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**EXTENSION SERVICE**

## **2011 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 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 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.

**Disease Resistance:** This is a relative rating to resist infection of specific leaf diseases between hybrids in this program. Gray leaf spot and Southern corn leaf blight were present during the 2011 season at levels substantial enough to evaluate hybrid differences. Ratings are designated on a scale based upon resistance for each specific disease. Thus, entries are rated separately for each disease. “High” resistance indicates little if any disease incidence, while “low” indicates considerable disease occurrence.

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# MSU Corn Hybrid Demonstration Program

## 2011 Grain Yield Summary (bu/a)

### Irrigated Locations

Brand	Hybrid	Schlater	Itta Bena	Metcalfe DCDC	Panther Burn	Potts Camp	MSU	Magee	Average Yield
B-H Genetics	BH 8928VT3P	169.9	162.8	199.9	142.2	193.1	183.9	157.1	<b>176.0</b>
DEKALB	DKC64-69	211.3	187.3	159.1	168.9	135.3	194.2	170.5	<b>180.9</b>
DEKALB	DKC66-96	210.9	181.8	167.8	144.5	159.3	190.8	142.0	<b>177.0</b>
DEKALB	DKC69-29	194.6	174.8	162.8	208.6	174.9	196.0	154.4	<b>185.4</b>
DEKALB	DKC68-05	167.5	167.6	188.9	150.5	175.8	192.1	173.0	<b>179.2</b>
Dyna Gro	D56VP69	197.6	163.4	161.0	141.7	152.9	181.1	156.4	<b>169.8</b>
Dyna Gro	D58VP30	157.2	157.6	192.0	146.5	178.5	188.0	164.7	<b>174.8</b>
Dyna Gro	V5683VT3	182.4	166.4	176.1	141.5	158.3	179.1	173.7	<b>171.5</b>
NK	NK82V	146.3	167.8	159.5	165.9	165.6	186.3	143.3	<b>169.4</b>
Pioneer	1745HR	203.5	181.1	208.5	103.8	137.0	185.4	146.0	<b>172.2</b>
Pioneer	2023HR	187.3	185.8	180.9	166.4	124.3	189.0	128.8	<b>172.9</b>
Pioneer	2088HR	212.2	200.4	163.2	171.9	150.4	179.4	156.9	<b>177.3</b>
Terral	REV 26HR50	219.2	184.4	174.3	178.4	142.6	186.6	172.5	<b>181.8</b>
Terral	REV 28HR20	207.7	203.0	188.3	172.4	142.8	179.4	177.3	<b>180.9</b>
Terral	REV 28HR30	200.8	179.6	212.9	132.1	139.8	168.5	170.0	<b>170.9</b>
<b>Location Average</b>		<b>191.2</b>	<b>177.6</b>	<b>179.7</b>	<b>155.7</b>	<b>155.4</b>	<b>185.3</b>	<b>159.1</b>	<b>176.0</b>

**Soil Type**      Dubbs loam      Tensas silty clay loam      Commerce silty clay      Dundee silty clay      Falaya silt loam      Marietta fine sandy loam      Savannah loam

\*The MSU location was a replicated trial with each hybrid tested four times. Thus, each replicate was used to calculate the average yield.

# MSU Corn Hybrid Demonstration Program

## Irrigated Entries

### 2011 Plant Characteristic Ratings

Brand	Hybrid	Trait(s)	Maturity	Plant Height	Ear Height	Root Strength	Stalk Strength	Plant Integrity	Gray Leaf Spot Resistance
B-H Genetics	BH 8928VT3P	VT3P	118	Medium	High	Med-High	Medium	Medium	Med-Low
DEKALB	DKC64-69	GENVT3P	114	Med-Short	Med-High	Medium	Med-High	Med-Low	Low
DEKALB	DKC66-96	GENVT3P	116	Med-Short	Med-Low	High	Med-High	Med-Low	Med-Low
DEKALB	DKC69-29	VT3P	119	Short	Med-Low	High	High	Med-High	Med-High
DEKALB	DKC68-05	GENVT3P	118	Med-Short	High	High	High	High	Low
Dyna Gro	D56VP69	VT3P	116	Medium	High	Med-Low	Medium	Low	High
Dyna Gro	D58VP30	VT3P	118	Medium	Med-High	High	High	Medium	Medium
Dyna Gro	V5683VT3	VT3	116	Tall	Med-High	Med-Low	Medium	Med-Low	Med-Low
NK	NK82V	Agrisure 3000GT	117	Tall	Med-Low	Medium	Med-High	Med-High	Med-High
Pioneer	1745HR	HX1/LL/RR2	117	Med-Tall	Medium	Low	Low	Med-Low	Medium
Pioneer	2023HR	HX1/LL/RR2	120	Med-Tall	Medium	High	High	High	Med-High
Pioneer	2088HR	HX1/LL/RR2	120	Tall	Med-Low	Medium	Med-Low	Med-Low	Med-Low
Terral	REV 26HR50	HX1/LL/RR2	116	Med-Tall	Low	Medium	Med-High	Med-High	High
Terral	REV 28HR20	HX1/LL/RR2	118	Tall	Medium	Med-High	Med-High	Med-Low	Med-High
Terral	REV 28HR30	HX1/LL/RR2	118	Tall	Med-Low	High	Med-Low	Medium	Med-High

