

# 2016 Corn Hybrid Demonstration Program Results

---

**Coordinator:** Dr. Erick Larson

**Extension Associate:** Jenny Bibb

**Supervisors:** Preston Aust, Andy Braswell, Dr. Bill Burdine, Jimbo Burkhalter, Jon Carson, Alex Deason, Dr. Ernie Flint, Judd Gentry, Craig Hankins, Kyle Lewis, Reid Nevins, Michael Pruitt, Dr. Dennis Reginelli, Dr. Mark Shankle, Dr. Randy Smith, Lester Stephens, and Charlie Stokes

**Cooperators:** Ernest Bledsoe, Chad Boese, Boyer Britt, Pierce Brown, Mallory Chism, Charles Dana, Travis Dunn, Tommy Garrett, Guedon Farms, Matt Knight, Lagniappe Planting Co., Lakeland Planting Co., Thornton Marley, Danny Mashburn, Don Mitchell, Tony Morgan, Danny Murphy, Pilkinton-Dantzler Farms, Dustin Roberts, Steve Skelton and David Taylor.

**Program Summary:** The Corn Hybrid Demonstration Program is intended to provide corn growers, crop consultants and other ag professionals first-hand opportunity to observe performance of elite hybrids and generate information to better assess hybrid performance and adaptability in Mississippi. This program provides a unique opportunity to observe and evaluate plant characteristics and environmental responses of our best corn hybrids in local, on-farm demonstration plots representing Mississippi's production systems.

**Program Summary:** Hybrids selected for this program must be validated by producing superior grain yield in the Mississippi Corn for Grain Hybrid Trials or be a relevant market standard. Hybrids are selected annually and grouped into two distinct sets based upon performance in dryland or irrigated culture, since these cropping systems are both prevalent and are significantly affect corn hybrid adaptability in Mississippi. Seed companies are granted the discretion to enter the hybrid which has demonstrated superior performance in the Mississippi Corn for Grain Hybrid Trials, or a newly-released hybrid which they feel is more promising or better adapted. This establishes a very elite group of corn hybrids for evaluation in the program. Each standardized set of hybrids is grown at numerous field locations representing Mississippi cropping systems. Mississippi State University Extension Service regional agronomic crop specialists and county agricultural agents coordinate locations with grower cooperators and supervise plots during the season.

Hybrid characteristics are rated relative to other entries within the respective set of hybrids (irrigated or dryland) grown at various locations. Thus, these relative rankings are not intended to compare to other commercial hybrids available in the market.

**Grain Yield Data:** Hybrids evaluated in this program are generally planted in "strip trials." Yield data generated from a single location are not as reliable as when treatments are replicated numerous times. Treatment replication reduces the effect of numerous factors which can impart variability that may affect performance and confound results. Thus, average yields are calculated from data collected at multiple locations and presented in this publication to better assess yield performance related to *hybrid genetics*. Analyses of yield data were performed with SAS using GLM procedures, and means are separated at the 0.05 level. This yield data derived from numerous, diverse environments is intended to supplement data generated in university hybrid trials.

**Technology Traits:** All hybrid entries are glyphosate tolerant. Inclusion of other traits is optional and is primarily based on product availability and the discretion of the respective seed companies. Corn borer protection normally enhances yield at locations where corn borers are present. All seed are commercially treated with an



**MISSISSIPPI STATE UNIVERSITY™  
EXTENSION**

insecticide seed treatment, which is at the discretion of each respective seed company. Seed treatments are utilized to minimize damage from insect pests, during seedling establishment.

**Relative Maturity:** Maturity is measured and reported as the number of days to tassel, as well as relative number of days to physiological maturity (black layer or about 30% grain moisture). This does not include additional time for the crop to dry to a desirable harvest moisture.

**Plant Height:** This is reported as full plant height after tassel emergence. Plant height is one of several factors which may affect light interception, which is critical to photosynthesis and grain yield. Short plant height may reduce potential light interception, particularly in wide rows. Tall plants are generally more likely to lodge and will likely have higher water demand during the growing season.

**Ear Height:** This is a relative rating of ear height relative to plant height for each specific hybrid in the program. High ear placement may promote more efficient energy utilization in the plant, as leaves in the upper canopy intercept more light and produce more photosynthetic energy for the developing ear. However, high ear placement may make plants more top-heavy and thus more prone to lodge when exposed to strong wind.

