



MISSISSIPPI STATE
UNIVERSITY
EXTENSION SERVICE

2012 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 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.

Greensnap: This is a relative rating to resist greensnap between hybrids in this program. Greensnap is a term describing corn stalks are completely broken off by high winds. This phenomenon normally occurs during rapid vegetative growth stages when the stalk is quickly developing and may be brittle when bent. These damaged stalks normally break below where ears normally develop. Thus, these damaged plants rarely produce a viable ear.

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MSU Corn Hybrid Demonstration Program

2012 Grain Yield Summary (bu/a)

Irrigated Locations

Brand	Hybrid	MSU	Panther							Average Yield
			Burn	Schlater	Cruger	Itta Bena	Sledge	Swifttown	Goodman	
Agrigold	A6679VT3Pro	195	215	207	148	221	154	233	152	190.6
Croplan	8410VT3P	187	229	215	147	194	164	248	167	193.9
DEKALB	DKC64-69	191	229	183	148	230	182	245	174	197.8
DEKALB	DKC66-86	195	233	240	160	240	129	253	151	200.2
DEKALB	DKC67-57	210	199	234	155	228	167	239	160	198.8
Dyna Gro	57VP51	222	234	251	162	234	173	258	174	213.5
NK	N78S	166	212	239	156	226	154	223	147	190.3
Pioneer	1615HR	192	238	178	139	189	142	222	159	182.5
Pioneer	1745HR	203	219	143	140	215	166	268	163	189.8
Pioneer	2023YHR	194	227	219	163	233	142	258	158	199.3
Pioneer	2088YHR	185	234	246	168	226	146	239	167	201.3
Terral	REV27HR52	167	225	238	158	217	138	243	136	190.2
Terral	REV26HR50	173	238	232	166	231	126	252	163	197.7
Terral	REV28HR20	190	220	203	152	230	160	251	168	196.6
Location Average		191	225	216	154	223	153	245	160	195.9

Soil Type

Marietta fine sandy loam

Commerce silt loam

Dubbs loam

Morgan-field silt loam

Dundee loam

Falaya silt loam

Forestdale very fine sandy loam

Mantachie loam

MSU Corn Hybrid Demonstration Program

Irrigated Entries

2012 Plant Characteristic Ratings

Brand	Hybrid	Trait(s)	Maturity	Plant Height	Ear Height	Root Strength	Stalk Strength	Plant Integrity	Greensnap Resistance
Agrigold	A6679VT3Pro	VT3P	116	Medium	Med-High	Med-High	Med-High	Medium	High
Croplan	8410VT3P	VT3P	117	Very Short	Med-High	Med	Med-Low	High	Medium
DEKALB	DKC64-69	GENVT3P	114	Short	Medium	High	Med-High	Low	Low
DEKALB	DKC66-86	GENVT3P	116	Med-Short	Medium	High	Med-Low	Med-Low	High
DEKALB	DKC67-57	GENVT3P	117	Short	High	High	High	Medium	Low
Dyna Gro	57VP51	VT3P	117	Short	Medium	High	High	Medium	Med-Low
NK	N78S	Viptera 3111	116	Medium	Medium	Med-High	Medium	Medium	Med-High
Pioneer	1615HR	Hx/LL/RR2	116	Tall	Medium	Low	Med-Low	Medium	Low
Pioneer	1745HR	Hx/LL/RR2	117	Tall	Medium	Low	Low	Med-Low	Medium
Pioneer	2023YHR	Hx/YG/LL/RR2	120	Med-Tall	Med-High	High	High	Med-High	Low
Pioneer	2088YHR	Hx/YG/LL/RR2	120	Tall	Low	Med-High	Med-High	High	High
Terral	REV27HR52	Hx/LL/RR2	117	Med-Tall	Low	Med-High	High	Med-Low	Medium
Terral	REV26HR50	Hx/LL/RR2	116	Med-Tall	Medium	Medium	Medium	Medium	Medium
Terral	REV28HR20	Hx/LL/RR2	118	Med-Tall	Med-Low	Med-High	Med-High	Medium	Low

MSU Corn Hybrid Demonstration Program

2012 Grain Yield Summary (bu/a)

Dryland Locations

Brand	Hybrid	MSU	Canton	Vaiden	Macon	Slate Springs	Raymond	Walnut	Okolona	Shell-mound	Magee	Magee	Magee	Collins	Average Yield
Agrigold	A6489VT3	177	216	201	145	113	79	102	143	111	93	94	39	107	124.6
Agrigold	A6533VT2	173	201	194	156	130	64	63	153	123	88	79	43	99	120.5
Croplan	8410VT3P	197	159	193	164	108	99	72	153	67	83	111	46	109	120.0
DEKALB	DKC61-88	173	207	213	167	124	89	108	162	111	91	81	64	89	129.1
DEKALB	DKC62-09	189	213	207	170	125	81	59	176	103	101	91	68	95	129.1
DEKALB	DKC64-69	184	208	209	164	120	90	68	172	102	90	90	72	98	128.2
DEKALB	DKC66-97	210	181	215	159	124	85	42	174	125	90	117	68	87	129.1
DEKALB	DKC67-57	186	193	200	168	129	102	112	169	116	84	97	56	107	132.2
DEKALB	DKC66-86	183	215	208	165	124	88	37	156	112	100	82	67	83	124.7
Dyna Gro	D56VP10	180	197	200	155	111	92	86	146	131	90	88	54	96	125.2
Terral	REV28HR20	208	208	218	159	91	69	4	162	108	90	81	39	82	116.7
Location Average		187	200	205	161	118	85	68	161	110	91	92	56	96	125.4

Soil Type

Leeper silty clay loam

Ariel silt loam

Oaklimeter silt loam

Brooks-ville silty clay

Chenneby silt loam

Calloway silt loam

Falaya silt loam

Catalpa silty clay loam

Dubbs loam

Savannah loam

Savannah loam

Savannah loam

Cahaba fine sandy loam

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Dryland Entries

2012 Plant Characteristic Ratings

Brand	Hybrid	Trait(s)	Maturity	Plant Height	Ear Height	Root Strength	Stalk Strength	Plant Integrity	Greensnap Resistance
Agrigold	A6489VT3	VT3	112	Med-Short	Med-High	High	Med-Low	Med-High	Med-High
Agrigold	A6533VT2	VT2P	113	Med-Short	Low	Low	Low	Low	High
Croplan	8410VT3P	VT3P	117	Short	Med-Low	Med-High	High	High	Medium
DEKALB	DKC61-88	GENVT3P	111	Med-Short	Medium	Med-High	Low	Medium	Medium
DEKALB	DKC62-09	GENVT3P	112	Short	High	Med-High	Med-Low	Med-Low	Low
DEKALB	DKC64-69	GENVT3P	114	Med-Short	High	Med-High	High	Med-Low	Med-Low
DEKALB	DKC66-97	GENVT2P	116	Med-Short	Med-Low	Med-High	High	High	Med-High
DEKALB	DKC67-57	GENVT3P	117	Short	High	High	High	High	Low
DEKALB	DKC66-86	GENVT3P	116	Medium	Low	Med-High	Med-High	High	Med-High
Dyna Gro	D56VP10	VT3P	116	Med-Short	Med-Low	Med-Low	Med-High	Med-High	Medium
Terral	REV28HR20	Hx/LL/RR2	118	Tall	Low	Med	Med-High	Med-High	Med-Low