
<td>27.80</td>
</tr>
<tr>
<td>Brand</td>
<td>Hybrid</td>
</tr>
<tr>
<td>---------------</td>
<td>----------</td>
</tr>
<tr>
<td>Pioneer</td>
<td>84P80</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS53-67</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX15371</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M60GB31</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS53-53</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M73GR55</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>CHR0029</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX16855</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS51-01</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>M74GB17</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9782</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>SP7715</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX16855</td>
</tr>
<tr>
<td>Pioneer</td>
<td>83P99</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>CHR2042</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9924</td>
</tr>
<tr>
<td>Terral</td>
<td>REV 9562</td>
</tr>
<tr>
<td>Dyna-Gro</td>
<td>GX17818</td>
</tr>
<tr>
<td>Pioneer</td>
<td>83P17</td>
</tr>
<tr>
<td>DeKalb</td>
<td>DKS54-00</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>SP78M30</td>
</tr>
<tr>
<td>Sorghum Partners</td>
<td>NK6638</td>
</tr>
</tbody>
</table>

Mean 94.2
CV 12.1
LSD (0.05) 15.9
R² 48
Error DF 70
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom Allen</td>
<td>Plant Pathologist</td>
<td>Delta Research and Extension Center</td>
</tr>
<tr>
<td>Wes Burger</td>
<td>Associate Director</td>
<td>Mississippi Agricultural and Forestry Experiment Station</td>
</tr>
<tr>
<td>Joe Camp</td>
<td>Industry Representative</td>
<td>Agriliance</td>
</tr>
<tr>
<td>Greg Ferguson</td>
<td>Industry Representative</td>
<td>Monsanto</td>
</tr>
<tr>
<td>Phillip Good</td>
<td>Producer Representative</td>
<td></td>
</tr>
<tr>
<td>Jeff Hollowell</td>
<td>Industry Representative</td>
<td>DuPont Pioneer</td>
</tr>
<tr>
<td>Erick Larson</td>
<td>Associate Professor</td>
<td>MSU Plant and Soil Sciences</td>
</tr>
<tr>
<td>Turner Massey</td>
<td>Producer Representative</td>
<td></td>
</tr>
<tr>
<td>Reuben Moore</td>
<td>Associate Director</td>
<td>Mississippi Agricultural and Forestry Experiment Station</td>
</tr>
<tr>
<td>Mike Phillips</td>
<td>Department Head</td>
<td>Plant and Soil Sciences</td>
</tr>
<tr>
<td>Charlie Stokes</td>
<td>Area Agronomy Agent</td>
<td>MSU Extension Service</td>
</tr>
<tr>
<td>Glover Triplett</td>
<td>Agronomist</td>
<td>MSU Plant and Soil Sciences</td>
</tr>
<tr>
<td>Joshua White</td>
<td>Manager, Forage Variety Testing</td>
<td>Mississippi State University</td>
</tr>
<tr>
<td>Paul Williams</td>
<td>(Chair)</td>
<td>Research Geneticist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA Agricultural Research Service</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crop Science Research Laboratory</td>
</tr>
</tbody>
</table>
NOTICE TO USER

This Mississippi Agricultural and Forestry Experiment Station information bulletin is a summary of research conducted under project number MIS 1414 at locations shown on the map on the second page. It is intended for colleagues, cooperators, and sponsors. The interpretation of data presented in this report may change after additional experimentation. Information included is not to be construed as a recommendation for use or as an endorsement of a specific product by Mississippi State University or the Mississippi Agricultural and Forestry Experiment Station.

This report contains data generated as part of the Mississippi Agricultural and Forestry Experiment Station research program. Joint sponsorship by the organizations listed on page 2 is gratefully acknowledged.

Trade names of commercial products used in this report are included only for clarity and understanding. All available names (i.e., trade names, chemical names, etc.) of products used in this research project are listed on page 2.
The mission of the Mississippi Agricultural and Forestry Experiment Station and the College of Agriculture and Life Sciences is to advance agriculture and natural resources through teaching and learning, research and discovery, service and engagement which will enhance economic prosperity and environmental stewardship, to build stronger communities and improve the health and well-being of families, and to serve people of the state, the region and the world.

Mention of a trademark or proprietary product does not constitute a guarantee or warranty of the product by the Mississippi Agricultural and Forestry Experiment Station and does not imply its approval to the exclusion of other products that also may be suitable.

Discrimination based on race, color, ethnicity, sex (including pregnancy and gender identity), religion, national origin, disability, age, sexual orientation, genetic information, status as a U.S. veteran, and/or any other status protected by state or federal law is prohibited in all employment decisions.