

# 2016 Evaluation of Field Corn Varieties, Jay, Florida

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This report includes the summary of the 2016 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 27 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. Augusta 5566-3000GT
2. Augusta 5466-3000GT
3. Augusta 7768-3110GT
4. Dyna-Gro D54VC52
5. Dyna-Gro D56VC46
6. Dyna-Gro D57VP51
7. Dyna-Gro D58VC65
8. Pioneer P1197YHR
9. Pioneer P1303HR
10. Pioneer P1794VYHR
11. Pioneer P1916YHR
12. Syngenta N68K-3111A
13. Syngenta N69D-3000GT
14. Syngenta N76A-3000GT
15. Syngenta N83D-3000GT
16. Terral REV 23BHR55
17. Terral REV 25BHR26
18. Terral REV 26BHR50
19. Terral REV 28HR20
20. Croplan 6640 VT3P/RIB
21. Croplan 8512 DGVT2PLF
22. DeKalb DKC 68-26
23. DeKalb DKC 67-72
24. DeKalb DKC 66-59
25. DeKalb DKC 65-20
26. DeKalb DKC 62-08
27. DeKalb DKC 70-27

## 2016 OVT Growing Conditions and Experimental Design:

On 23 March, 2016, 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 2015. 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 20 April, 2016. Fertilizer (31.6-4.7-10.3) was applied

at 780 lb/A on 25 April (urea, 277 lb/A; 277 lb/A Polymer Coated Urea 44-0-0; 80 lb/A triple super phosphate; 141 lb/A potassium). Roundup at 22 oz./A was applied 7 May for weed control. The fungicide Priaxor was applied at 8 oz./A on 3 June for disease control to the OVT trial. Data was collected from the two center rows of each plot. Plots were harvested on 16 August.

Rainfall in Jay, FL for April and July of 2016 was near normal, while for May was 3.81 inches above normal and June and August were 1.93 and 2.69 inches below normal (Table 1). Normal represents the mean for the past 55 years of records kept at WFREC, Jay.

**Table 1. Weather conditions during 2016 field corn trial.**

Month	Total Rainfall (in)	Average minimum air temperature (°F)	Average maximum air temperature (°F)
April	5.57 (0.77 above normal)	56.5	76.5
May	10.29 (3.81 above normal)	62.1	83.5
June	5.47 (1.93 below normal)	68.2	90.1
July	7.56 (0.49 below normal)	73.1	91.0
August	3.83 (2.69 below normal)	73.2	89.9

## OVT Summary

Stand count for all varieties ranged from 1.85 to 2.11 plants/ft (26,860 to 30,640 plants/A) (Table 2). All varieties except D54VC52, P1916YHR, REV 23BHR55 and REV 25BHR26 had populations in excess of 28,500 plants/A.

Corn ear height at harvest ranged from 27 to 38 inches. D58VC65, P1916YHR and DKC 65-20 were the only varieties with lower than 30 inch ear height while 5465-3000GT, 7768-3110GT, D54VC52, P1794VYHR, NG69D-3000GT, REV 23BHR55 and DKC62-08 had ear heights greater than 35 inches (Table 3). Corn lodging was less than 5% for all varieties tested (Table 3). Corn yield ranged from 157 to 212 bu/A. Several varieties produced more than 200 bu/A including D54VC52, D57VP51, D58VC65, P1197YHR, REV 25BHR26, 6640 VT3P/RIB, DKC 68-26, DKC 66-59, DKC 62-08 and DKC 70-27. These varieties are shown in **bold** in Table 3. The varieties 7768, N68K, N83D, and 8512 had yields less than 180 bu/A. Test weights were in a range from 49.9 to 57.3 lb/bu (56 lb/bu is the standard test weight for shelled corn) (Table 3). P1303HR, P1916YHR, REV 25BHR26, REV 26BHR50, REV 28HR20 and DKC 65-20 had test weights greater than 56 lb/bu while 5465, N68K, N69D and N76A had test weights lower than 54 lb/bu.

**Table 2: OVT field corn variety emergence, Jay, FL 2016.**

	<b>Brand</b>	<b>Hybrid</b>	<b>Plants/ft*</b> <b>4/11/16</b>	<b>Plants/A*</b> <b>4/11/16</b>
1	Augusta	5566-3000GT	2.11	30637
2	Augusta	5465-3000GT	2.06	29911
3	Augusta	7768-3110GT	2.03	29476
4	Dyna-Gro	D54VC52	1.95	28314
5	Dyna-Gro	D56VC46	1.99	28895
6	Dyna-Gro	D57VP51	2.07	30056
7	Dyna-Gro	D58VC65	1.97	28604
8	Pioneer	P1197YHR	2.03	29403
9	Pioneer	P1303HR	1.98	28750
10	Pioneer	P1794VYHR	2.05	29766
11	Pioneer	P1916YHR	1.85	26862
12	Syngenta	N68K-3111A	2.07	30056
13	Syngenta	N69D-3000GT	2.10	30419
14	Syngenta	N76A-3000GT	1.97	28604
15	Syngenta	N83D-3000GT	2.05	29766
16	Terral	REV 23BHR55	1.96	28459
17	Terral	REV 25BHR26	1.95	28314
18	Terral	REV 26BHR50	2.02	29258
19	Terral	REV 28HR20	1.98	28750
20	Croplan	6640 VT3P/RIB	2.03	29476
21	Croplan	8512 DGVT2PLF	2.04	29621
22	DeKalb	DKC 68-26	2.01	29113
23	DeKalb	DKC 67-72	2.04	29548
24	DeKalb	DKC 66-59	2.06	29839
25	DeKalb	DKC 65-20	2.00	29040
26	DeKalb	DKC 62-08	2.06	29911
27	DeKalb	DKC 70-27	2.03	29403
	<i>LSD</i>		<i>0.10</i>	<i>1498</i>
	<i>CV</i>		<i>3.64</i>	<i>3.64</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 2016.**

