

Performance of Field Corn Hybrids In Alabama, 2017



Feed grinder in Opelika 1925

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“The mission of the Alabama Variety Testing Program is to provide research-based, unbiased results on the performance of various crop hybrids, cultivars, and varieties to the agricultural community in our state. We are intent on conducting these trials in a manner that will result in maximum biological yield through methods common to the top-producing farms in Alabama. We are committed to providing this information in a rapid, timely manner for its use during the decision-making process. The success of the program rests upon our ability to help Alabama producers provide a safe, dependable source of food and fiber for all families as well as economic sustainability for theirs.”

Field corn hybrids were evaluated in 2017 by the Alabama Agricultural Experiment Station as a service to producers, crop advisors, and industry. Field trials on corn hybrid performance were conducted on experiment stations throughout the state to evaluate yield performance under different climatic factors and soil types. Non-irrigated, conventional tillage trials were conducted at two locations in the northern region, two locations in the central region, and two locations in the southern region. The non-irrigated location at E.V. Smith Field Crops Unit in central Alabama was “no-till”. In addition, an irrigated, conventional tillage corn hybrid test was conducted in the northern region at Belle Mina (TVREC), in the central region at Prattville (PARU), and in the southern region at Fairhope (GCREC).

Methods

Field trials at all locations were conducted with hybrids arranged in a “randomized complete block design” with four replications. Plots were 2, 30- or 36-inch wide rows that were 20 to 30 feet long, according to the location (Table 1). Planting rate was 28,000 or 32,000 seeds/acre. The entire plot was machine-harvested for yield and grain moisture content recorded. Grain yields were adjusted to 15.5% moisture and converted to yield (bushels/acre). No significant lodging was noted at any location.

Tables

**Abbreviations: REC, Research and Extension Center; ARU, Agricultural Research Unit*

2017 Field Corn Hybrid Yield Performance

Table 1. Locations and cultural practices for the Alabama 2015 field corn hybrid trials.

Northern Region

Table 2. Performance of non-irrigated field corn hybrids in North Alabama, TVREC, Belle Mina

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Central Region

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Table 8. Performance of non-irrigated field corn hybrids in South Alabama, BARU, Brewton

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Table 11. 2017 Rainfall measurements at Alabama research sites

Table 12. Soil types for Alabama field corn trials, 2017

Table 13. Sources of 2017 Field Corn Hybrid Trial Seed

Table 1. Locations and Cultural Practices for the 2017 Corn Hybrid Trials

Location	Planting date	Nitrogen rate * (lbs/ac)	Plant pop. (seeds/ac)	Date harvested	Herbicides used
North Alabama					
Tennessee Valley REC (Belle Mina)					
Regular test (Non-Irrigated)	April 12	175	28,000	September 7	Atrazine/Dual
Regular test (Irrigated) 2.6 inches total	April 10	250	32,000	September 8	Atrazine/Dual
Sand Mountain REC (Crossville)					
Regular test	April 20	195	28,000	September 25	Atrazine
Central Alabama					
E.V. Smith Research Center (Shorter)					
No-till test	April 11	140	32,000	August 25	Atrazine
Prattville Agricultural Res. Unit (Prattville)					
Regular test (Non-Irrigated)	April 7	120	28,000	September 8	Atrazine/Dual
Regular test (Irrigated) 3.1 inches total	April 7	250	32,000	September 7	Atrazine/Dual
South Alabama					
Brewton Agricultural Res. Unit (Brewton)					
Regular test	April 10	230	28,000	August 24	Atrazine/Dual
Gulf Coast REC (Fairhope)					
Regular test (Non-Irrigated)	March 22	205	28,000	August 14	Atrazine/Dual
Regular test (Irrigated) 4.0 inches total	March 22	273	32,000	August 14	Atrazine/Dual
* Lime, phosphorus, potassium, zinc, and sulfur were applied according to soil test recommendations.					