**Greensnap:** This is a relative rating to resist greensnap, which is a condition where corn stalks are completely broken off by high winds. This usually occurs during mid to late vegetative growth stages when the stalk is rapidly developing and may be brittle and vulnerable to break, if exposed to high wind. These damaged stalks normally break below where ears normally develop. Thus, these damaged plants rarely produce a viable ear.

**Root Strength:** This is a relative rating to resist root lodging between hybrids in this program. Root lodging occurs when the force caused by wind exceeds the roots' ability to stabilize plants and keep them erect. This causes the entire stalk to lean or completely fall from ground level, often dislodging part of the root system from the soil. This often creates a "domino effect," causing lodging in sizable portions of a field. Root lodging normally occurs as plants approach physiological maturity, because the mass of the plant is greatest at this time. Root lodging may considerably hinder harvest efficiency, because plants lay nearly flat on the ground and are partially uprooted from the soil, making stalks difficult to pick up and flow into a combine.

**Stalk Strength:** This depicts a hybrid's ability to resist stalk lodging, which is when the lower stalk bends, collapses or breaks above ground level. Stalk lodging often increases when harvest is delayed by inclement weather, which promotes stalk deterioration. Stalk lodging is often more prevalent than root lodging, but is generally less troublesome because timely harvest can mediate issues and combines can still gather stalks.

**Stalk Integrity:** Stalk integrity is a characterization of the plant's ability to maintain integrity after physiological maturity. Late-season stress and adverse weather often promote plant deterioration during the time between physiological maturity and harvest. Poor stalk integrity may appear as shriveled, shredded or dislodged leaves, and brittle or broken stalks, particularly above the ear.

**Yield Components:** Corn grain yield is determined by the total number of kernels produced and kernel weight. Kernel number is comprised by the number of kernel rows an ear produces and the number of kernels per row. Each of these traits are determined during different growing stages. Kernel row number is determined during late vegetative stages and is the first yield component determined by the plant. Kernel number is primarily determined during the first few weeks after pollination as young kernels develop until the milk stage. Kernel weight is the final yield component determined and is largely dependent upon favorable conditions from dough stage until physiological maturity.

**Test Weight:** Test weight is a measurement of grain bulk density and an indicator of general grain quality. It is a standard component used to assess official grain grade for commercial trade.

*Copyright 2016 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 Mississippi State University Extension.*