# MSU Corn Hybrid Demonstration Program

## 2011 Grain Yield Summary (bu/a)

### Dryland Locations

Brand	Hybrid	West Point	Baldwyn	Vaiden	Belle-fontaine	Schlater	MSU*	Raymond	Magee	Okolona	Average Yield
Agrigold	A6489VT3	117.1	122.0	150.6	103.8	111.3	155.8	77.4	66.5	136.2	<b>125.7</b>
Agrigold	A6533VT3	163.2	146.2	158.3	119.8	124.2	177.7	49.1	102.5	143.6	<b>143.1</b>
Armor	1655PRO	138.5	127.8	139.3	105.8	111.2	182.7	68.2	77.9	141.4	<b>136.7</b>
DEKALB	DKC61-06	144.3	137.5	146.0	115.8	109.1	165.1	59.2	89.1	130.0	<b>132.6</b>
DEKALB	DKC63-87	110.1	131.6	149.2	120.4	119.7	159.1	63.6	76.8	151.9	<b>130.0</b>
DEKALB	DKC64-69	161.3	158.1	153.7	120.5	100.0	188.8	91.7	114.9	156.6	<b>151.0</b>
DEKALB	DKC66-96	136.6	148.0	158.8	114.0	133.3	164.0	77.7	60.4	157.3	<b>136.8</b>
DEKALB	DKC67-21	147.4	167.1	148.5	110.9	106.6	169.6	47.7	116.0	130.3	<b>137.7</b>
DEKALB	DKC68-05	140.2	143.8	137.6	102.4	127.8	173.5	61.2	106.2	161.5	<b>139.6</b>
Dyna Gro	D56VP69	149.6	156.1	141.0	100.6	105.2	163.2	79.4	75.8	146.1	<b>133.9</b>
Dyna Gro	V5683VT3	148.5	146.5	140.0	97.0	102.4	170.3	49.8	78.3	155.8	<b>133.3</b>
Pioneer	1404HR	150.8	140.0	136.9	88.2	96.8	177.3	67.7	98.8	146.4	<b>136.2</b>
Pioneer	33N58	135.3	121.8	133.0	103.1	116.0	158.1	80.2	77.0	150.4	<b>129.1</b>
Terral	REV25HR39	141.0	144.5	126.1	84.9	116.2	176.7	46.5	21.9	157.6	<b>128.8</b>
Terral	REV28HR20	163.5	154.7	141.6	99.2	118.3	186.4	75.1	45.9	167.7	<b>142.6</b>
Terral	REV28R30	154.5	142.4	134.0	77.7	96.1	162.7	42.0	20.8	118.5	<b>119.7</b>
<b>Location Average</b>		<b>143.9</b>	<b>143.0</b>	<b>143.4</b>	<b>104.0</b>	<b>112.1</b>	<b>170.7</b>	<b>64.8</b>	<b>76.8</b>	<b>147.0</b>	<b>134.8</b>
<b>Soil Type</b>		Vaiden silty clay	Marietta loam	Oaklimeter silt loam	Oaklimeter silt loam	Dubbs-Dundee complex	Leeper silty clay loam	Calloway silt loam	Savannah loam	Robinson fine sandy loam	

\*The MSU location was a replicated trial with each hybrid tested four times. Thus, each replicate was used to calculate the average yield.

# MSU Corn Hybrid Demonstration Program

## Dryland Entries

### 2011 Plant Characteristic Ratings

Brand	Hybrid	Trait(s)	Maturity	Plant Height	Ear Height	Root Strength	Stalk Strength	Gray Leaf Spot Resistance	Southern Corn Leaf Blight Resistance
Agrigold	A6489VT3	VT3	112	Short	Med-High	Medium	Medium	Medium	Med-Low
Agrigold	A6533VT3	VT3	113	Med-Tall	Med-Low	Med-Low	Medium	High	Med-High
Armor	1655PRO	VT3P	116	Med-Tall	Med-High	High	High	Medium	Med-Low
DEKALB	DKC61-06	GENSS	111	Short	Med-High	Med-High	Med-Low	Low	Med-High
DEKALB	DKC63-87	GENVT2P	113	Short	Medium	Medium	High	Low	Med-High
DEKALB	DKC64-69	GENVT3P	114	Short	High	Medium	Medium	Med-Low	Low
DEKALB	DKC66-96	GENVT3P	116	Short	Low	Medium	Med-Low	Med-High	Med-High
DEKALB	DKC67-21	GENVT3P	117	Med-Short	Medium	Low	Low	Med-High	Med-Low
DEKALB	DKC68-05	GENVT3P	118	Short	Medium	High	High	Low	Medium
Dyna Gro	D56VP69	VT3P	116	Medium	Med-High	Medium	Med-Low	High	Medium
Dyna Gro	V5683VT3	VT3	116	Med-Tall	Medium	Low	Low	Medium	Med-High
Pioneer	1404HR	HX1/LL/RR2	114	Tall	Low	High	High	Med-High	Med-High
Pioneer	33N58	HX1/LL/RR2	113	Medium	Low	Med-High	Med-High	Med-Low	High
Terral	REV25HR39	HX1/LL/RR2	115	Tall	Med-High	Med-High	Med-High	Med-High	High
Terral	REV28HR20	HX1/LL/RR2	118	Tall	Med-Low	Medium	Med-High	Med-High	Medium
Terral	REV28R30	RR2	118	Med-Tall	Medium	High	Med-High	Medium	Med-Low