Table 2. Performance of Non-Irrigated Field Corn Hybrids in North Alabama, 2017			
Tennessee Valley Research & Extension Center - Belle Mina, AL			
Yield rank	Hybrid	Yield bu/acre	Test weight
1	TA 765-30	227	60.2
2	Dekalb DKC 67-44	223	60.0
3	Augusta A7768GT3110	222	57.4
4	AgriGold A6659VT2RIB	220	59.2
5	DynaGro D58VC65	214	60.7
6	Dyna-Gro D55VC45	212	59.5
7	Terral REV 23BHR55	211	57.1
8	AgriGold A6711VT2PRO	210	59.6
9	AgriGold A6544VT2RIB	207	59.5
10	AgriGold A6499VT2RIB	207	61.4
11	Dekalb DKC 64-35	207	61.3
12	DynaGro D 54DC94	206	57.9
13	Dyna-Gro D57VC51	206	59.1
14	Terral REV 26BHR50	205	60.4
15	Dekalb DKC 65-94	203	61.7
16	AgriGold A6619VT2RIBD1	202	58.6
17	DynaGro D 56VC46	201	59.4
18	AgriGold A6572VT2RIB	200	62.9
19	Augusta A7767VT2PRO	199	57.7
20	Terral REV 25BHR26	199	59.7
21	Augusta 5065GTCBLL	199	62.0
22	Dyna-Gro D58VC37	198	61.3
23	DynaGro D 52VC91	196	60.9
24	Augusta 7766VT2PRO	195	59.2
25	Terral REV 28BHR18	191	59.7
26	AgriGold A645-10VT2RIB	191	60.6
27	TA 768-28	189	59.9
28	Augusta1165VT2PRO	186	59.1
29	TA 758-28	184	60.9
	Grand Mean	204	
	CV (%)	6	
	Pr>F	0.0001	
	LSD (0.1)	14	

Table 3. Performance of Irrigated Field Corn Hybrids in North Alabama, 2017

Tennessee Valley Research & Extension Center - Belle Mina, AL			
Yield rank	Hybrid	Yield bu/acre	Test weight
1	Terral REV 26BHR50	253	61.9
2	Dekalb DKC 67-44	252	60.3
3	AgriGold A6659VT2RIB	248	60.6
4	Terral REV 23BHR55	245	58.1
5	TA 765-30	245	61.1
6	Dekalb DKC 64-35	244	60.9
7	Dyna-Gro D55VC45	241	59.3
8	Terral REV 25BHR26	241	61.6
9	DynaGro D58VC65	238	61.3
10	Dyna-Gro D57VC51	237	60.2
11	Terral REV 28BHR18	237	60.1
12	Augusta 5065GTCBLL	237	61.8
13	Augusta1165VT2PRO	234	60.5
14	AgriGold A6711VT2PRO	230	60.8
15	Augusta A7768GT3110	230	59.4
16	Dekalb DKC 65-94	229	61.6
17	DynaGro D 52VC91	228	62.7
18	AgriGold A6544VT2RIB	228	58.9
19	Augusta 7766VT2PRO	223	59.1
20	AgriGold A6619VT2RIBD1	221	59.7
21	AgriGold A6572VT2RIB	221	61.9
22	Dyna-Gro D58VC37	220	61.8
23	TA 768-28	218	62.5
24	DynaGro D 54DC94	218	58.7
25	AgriGold A6499VT2RIB	213	63.6
26	Augusta A7767VT2PRO	212	60.6
27	AgriGold A645-10VT2RIB	210	61.5
28	TA 758-28	202	61.3
29	DynaGro D 56VC46	197	60.5
	Grand Mean	229	
	CV (%)	4	
	Pr>F	0.0001	
	LSD (0.1)	12	