*We are an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law.*

# MSU Corn Hybrid Demonstration Program

2016 Grain Yield Summary (bu/a)

## Irrigated Locations

| Brand            | Hybrid        | Rolling      |                |                   |                          |                              |                  |             |                |                            | Average Yield*  |
|------------------|---------------|--------------|----------------|-------------------|--------------------------|------------------------------|------------------|-------------|----------------|----------------------------|-----------------|
|                  |               | Indianola    | Schlater       | Malvina           | Fork                     | Belzoni                      | Steiner          | Itta Bena   | Goodman        | Sumner                     |                 |
| Agrigold         | A6659 VT2 RIB | 227          | 148            | 203               | 206                      | 194                          | 212              | 238         | 206            | 201                        | <b>204</b> AB   |
| Agrigold         | A6711 VT2PRO  | 247          | 178            | 193               | 186                      | 197                          | 230              | 228         | 199            | 204                        | <b>207</b> A    |
| Armor            | 1717 PRO2     | 237          | 154            | 190               | 190                      | 199                          | 217              | 233         | 212            | 198                        | <b>203</b> AB   |
| Augusta          | 7768 GT3110   | 231          | 173            | 178               | 178                      | 184                          | 201              | 227         | 210            | 181                        | <b>196</b> ABCD |
| Augusta          | 8868 VT3PRO   | 233          | 140            | 182               | 209                      | 188                          | 212              | 244         | 195            | 188                        | <b>199</b> ABC  |
| Croplan Genetics | 6640VT3P      | 229          | 159            | 197               | 211                      | 185                          | 190              | 243         | 192            | 186                        | <b>199</b> ABC  |
| Croplan Genetics | 7927VT3P      | 208          | 139            | 181               | 208                      | 178                          | 210              | 234         | 170            | 162                        | <b>188</b> CD   |
| DEKALB           | DKC66-59      | 235          | 160            | 193               | 206                      | 178                          | 209              | 240         | 180            | 182                        | <b>198</b> ABCD |
| DEKALB           | DKC67-72      | 236          | 166            | 197               | 214                      | 185                          | 220              | 237         | 199            | 183                        | <b>204</b> AB   |
| DEKALB           | DKC68-26      | 238          | 156            | 196               | 211                      | 191                          | 217              | 229         | 210            | 180                        | <b>203</b> AB   |
| Dyna Gro         | D57VP51       | 265          | 155            | 169               | 204                      | 198                          | 212              | 235         | 221            | 191                        | <b>205</b> AB   |
| Dyna Gro         | D57VP75       | 208          | 144            | 169               | 205                      | 189                          | 215              | 179         | 180            | 191                        | <b>187</b> D    |
| Mycogen          | 2D848         | 215          | 169            | 177               | 187                      | 232                          | 198              | 233         | 201            | 170                        | <b>198</b> ABCD |
| Pioneer          | 1197YHR       | 220          | 164            | 179               | 193                      | 196                          | 209              | 217         | 213            | 177                        | <b>197</b> ABCD |
| Terral           | REV® 23BHR55™ | 239          | 148            | 183               | 195                      | 193                          | 215              | 207         | 217            | 192                        | <b>199</b> ABC  |
| Terral           | REV® 25BHR26™ | 260          | 149            | 190               | 205                      | 173                          | 227              | 222         | 206            | 187                        | <b>202</b> AB   |
| Terral           | REV® 26BHR50™ | 230          | 167            | 182               | 201                      | 148                          | 229              | 241         | 199            | 153                        | <b>195</b> BCD  |
| Location Average |               | <b>233</b>   | <b>157</b>     | <b>186</b>        | <b>200</b>               | <b>189</b>                   | <b>213</b>       | <b>230</b>  | <b>201</b>     | <b>184</b>                 | <b>199</b>      |
| Soil Type        |               | Sharkey clay | Alligator clay | Dundee silty clay | Commerce silty clay loam | Forrestsdale silty clay loam | Dundee silt loam | Dundee loam | Mantachie loam | Dubbs very fine sandy loam |                 |
| Planting Date    |               | 9-Apr        | 26-Apr         | 8-Apr             | 11-Apr                   | 8-Apr                        | 23-Mar           | 7-Apr       | 26-Apr         | 26-Apr                     |                 |

\* Grain yields were analyzed and average yield values represented with the same letter are not significantly different ( $P < 0.05$ ).



**MISSISSIPPI STATE UNIVERSITY™**  
**EXTENSION**

# MSU Corn Hybrid Demonstration Program

## Irrigated Entries

### Plant Characteristic Ratings

| Brand            | Hybrid        | Plant Ht<br>(feet) | Ear Height | Greensnap<br>Tolerance | Root<br>Strength | Stalk<br>Strength | Stalk<br>Integrity | Test Wt<br>(lbs/bu) | Yield Components |                    |                    |
|------------------|---------------|--------------------|------------|------------------------|------------------|-------------------|--------------------|---------------------|------------------|--------------------|--------------------|
|                  |               |                    |            |                        |                  |                   |                    |                     | Kernel<br>Rows   | Kernels<br>per row | Seed Wt<br>(g/250) |
| Agrigold         | A6659 VT2 RIB | 9.1                | Medium     | Low                    | Medium           | High              | Med-High           | 58.7                | 14.1             | 38                 | 89                 |
| Agrigold         | A6711 VT2PRO  | 9.3                | Medium     | High                   | High             | Medium            | Medium             | 58.4                | 15.5             | 38                 | 81                 |
| Armor            | 1717 PRO2     | 9.8                | Low        | Med-High               | High             | Low               | Medium             | 59.6                | 15.7             | 39                 | 81                 |
| Augusta          | 7768 GT3110   | 9.9                | Low        | High                   | Very Low         | Very Low          | Med-Low            | 56.9                | 15.3             | 35                 | 81                 |
| Augusta          | 8868 VT3PRO   | 9.6                | Medium     | Medium                 | Med-High         | Medium            | Medium             | 57.5                | 15.6             | 34                 | 87                 |
| Croplan Genetics | 6640VT3P      | 9.2                | Low        | High                   | Med-High         | Medium            | Low                | 59.1                | 16.6             | 37                 | 78                 |
| Croplan Genetics | 7927VT3P      | 9.5                | High       | Medium                 | Med-High         | Low               | Medium             | 57.5                | 15.4             | 34                 | 86                 |
| DEKALB           | DKC66-59      | 9.3                | Medium     | Med-Low                | High             | Med-High          | High               | 58.1                | 15.3             | 36                 | 83                 |
| DEKALB           | DKC67-72      | 8.7                | Medium     | High                   | High             | High              | Med-High           | 57.1                | 14.6             | 38                 | 83                 |
| DEKALB           | DKC68-26      | 9.9                | Med-Tall   | Med-High               | High             | Med-High          | High               | 59.0                | 16.1             | 34                 | 86                 |
| Dyna Gro         | D57VP51       | 9.6                | Medium     | Med-Low                | Med-High         | High              | Med-High           | 58.3                | 15.1             | 37                 | 85                 |
| Dyna Gro         | D57VP75       | 9.8                | Med-Tall   | Med-Low                | Medium           | Med-Low           | Medium             | 57.5                | 16.2             | 33                 | 83                 |
| Mycogen          | 2D848         | 10.1               | Tall       | Med-High               | High             | Med-High          | High               | 58.1                | 16.0             | 36                 | 80                 |
| Pioneer          | 1197YHR       | 9.8                | Med-Tall   | High                   | Medium           | Med-High          | Low                | 58.1                | 15.9             | 34                 | 83                 |
| Terral           | REV® 23BHR55™ | 9.9                | Med-Low    | High                   | Med-High         | Medium            | Low                | 58.0                | 15.9             | 39                 | 77                 |
| Terral           | REV® 25BHR26™ | 10.2               | Med-Low    | Med-High               | Medium           | Med-High          | Med-Low            | 59.3                | 16.1             | 37                 | 78                 |
| Terral           | REV® 26BHR50™ | 10.1               | Med-Low    | High                   | Med-Low          | Medium            | Med-High           | 59.5                | 16.3             | 34                 | 82                 |
| <b>Average</b>   |               | <b>9.6</b>         |            |                        |                  |                   |                    | <b>58.3</b>         | <b>15.6</b>      | <b>36</b>          | <b>83</b>          |



