

2017 Evaluation of Field Corn Varieties, Jay, Florida

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This report includes the summary of the 2017 field corn small plot replicated variety trial (OVT) and large plot demonstration trial at West Florida Research and Education Center, Jay, Florida. It shows the performance of 23 field corn varieties in the OVT Trial and 20 varieties in the Demonstration Trial. This data represents only one year, results should be considered over several locations and years before conclusions are valid. In addition there is a multi-year summary of varieties that have been evaluated for two and three years that demonstrate performance over multiple years.

OVT Entries that were evaluated: (Brand/Hybrid)

1. AgriGold A6499VT2RIB
2. AgriGold A6544VT2RIB
3. AgriGold A6572VT2RIB
4. AgriGold A6659VT2RIB
5. AgriGold A6711VT2PRO
6. DeKalb DKC 64-35
7. DeKalb DKC 65-94
8. DeKalb DKC 66-59
9. DeKalb DKC 67-44
10. DeKalb DKC 68-26
11. DeKalb DKC 70-27
12. Dyna-Gro D57VP51
13. Dyna-Gro D58VC65
14. Dyna-Gro D58VC37
15. Dyna-Gro CX171117
16. Syngenta N76A-3000GT
17. Syngenta N78S-3111
18. Syngenta N83D-3111
19. Terral REV 25BHR26
20. Terral REV 28R10
21. Terral REV 28BHR18
22. Croplan 5290 DGV2P/RIBCPF
23. Croplan 5678 VT2P/RIB

2017 OVT Growing Conditions and Experimental Design:

On 21 March, 2017, field corn varieties were planted at 2.2 seed/ft. (32,000 seed/A) under strip-tillage in a Red Bay fine sandy loam soil which had been planted to cotton in summer 2016. Plots were four rows spaced 36 in. apart (12 ft wide) by 25 ft long. Corn varieties were replicated in four randomized complete blocks. Prior to planting any vegetation present was killed with an application of Roundup at 1 qt./A. Dual Magnum (1.3 pt/A) + Atrazine (3 pt/A) were applied 22 March 2017. Fertilizer (27.9-5.1-10.1) was applied at 888 lb/A on 19 April. Roundup at 22 oz./A was applied 2 May for weed control. The fungicide Priaxor

was applied at 8 oz./A on 11 May for disease control to the OVT trial. Data was collected from the two center rows of each plot. Plots were harvested on 14 August.

Rainfall in Jay, FL for April and July of 2017 was below average, while for May was 2.84 inches above average, June was 12.94 inches above average and August was 3.08 inches above average (Table 1). Average represents the mean for the past 55 years of records kept at WFREC, Jay.

Table 1. Weather conditions during 2017 field corn trial.

Month	Total Rainfall (in)	Average minimum air temperature (°F)	Average maximum air temperature (°F)
April	3.05 (1.75 below average)	57.3	79.6
May	7.34 (2.84 above average)	61.7	83.3
June	20.34 (12.94 above average)	70.3	84.4
July	2.50 (5.55 below average)	72.4	90.3
August	9.60 (3.08 above average)	72.4	88.7

OVT Summary

Stand count for all varieties ranged from 1.7 to 2.2 plants/ft (25,340 to 31,800 plants/A) (Table 2). All varieties except REV 28BHR18 had populations in excess of 28,500 plants/A.

Corn ear height at harvest ranged from 32 to 43 inches. AgriGold A6499 and Dyna-Gro D58VC65 were the only varieties with lower than 36 inch ear height while AgriGold A6572, DeKalb DKC 70-27, Dyna-Gro CX17117, Syngenta N83D-3111, Terral REV 25BHR26 and REV 28BHR18 had ear heights 41 inches or greater (Table 3). Corn lodging was 5% or less for all varieties tested (Table 3). Corn yield ranged from 193 to 252 bu/A. Several varieties produced more than 225 bu/A including AgriGold A6659, Dyna-Gro D57VP51, D58VC37, CX17117, Syngenta N83D-3111 and Terral REV 25BHR26. These varieties are shown in **bold** in Table 3. The varieties A6499, N76A, N78S and 5290 had yields less than 210 bu/A. Test weights were in a range from 50.6 to 58.3 lb/bu (56 lb/bu is the standard test weight for shelled corn) (Table 3). A6499, A6572, A6711, D58VC65, D58VC37, 5290 and 5678 had test weights greater than 57 lb/bu while DKC 66-59, DKC 70-27, N76A and N78S had test weights lower than 55 lb/bu.