Table 4. Performance of Non-Irrigated Field Corn Hybrids in Northeast Alabama, 2017			
Sand Mountain Research & Extension Center - Crossville, AL			
Yield rank	Hybrid	Yield bu/acre	Test weight
1	Augusta 5065GTCBLL	178	60.2
2	Dekalb DKC 67-44	174	58.5
3	Terral REV 26BHR50	174	59.9
4	Dyna-Gro D57VC51	165	56.5
5	Dyna-Gro D55VC45	165	58.5
6	AgriGold A6572VT2RIB	163	59.9
7	AgriGold A6659VT2RIB	157	58.1
8	AgriGold A645-10VT2RIB	152	58.5
9	Terral REV 28BHR18	151	58.7
10	AgriGold A6619VT2RIBD1	151	55.8
11	Dyna-Gro D58VC37	150	56.5
12	Augusta1165VT2PRO	149	57.5
13	Terral REV 23BHR55	148	55.3
14	Dekalb DKC 65-94	148	59.8
15	TA 768-28	148	59.2
16	TA 765-30	145	59.0
17	DynaGro D 56VC46	144	58.1
18	Augusta A7768GT3110	140	55.4
19	DynaGro D 54DC94	137	55.2
20	TA 758-28	136	58.6
21	Dekalb DKC 64-35	135	57.9
22	Terral REV 25BHR26	132	59.3
23	DynaGro D58VC65	130	58.4
24	Augusta A7767VT2PRO	130	56.1
25	Augusta 7766VT2PRO	126	56.3
26	AgriGold A6499VT2RIB	120	57.5
27	AgriGold A6711VT2PRO	118	55.8
28	AgriGold A6544VT2RIB	117	56.4
29	DynaGro D 52VC91	114	58.2
	Grand Mean	145	
	CV (%)	15	
	Pr>F	0.0002	
	LSD (0.1)	25	

Table 5. Performance of No-Till Field Corn Hybrids in Central Alabama, 2017

E.V. Smith Research & Extension Center - Shorter, AL			
Yield rank	Hybrid	Yield bu/acre	Test weight
1	AgriGold A6659VT2RIB	154	57.9
2	Dyna-Gro D57VC51	146	56.7
3	AgriGold A6711VT2PRO	130	57.4
4	TA 758-28	127	58.2
5	DynaGro D 56VC46	126	57.3
6	DynaGro D58VC65	125	59.0
7	Dekalb DKC 67-44	124	58.6
8	AgriGold A6572VT2RIB	121	59.5
9	AgriGold A645-10VT2RIB	121	58.1
10	Terral REV 28BHR18	120	58.3
11	TA 768-28	120	59.2
12	AgriGold A6619VT2RIBD1	119	56.4
13	Dekalb DKC 65-94	119	60.1
14	Dekalb DKC 70-27	116	58.1
15	AgriGold A6499VT2RIB	116	58.6
16	DynaGro D 54DC94	115	55.0
17	TA 765-30	114	59.1
18	AgriGold A6544VT2RIB	102	57.0
19	Terral REV 23BHR55	101	55.5
20	Terral REV 26BHR50	101	59.1
21	Terral REV 25BHR26	97	57.7
	Grand Mean	120	
	CV (%)	19	
	Pr>F	0.1329	
	LSD (0.1)	27	

Table 6. Performance of Non-Irrigated Field Corn Hybrids in Central Alabama, 2017			
Prattville Agricultural Research Unit - Prattville, AL			
Yield rank	Hybrid	Yield bu/acre	Test weight
1	AgriGold A6711VT2PRO	201	59.0
2	TA 765-30	179	58.8
3	Dekalb DKC 70-27	178	59.0
4	AgriGold A6659VT2RIB	175	57.9
5	DynaGro D 56VC46	172	59.4
6	Dekalb DKC 65-94	168	58.7
7	Terral REV 23BHR55	166	55.8
8	Terral REV 25BHR26	163	58.4
9	AgriGold A6544VT2RIB	163	57.1
10	Dyna-Gro D57VC51	162	58.4
11	TA 758-28	161	59.1
12	Dekalb DKC 67-44	160	58.2
13	Terral REV 26BHR50	159	58.7
14	AgriGold A6619VT2RIBD1	155	56.2
15	AgriGold A6499VT2RIB	153	59.7
16	AgriGold A645-10VT2RIB	152	58.7
17	DynaGro D58VC65	151	58.7
18	DynaGro D 54DC94	145	56.1
19	TA 768-28	143	59.0
20	AgriGold A6572VT2RIB	138	59.6
21	Terral REV 28BHR18	129	58.8
	Grand Mean	161	
	CV (%)	12	
	Pr>F	0.0009	
	LSD (0.1)	22	