**MISSISSIPPI STATE UNIVERSITY™**  
**EXTENSION**

# MSU Corn Hybrid Demonstration Program

2016 Grain Yield Summary (bu/a)

## Dryland Locations

| Brand            | Hybrid        | Artesia    | Macon      | MSU        | Natchez    | Como       | Ashland    | Corinth   | Bolton     | Canton     | Eupora     | Pontotoc  | Vardaman   | Shellmound | Average Yield* |
|------------------|---------------|------------|------------|------------|------------|------------|------------|-----------|------------|------------|------------|-----------|------------|------------|----------------|
| AgriGold         | A6659VT2 RIB  | 132        | 181        | 171        | 240        | 180        | 184        | 64        | 135        | 113        | 125        | 63        | 126        | 157        | 144 A          |
| Armor            | 1621 PRO2     | 152        | 186        | 180        | 196        | 165        | 174        | 51        | 124        | 150        | 151        | 82        | 168        | 148        | 148 A          |
| Croplan Genetics | 6640VT3P      | 131        | 181        | 184        | 225        | 186        | 188        | 52        | 134        | 134        | 149        | 82        | 146        | 161        | 150 A          |
| DEKALB           | DKC66-59      | 157        | 194        | 173        | 209        | 192        | 183        | 40        | 128        | 95         | 154        | 67        | 177        | 144        | 147 A          |
| DEKALB           | DKC67-72      | 155        | 200        | 184        | 207        | 195        | 188        | 62        | 130        | 134        | 142        | 82        | 136        | 156        | 152 A          |
| DEKALB           | DKC68-26      | 142        | 197        | 177        | 223        | 197        | 190        | 52        | 132        | 104        | 143        | 55        | 136        | 166        | 147 A          |
| Dyna Gro         | D57VP75       | 156        | 177        | 164        | 211        | 175        | 175        | 43        | 133        | 141        | 140        | 71        | 156        | 147        | 145 A          |
| Mycogen          | 2C797         | 148        | 193        | 176        | 208        | 189        | 174        | 54        | 130        | 128        | 147        | 63        | 143        | 145        | 146 A          |
| Pioneer          | 1637VYHR      | 128        | 179        | 179        | 218        | 180        | 174        | 56        | 131        | 129        | 126        | 63        | 142        | 150        | 143 A          |
| Progeny          | 5115 VT2P     | 147        | 188        | 180        | 230        | 180        | 183        | 40        | 135        | 137        | 158        | 71        | 149        | 149        | 150 A          |
| Terral           | REV® 23BHR55™ | 157        | 184        | 172        | 232        | 197        | 169        | 71        | 132        | 118        | 94         | 67        | 117        | 147        | 143 A          |
| Location Average |               | <b>146</b> | <b>187</b> | <b>177</b> | <b>218</b> | <b>185</b> | <b>180</b> | <b>53</b> | <b>131</b> | <b>126</b> | <b>139</b> | <b>70</b> | <b>145</b> | <b>152</b> | <b>147</b>     |