Table 2: OVT field corn variety emergence, Jay, FL 2017.

	Brand	Hybrid	Plants/ft* 4/20/17	Plants/A* 4/20/17
1	AgriGold	A6499VT2RIB	2.1	30056
2	AgriGold	A6544VT2RIB	2.0	28677
3	AgriGold	A6572VT2RIB	2.1	30928
4	AgriGold	A6659VT2RIB	2.1	30928
5	AgriGold	A6711VT2PRO	2.2	31436
6	DeKalb	DKC 64-35	2.1	30782
7	DeKalb	DKC 65-94	2.2	31799
8	DeKalb	DKC 66-59	2.0	29548
9	DeKalb	DKC 67-44	2.0	29113
10	DeKalb	DKC 68-26	2.1	30202
11	DeKalb	DKC 70-27	2.1	30928
12	Dyna-Gro	D57VP51	2.1	30274
13	Dyna-Gro	D58VC65	2.0	29693
14	Dyna-Gro	D58VC37	2.2	31871
15	Dyna-Gro	CX17117	2.2	31581
16	Syngenta	N76A-3000GT	2.0	29693
17	Syngenta	N78S-3111	2.0	28677
18	Syngenta	N83D-3111	2.2	31218
19	Terral	REV 25BHR26	2.1	30492
20	Terral	REV 28R10	2.1	30419
21	Terral	REV 28BHR18	1.7	25337
22	Croplan	5290 DGVT2P/RIBCPF	2.0	29476
23	Croplan	5678 VT2P/RIB	2.0	29621
	<i>LSD</i>		<i>0.11</i>	<i>1593</i>
	<i>CV</i>		<i>3.75%</i>	<i>3.75%</i>

*Determined from counts of two, 25-ft rows per plot.

LSD = Fisher's Protected LSD (P=0.05)

Table 3: OVT field corn variety percent lodging, test weight and yield, Jay, FL 2017.

	Brand	Hybrid	Ear Height	% Lodging	Yield (bu/A)	Test
			(inches)			Wt.(lb/bu)
			7/24/17	8/9/17	8/14/17	8/14/17
1	AgriGold	A6499VT2RIB	33	0	207	57.2
2	AgriGold	A6544VT2RIB	39	1	214	55.7
3	AgriGold	A6572VT2RIB	41	0	216	58.1
4	AgriGold	A6659VT2RIB	38	2	252	56.2
5	AgriGold	A6711VT2PRO	36	2	214	57.0
6	DeKalb	DKC 64-35	37	1	216	56.0
7	DeKalb	DKC 65-94	38	1	210	55.5
8	DeKalb	DKC 66-59	40	0	217	54.3
9	DeKalb	DKC 67-44	39	0	220	55.6
10	DeKalb	DKC 68-26	40	3	222	56.1
11	DeKalb	DKC 70-27	41	0	220	54.1
12	Dyna-Gro	D57VP51	40	3	229	56.1
13	Dyna-Gro	D58VC65	32	5	215	57.2
14	Dyna-Gro	D58VC37	37	5	225	57.0
15	Dyna-Gro	CX17117	43	1	225	56.3
16	Syngenta	N76A-3000GT	37	1	193	50.6
17	Syngenta	N78S-3111	38	2	209	54.1
18	Syngenta	N83D-3111	42	0	226	53.9
19	Terral	REV 25BHR26	42	0	235	56.7
20	Terral	REV 28R10	39	2	222	56.8
21	Terral	REV 28BHR18	43	8	220	56.4
22	Croplan	5290 DGVT2P/RIBCPF	37	1	207	58.3
23	Croplan	5678 VT2P/RIB	36	1	221	57.1
	<i>LSD</i>		<i>4.0</i>	<i>4.1</i>	<i>19</i>	<i>1.1</i>
	<i>CV</i>		<i>7.3%</i>	<i>6.1%</i>	<i>6.0%</i>	<i>4.4%</i>

*Determined from counts of two, 25-ft rows per plot.