Table 7. Performance of Irrigated Field Corn Hybrids in Central Alabama, 2017			
Prattville Agricultural Research Unit - Prattville, AL			
Yield	Hybrid	Yield	Test
rank		bu/acre	weight
1	Dyna-Gro D57VC51	253	59.6
2	AgriGold A6659VT2RIB	237	59.3
3	AgriGold A6619VT2RIBD1	236	56.4
4	DynaGro D58VC65	233	61.6
5	Dekalb DKC 67-44	230	58.8
6	TA 765-30	227	59.6
7	AgriGold A6544VT2RIB	225	58.8
8	AgriGold A645-10VT2RIB	223	60.1
9	Terral REV 23BHR55	222	56.6
10	Terral REV 26BHR50	222	60.3
11	AgriGold A6711VT2PRO	221	59.3
12	Terral REV 28BHR18	218	59.9
13	Terral REV 25BHR26	217	58.9
14	DynaGro D 56VC46	215	60.6
15	Dekalb DKC 70-27	215	59.0
16	AgriGold A6572VT2RIB	211	60.0
17	TA 758-28	210	60.2
18	DynaGro D 54DC94	205	56.1
19	Dekalb DKC 65-94	199	57.2
20	TA 768-28	192	59.2
21	AgriGold A6499VT2RIB	185	59.4
	Grand Mean	219	
	CV (%)	10	
	Pr>F	0.0106	
	LSD (0.1)	25	

Table 8. Performance of Non-Irrigated Field Corn Hybrids in South Alabama, 2017			
Brewton Agricultural Research Unit - Brewton, AL			
Yield rank	Hybrid	Yield bu/acre	Test weight
1	DynaGro D 56VC46	160	54.6
2	Terral REV 26BHR50	160	53.7
3	DynaGro D58VC65	158	53.9
4	Terral REV 23BHR55	157	54.7
5	Terral REV 25BHR26	156	54.8
6	Dyna-Gro D57VC51	156	55.0
7	Dekalb DKC 70-27	154	53.5
8	Dekalb DKC 67-44	151	55.2
9	TA 758-28	150	54.4
10	Dyna-Gro D58VC37	150	53.8
11	Terral REV 28BHR18	150	53.9
12	Dekalb DKC 65-94	145	54.4
13	DynaGro D 54DC94	142	53.8
14	TA 765-30	141	55.4
15	TA 768-28	134	54.9
	Grand Mean	151	
	CV (%)	12	
	Pr>F	0.7835	
	LSD (0.1)	22	

Table 9. Performance of Non-Irrigated Field Corn Hybrids in Southwest Alabama, 2017			
Gulf Coast Research & Extension Center - Fairhope, AL			
Yield rank	Hybrid	Yield bu/acre	Test weight
1	Terral REV 23BHR55	207	55.7
2	Terral REV 25BHR26	207	55.7
3	Terral REV 26BHR50	204	54.7
4	DynaGro D 56VC46	191	55.3
5	Dyna-Gro D57VC51	189	55.9
6	Dekalb DKC 70-27	188	54.8
7	DynaGro D58VC65	185	55.8
8	Dekalb DKC 67-44	185	55.8
9	Terral REV 28BHR18	183	55.4
10	TA 768-28	180	55.3
11	Dyna-Gro D58VC37	179	55.2
12	Dekalb DKC 65-94	178	55.1
13	DynaGro D 54DC94	175	54.9
14	TA 765-30	173	56.2
	Grand Mean	187	
	CV (%)	5	
	Pr>F	0.0001	
	LSD (0.1)	11	

Table 10. Performance of Irrigated Field Corn Hybrids in Southwest Alabama, 2017			
Gulf Coast Research & Extension Center - Fairhope, AL			
Yield	Hybrid	Yield	Test
rank		bu/acre	weight
1	Terral REV 23BHR55	214	55.6
2	Terral REV 25BHR26	204	54.5
3	Dekalb DKC 67-44	202	55.3
4	Dekalb DKC 70-27	201	54.3
5	Terral REV 26BHR50	200	54.2
6	DynaGro D 56VC46	199	54.6
7	TA 765-30	195	55.4
8	Dyna-Gro D57VC51	194	54.7
9	Dekalb DKC 65-94	192	54.8
10	Terral REV 28BHR18	187	54.8
11	TA 768-28	180	54.9
12	DynaGro D 54DC94	178	54.4
13	Dyna-Gro D58VC37	178	53.9
14	DynaGro D58VC65	174	55.0
	Grand Mean	193	
	CV (%)	7	
	Pr>F	0.0025	
	LSD (0.1)	16	