| Soil Type     | Leeper             |                    |                 | Arkabutl          |                   |                     | Oakli-      | Oakli-            | Provi-          | Provi-          | Dubbs           |                 |       |
|---------------|--------------------|--------------------|-----------------|-------------------|-------------------|---------------------|-------------|-------------------|-----------------|-----------------|-----------------|-----------------|-------|
|               | Okolona Silty Clay | Okolona Silty Clay | Silty Clay Loam | Collins Silt Loam | Collins Silt Loam | Lexington Silt Loam | a Silt Loam | Memphis Silt Loam | meter silt loam | meter Silt Loam | dence Silt Loam | dence Silt Loam |       |
| Planting Date | 6-Apr              | 5-Apr              | 20-Apr          | 17-Mar            | 8-Apr             | 9-Apr               | 9-Jun       | 6-Apr             | 8-Apr           | 22-Mar          | 4-Apr           | 23-Mar          | 7-May |

\* Grain yields were analyzed and average yield values represented with the same letter are not significantly different ( $P < 0.05$ ).



# MSU Corn Hybrid Demonstration Program

## Dryland Entries

### Plant Characteristic Ratings

| Brand            | Hybrid        | Days to Tassel | Relative Maturity | Plant Ht (feet) | Plant Height | Ear Height | Root Strength | Stalk Strength | Stalk Integrity | Test Wt (lbs/bu) | Yield Components |                 |                 |
|------------------|---------------|----------------|-------------------|-----------------|--------------|------------|---------------|----------------|-----------------|------------------|------------------|-----------------|-----------------|
|                  |               |                |                   |                 |              |            |               |                |                 |                  | Kernel Rows      | Kernels per row | Seed Wt (g/250) |
| Agrigold         | A6659VT2 RIB  | 61             | 115               | 8.9             | Med-Short    | Medium     | Med-High      | Medium         | Med-High        | 57.9             | 14.6             | 34              | 70              |
| Armor            | 1621 PRO2     | 61             | 116               | 9.1             | Medium       | Medium     | Med-High      | Medium         | High            | 56.6             | 16.1             | 32              | 74              |
| Croplan Genetics | 6640VT3P      | 61             | 114               | 8.3             | Short        | High       | Med-High      | Medium         | Very Low        | 57.2             | 17.8             | 34              | 63              |
| DEKALB           | DKC66-59      | 60             | 115               | 9.3             | Medium       | Medium     | High          | High           | Med-High        | 56.5             | 15.1             | 36              | 74              |
| DEKALB           | DKC67-72      | 59             | 115               | 8.2             | Short        | Med-Low    | Med-High      | Medium         | Medium          | 56.9             | 14.8             | 34              | 73              |
| DEKALB           | DKC68-26      | 61             | 115               | 9.1             | Medium       | Low        | Medium        | Medium         | High            | 57.8             | 16.6             | 30              | 73              |
| Dyna Gro         | D57VP75       | 61             | 116               | 9.7             | Tall         | High       | Med-Low       | Medium         | High            | 56.7             | 16.4             | 29              | 74              |
| Mycogen          | 2C797         | 59             | 115               | 8.8             | Med-Short    | High       | High          | Medium         | Medium          | 56.3             | 15.5             | 33              | 70              |
| Pioneer          | 1637VYHR      | 62             | 117               | 10.3            | Very Tall    | Medium     | Low           | Med-Low        | Low             | 57.4             | 14.4             | 40              | 71              |
| Progeny          | 5115 VT2P     | 60             | 116               | 9.0             | Medium       | Low        | High          | High           | Med-High        | 54.7             | 15.5             | 36              | 67              |
| Terral           | REV® 23BHR55™ | 60             | 115               | 9.7             | Tall         | Medium     | Medium        | High           | High            | 56.6             | 16.1             | 37              | 65              |
|                  |               |                |                   | <b>Average</b>  | <b>9.1</b>   |            |               |                |                 | <b>56.8</b>      | <b>15.7</b>      | <b>34</b>       | <b>70</b>       |



**MISSISSIPPI STATE UNIVERSITY™**  
**EXTENSION**