LSD = Fisher's Protected LSD (P=0.05)

Varieties with yields 225 bu/A or more are in **bold**.

Demonstration Entries that were evaluated: (Brand/Hybrid)

1. AgriGold A6499VT2RIB
2. AgriGold A6544VT2RIB
3. AgriGold A6572VT2RIB
4. AgriGold A6659VT2RIB
5. AgriGold A6711VT2PRO
6. DeKalb DKC 64-35
7. DeKalb DKC 65-94
8. DeKalb DKC 66-59
9. DeKalb DKC 67-44
10. DeKalb DKC 67-72
11. DeKalb DKC 68-26
12. DeKalb DKC 70-27
13. Syngenta N76A-3000GT
14. Syngenta N78S-3111
15. Syngenta N83D-3111
16. Terral REV 25BHR26
17. Terral REV 28R10
18. Terral REV 28BHR18
19. Croplan 5290 DGVT2P/RIBCPF
20. Croplan 5678 VT2P/RIB

2017 Demonstration Growing Conditions and Experimental Design:

Growing conditions were identical to those for the OVT Trial listed above except the non-replicated plots were 8 rows wide by 600 ft long and no fungicide was applied to the Demonstration Trial. Planting date, fertilization and herbicide applications were the same for both OVT and Demonstration plots. Demonstration plots were harvested 28 August.

Demonstration Summary

Corn yield in the Demonstration plots ranged from 192 to 238 bu/A (Table 4). Yields from the Demonstration were sometimes slightly lower and sometimes higher than those from the same varieties in the OVT trial (Table 3 vs. Table 4). A6659, DKC 67-44, N83D, REV 25BHR26 and 5678 all yielded 225 bu/A or more.

Table 4: Field corn demonstration trial yield, Jay, FL 2017.

	Brand	Variety	Yield (bu/A) 8/28/17
1	AgriGold	A6499VT2RIB	223
2	AgriGold	A6544VT2RIB	212
3	AgriGold	A6572VT2RIB	211
4	AgriGold	A6659VT2RIB	227
5	AgriGold	A6711VT2PRO	220
6	DeKalb	DKC 64-35	213
7	DeKalb	DKC 65-94	216
8	DeKalb	DKC 66-59	213
9	DeKalb	DKC 67-44	227
10	DeKalb	DKC 67-72	210
11	DeKalb	DKC 68-26	214
12	DeKalb	DKC 70-27	217
13	Syngenta	N76A-3000GT	192
14	Syngenta	N78S-3111	203
15	Syngenta	N83D-3111	226
16	Terral	REV 25BHR26	238
17	Terral	REV 28R10	212
18	Terral	REV 28BHR18	217
19	Croplan	5290 DGVT2P/RIBCPF	206
20	Croplan	5678 VT2P/RIB	225

Varieties with yields 225 bu/A or more are in **bold**.

Multi-Year Summary

Several varieties were evaluated in both 2016 and 2017 with a few in 2015, 2016 and 2017 (Table 5). Dyna-Gro 57VP51, Terral REV 25BHR26 and DeKalb DKC 70-27 had yields above 215 bu/A when averaged over two years while Dyna-Gro D57VP51, Syngenta N83D and Terral REV 25BHR26 yielded in excess of 200 bu/A when averaged over three years.

Table 5. Multi-Year Corn Variety Performance, WFREC, Jay, FL (2015-2017).

Brand	Variety	2017	2-Year Average	3-Year Average
Dyna-Gro	D57VP51	229	218	208
Dyna-Gro	D58VC65	215	208	
Syngenta	N76A-3000GT	209	200	194
Syngenta	N83D-3111	226	202	201
Terral	REV 25BHR26	235	223	209
DeKalb	DKC 66-59	217	211	
DeKalb	DKC 68-26	220	211	
DeKalb	DKC 70-27	220	216	