Table 11. Rainfall Measurements at Alabama Research Sites

Table 11. Rainfall Measurements at Alabama Research Sites									
		----- Monthly rainfall in inches -----							7-month
Location	Year	Mar.	Apr.	May	June	July	Aug.	Sept.	total
Belle Mina									
	2017	6.0	3.9	6.8	7.4	6.8	2.7	4.6	38.2
	2016	3.2	3.8	1.6	1.9	3.1	6.6	0.2	20.4
	2015	5.7	8.4	5.0	4.1	4.7	7.9	1.6	37.4
Crossville									
	2017	6.8	5.3	10.2	8.4	7.3	2.4	6.4	46.8
	2016	4.0	3.6	2.9	3.0	4.7	2.7	1.2	22.1
	2015	3.9	8.3	2.4	1.5	4.9	7.7	1.9	30.6
Shorter									
	2017	5.2	5.2	8.7	10.1	6.0	2.8	4.2	42.2
	2016	5.6	8.6	1.7	2.6	4.4	3.9	1.2	28.0
	2015	1.7	4.9	8.0	4.5	4.8	4.4	1.4	29.7
Prattville									
	2017	3.5	1.6	10.0	16.0	7.6	4.4	2.3	45.4
	2016	3.2	12.1	2.1	4.2	1.3	5.3	1.4	29.6
	2015	4.2	5.5	4.6	6.8	7.9	3.0	3.1	35.1
Brewton									
	2017	4.6	2.9	12.7	18.0	7.6	10.3	4.1	60.2
	2016	8.2	11.2	3.9	3.9	7.4	5.8	2.9	43.3
	2015	2.4	5.9	5.6	2.9	7.9	4.9	3.9	33.5
Fairhope									
	2017	2.3	4.3	10.8	11.8	7.9	13.1	0.9	51.1
	2016	10.1	6.7	2.9	4.4	5.1	7.9	4.1	41.2
	2015	7.2	10.5	2.7	4.9	6.7	5.4	3.6	41.0

Table 12. Soil Types for Corn trials, 2017	
Trial Location	Soil Type
North	
Belle Mina	Decatur silt loam
Crossville	Wynnvilke fine sandy loam
Central	
Shorter	Norfolk sandy loam
Prattville	Lucedale fine sandy loam
South	
Brewton	Benndale fine sandy loam
Fairhope	Malbis fine sandy loam

Table 13. Sources of 2017 Corn Hybrid Trial Seed			
Seed Company	Brand	Seed Company	Brand
AgriGold Hybrids 5381 Akin Road St. Francisville, IL 62460	AgriGold	Monsanto Company 800 N. Lindbergh Blvd St. Louis, MO 63167	Dekalb DKC
Augusta Seed P.O. Box 899 Verona, VA 24482	Augusta	T.A. Seeds 39 Seeds Lane Jersey Shore, PA 17740	TA
Crop Production Services 25324 Hunstsville Brownsferry Rd Madison, AL 35756	Dyna-Gro	Terral Seed, Inc. 117 Ellington Dr. Rayville, LA 71269	REV

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Alabama Agricultural Experiment Station Outlying Units Conducting Row Crop Variety Trials

Northern Region

Sand Mountain Research and Extension Center, Crossville

William Clements, Director

Clint McElmoyl, Assoc. Director

Tennessee Valley Research and Extension Center, Belle Mina

Chet Norris, Director

David Harkins, Assoc. Director



Central Region

Black Belt Research and Extension Center, Marion Junction

Jamie Yeager, Director

Gene Pegues, Assoc. Director

E.V. Smith Research and Extension Center, Field Crops & Plant Breeding Unit, Tallassee

Greg Pate, Director

Shawn Scott, Assoc. Director

Jason Burkett, Assoc. Director

Prattville Agricultural Research Unit, Prattville

Don Moore, Director



Southern Region

Brewton Agricultural Research Unit, Brewton

Malcomb Pegues, Director

Brad Miller, Assoc. Director

Gulf Coast Research and Extension Center, Fairhope

Malcomb Pegues, Director

Jarrod Jones, Assoc. Director

Wiregrass Research and Extension Center, Headland

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