



**MISSISSIPPI STATE**  
**UNIVERSITY**  
**EXTENSION SERVICE**

## 2013 Corn Hybrid Demonstration Program Results

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**Program Summary:** This program is intended to provide corn growers, crop consultants and other ag professionals additional information to help assess future hybrid performance and adaptability on your farm.

Hybrids selected for inclusion in this program must demonstrate superior grain yield performance in MSU Corn for Grain Hybrid Trials based upon either dryland or irrigated culture. This performance is evaluated annually and those top-yielding hybrids are published as “MSU Corn Hybrid Suggestions.” A respective seed company may make an alternate hybrid choice, if conditions warrant. These two standardized sets of superior-yielding hybrids are respectively grown at numerous field locations according to the crop culture. MSU Extension Service Area Agronomic Crop Agents coordinate locations with grower cooperators in their region, and supervise plots during the season.

The objective of the Corn Hybrid Demonstration Program is to provide opportunity for clientele to evaluate premier hybrids during the entire season and substantially supplement the information gathered in the university hybrid trials. This program increases hybrid exposure and is well suited to evaluate various plant characteristics and environmental responses that may be impractical to accomplish in university hybrid trials.

The following explanation suggests how results may be interpreted and utilized. Characteristics are rated relative to the other entries within the respective set of premier hybrids grown in the program. Thus, these relative rankings are not intended to compare to other or all commercial hybrids available in the market.

**Grain Yield Data:** Hybrids evaluated in this program are generally planted in “strip trials.” The yield data generated are not generally as reliable as that from replicated trials (University Hybrid Trials), particularly for a single location. Treatment replication reduces the effect of numerous non-treatment factors which can impart disproportionate amount of either “benefit” or “stress” capable of affecting performance and confound analyses. Thus, average yields are calculated from multiple locations to strengthen our ability to assess yield performance related to hybrid genetics. This information derived from numerous diverse environments, cropping systems and soils, supplements data generated by University Hybrid Trials.

**Technology Traits:** All hybrid entries possess Roundup Ready or Glyphosate tolerance technology in order to allow use of glyphosate herbicide for weed control. Inclusion of other traits is open and is primarily based on product availability and the discretion of the respective seed companies who submit entries. Corn borer protection normally enhances yield at locations where corn borers (Southwestern corn borer and/or European corn borer) are present. Rootworm protection is not generally as beneficial in our region, because the native Southern corn rootworm species feeds on alternative hosts and primarily damages corn only during seedling establishment and product efficacy on this species has not been extensively evaluated. All entries are also commercially treated with an insecticide seed treatment of each seed company’s choice. This should minimize damage resulting from many insect pests, including Southern corn rootworm, during seedling establishment.

**Relative Maturity:** Maturity is noted for each hybrid as designated by each respective seed company submitting an entry. This value estimates the number of days for a hybrid to progress from planting to physiological maturity (black layer) or about 30% grain moisture, and does not include additional time for the crop to dry to a desirable harvest moisture.

**Plant Height:** This is reported as a numerical measurement and a relative rating of full plant height after tassel emergence between hybrids in this program. Plant height is one of several factors which may affect light interception, which is critical to optimum corn grain production. Light interception is determined by the leaf canopy, which is influenced by many other factors including leaf number, leaf size, leaf orientation, row width/pattern and plant population. Short plant height may reduce potential light interception, particularly in wide rows. However, tall plants are generally more likely to experience lodging problems and likely will 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, since leaves in the upper canopy intercept more light and produce far more photosynthetic energy for the developing ear. However, high ear placement may promote lodging because plants are more top-heavy and thus more prone to blow down when exposed to substantial wind.

**Root Strength:** This is a relative rating to resist root lodging between hybrids in this program. Root lodging is described as when the entire stalk severely leans or completely falls from ground level, usually dislodging part of the root system from the soil. Often sizable portions of a field root lodge as adjacent stalks fall onto others – essentially a “domino effect”. Root lodging often occurs as plants approach physiological maturity (when plant is still green), because the mass of the plant is more than any other time during the season (maximum ear weight and the stalk is full of water). This type of lodging substantially hinders harvest efficiency, because stalks lay nearly flat on the ground and are partially uprooted from the soil. Thus, stalks are difficult to pick up and flow poorly through the combine header.

**Stalk Strength:** This is a relative rating to resist stalk lodging between hybrids in this program. Stalk lodging is described as when the stalk bends, collapses or breaks above ground level. Stalk lodging generally 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 potential issues and combines usually can pick up stalks better, since stalk lodging occurs above the soil surface.

**Plant Integrity:** This is a relative rating of late-season plant integrity between hybrids in this program. This is a characterization of the plant’s ability to maintain integrity until crop harvest. Late-season stress and adverse weather often promote vegetative deterioration, particularly after plants reach physiological maturity. This may be evident by the presence of shriveled, shredded or dislodged leaves, and brittle or broken stalks, particularly above the ear.

# MSU Corn Hybrid Demonstration Program

## 2013 Grain Yield Summary (bu/a)

### Irrigated Locations

Brand	Hybrid	MSU	Goodman	Anguilla	Greenwood	Schlater	Leland	Collins	Ellisville	Average Yield
Agrigold	A6533VT2 RIB	182	215	165	226	208	205	170	117	<b>186</b>
Agrigold	A6659VT3Pro	214	217	169	248	225	259	181	151	<b>208</b>
Croplan	6640VT3P	219	259	186	258	242	246	189	144	<b>218</b>
Croplan	8410VT3P	211	230	191	248	224	252	169	136	<b>208</b>
Dyna Gro	D57VP51	211	227	174	232	223	228	198	141	<b>204</b>
Pioneer	2088YHR	179	241	178	253	222	256	183	147	<b>207</b>
Terral	REV26BHR50	186	235	177	262	242	252	186	135	<b>209</b>
Terral	REV28HR20	194	218	162	244	223	265	142	129	<b>197</b>
<b>Location Average</b>		<b>200</b>	<b>230</b>	<b>175</b>	<b>246</b>	<b>226</b>	<b>245</b>	<b>177</b>	<b>138</b>	<b>205</b>

#### Soil Type

Marietta fine sandy loam    Oaklimeter silt loam    Sharkey clay    Tensas silty clay    Dubbs loam    Commerce very fine sandy loam    Cahaba fine sandy loam    Bigbee loamy sand

# MSU Corn Hybrid Demonstration Program

## Irrigated Entries

### 2013 Plant Characteristic Ratings

Brand	Hybrid	Trait(s)	Maturity	Plant Height (ft)	Plant Height	Ear Height	Root Strength	Stalk Strength
Agrigold	A6533VT2 RIB	VT2P RIB	113	9.2	Medium	Low	Medium	Medium
Agrigold	A6659VT3Pro	VT3P	116	9.1	Medium	Med-Low	Medium	Medium
Croplan	6640VT3P	VT3P	114	8.4	Short	High	Medium	Med-High
Croplan	8410VT3P	VT3P	117	8.3	Short	Medium	Medium	Med-Low
Dyna Gro	D57VP51	VT3P	117	8.7	Med-Short	Med-Low	High	High
Pioneer	2088YHR	Optimum Intrasect	120	9.7	Med-Tall	Medium	High	Med-High
Terral	REV26BHR50	Optimum Intrasect	116	10.2	Tall	Med-High	Medium	High
Terral	REV28HR20	Hx/LL/RR2	118	10.2	Tall	High	High	Medium

# MSU Corn Hybrid Demonstration Program

## 2013 Grain Yield Summary (bu/a)

### Dryland Locations

Brand	Hybrid	MSU	Pontotoc	Vaiden	Canton	Ellisville	Collins	Collins	Shellmound	Average Yield
Agrigold	A6489VT2 RIB	144	91	132	163	115	111	114	93	<b>120</b>
Agrigold	A6533VT2 RIB	154	74	128	148	106	105	114	79	<b>113</b>
Armor	1262 Pro <sup>2</sup>	117	84	141	159	121	142	108	83	<b>119</b>
Armor	1550 Pro <sup>2</sup>	127	77	106	167	148	154	115	86	<b>122</b>
Croplan	6926VT3P	176	84	142	171	144	139	152	83	<b>136</b>
Croplan	8621VT2P	164	77	136	176	157	149	160	81	<b>138</b>
Croplan	6640VT3P	168	84	154	195	156	149	145	84	<b>142</b>
Dyna Gro	D55VP77	174	88	143	185	165	146	133	81	<b>139</b>
Dyna Gro	D57VP75	163	70	132	180	164	134	121	86	<b>131</b>
Pioneer	1636YHR	162	84	144	187	138	135	142	87	<b>135</b>
Terral	REV22BHR43	167	70	121	152	122	130	110	79	<b>119</b>
Terral	REV28HR20	174	63	140	164	166	142	150	97	<b>137</b>
<b>Location Average</b>		<b>159</b>	<b>78</b>	<b>135</b>	<b>171</b>	<b>144</b>	<b>139</b>	<b>132</b>	<b>84</b>	<b>129</b>

#### Soil Type

Leeper silty  
clay loam

Providence silt  
loam

Gillsburg silt  
loam

Calloway silt  
loam

Prentiss loam

Stough fine  
sandy loam

Savannah  
loam

Dubbs loam

# MSU Corn Hybrid Demonstration Program

## Dryland Entries

### 2013 Plant Characteristic Ratings

Brand	Hybrid	Trait(s)	Maturity	Plant Height (ft.)	Plant Height	Ear Height	Root Strength	Stalk Strength	Integrity
Agrigold	A6489VT2 RIB	VT2 RIB	113	9.2	Med-Short	Medium	High	Med-Low	Low
Agrigold	A6533VT2 RIB	VT2 RIB	113	9.1	Med-Short	Low	Low	Low	Low
Armor	1262 Pro <sup>2</sup>	VT2P	112	9.8	Med-Tall	Medium	Low	Medium	Medium
Armor	1550 Pro <sup>2</sup>	VT2P	115	9.0	Med-Short	Med-Low	Med-High	High	High
Croplan	6926VT3P	VT3P	114	8.6	Short	Medium	High	Medium	High
Croplan	8621VT2P	VT2P	117	9.4	Medium	Med-High	Medium	High	High
Croplan	6640VT3P	VT3P	114	8.7	Short	Med-High	High	Low	Low
Dyna Gro	D55VP77	VT3P	115	8.7	Short	Med-Low	High	Low	Med-Low
Dyna Gro	D57VP75	VT3P	117	10.1	Tall	High	High	Med-High	High
Pioneer	1636YHR	Optimum Intrasect	116	10.3	Tall	Medium	Medium	Medium	Medium
Terral	REV22BHR43	Optimum Intrasect	112	10.3	Tall	Low	High	High	High
Terral	REV28HR20	Hx/LL/RR2	118	10.1	Tall	Medium	High	Med-High	High