	Brand	Hybrid	Ear Height	% Lodging	Yield (bu/A)	Test
			(inches)			Wt.(lb/bu)
			8/15/16	8/15/16	8/16/16	8/17/16
1	Augusta	5566-3000GT	34	0	182	54.4
2	Augusta	5465-3000GT	37	0	190	53.9
3	Augusta	7768-3110GT	37	4	177	54.3
4	<b>Dyna-Gro</b>	<b>D54VC52</b>	36	1	<b>201</b>	55.3
5	Dyna-Gro	D56VC46	33	1	187	55.0
6	<b>Dyna-Gro</b>	<b>D57VP51</b>	32	1	<b>206</b>	55.4
7	<b>Dyna-Gro</b>	<b>D58VC65</b>	29	3	<b>200</b>	55.7
8	<b>Pioneer</b>	<b>P1197YHR</b>	33	1	<b>202</b>	55.5
9	Pioneer	P1303HR	35	0	186	58.4
10	Pioneer	P1794VYHR	38	1	186	55.5
11	Pioneer	P1916YHR	28	1	184	56.2
12	Syngenta	N68K-3111A	35	1	157	50.6
13	Syngenta	N69D-3000GT	37	1	178	53.7
14	Syngenta	N76A-3000GT	33	4	190	49.9
15	Syngenta	N83D-3000GT	32	1	178	54.1
16	Terral	REV 23BHR55	36	0	189	54.4
17	<b>Terral</b>	<b>REV 25BHR26</b>	35	0	<b>211</b>	57.3
18	Terral	REV 26BHR50	33	0	190	56.8
19	Terral	REV 28HR20	35	0	193	56.1
20	<b>Croplan</b>	<b>6640 VT3P/RIB</b>	30	0	<b>206</b>	55.3
21	Croplan	8512 DGVT2PLF	30	1	173	54.1
22	<b>DeKalb</b>	<b>DKC 68-26</b>	32	1	<b>202</b>	55.6
23	DeKalb	DKC 67-72	30	1	191	54.3
24	<b>DeKalb</b>	<b>DKC 66-59</b>	34	2	<b>205</b>	54.9
25	DeKalb	DKC 65-20	27	3	199	56.9
26	<b>DeKalb</b>	<b>DKC 62-08</b>	36	1	<b>212</b>	55.2
27	<b>DeKalb</b>	<b>DKC 70-27</b>	34	0	<b>211</b>	55.0
<i>LSD</i>			4	2.4	30	1.6
<i>CV</i>			8.23	177.31	10.99	2.1

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

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

Varieties with yields in excess of 200 bu/A are in **bold**.

## Demonstration Entries that were evaluated: (Brand/Hybrid)

1. Dyna-Gro D54VC52
2. Dyna-Gro D56VC46
3. Dyna-Gro D57VP51
4. Pioneer P1197YHR
5. Pioneer P1303HR
6. Pioneer P1794VYHR
7. Syngenta N76A-3000GT
8. Syngenta N83D-3000GT
9. Terral REV 23BHR55
10. Terral REV 25BHR26
11. Terral REV 26BHR50
12. Terral REV 28HR20
13. Croplan 6640 VT3P/RIB
14. Croplan 8512 DGVT2PLF
15. DeKalb DKC 68-26
16. DeKalb DKC 67-72
17. DeKalb DKC 66-59
18. DeKalb DKC 65-20
19. DeKalb DKC 62-08
20. DeKalb DKC 70-27

## 2016 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 23 August.

## Demonstration Summary

Corn yield in the Demonstration plots ranged from 172 to 210 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). DKC 68-26, DKC 67-72, DKC 66-59, DKC 65-20 and DKC 62-08 all yielded more than 200 bu/A. The average difference between the OVT and Demonstration trials for the 20 varieties that were in both trials was 5.5 bu/A less for the Demonstration compared to the OVT. The lower yields for some varieties may have been due to fungicide being applied to the OVT trial and not to the Demonstration trial.

**Table 4: Field corn demonstration trial yield, Jay, FL 2016.**

	<b>Brand</b>	<b>Variety</b>	<b>Yield (bu/A) 8/23/16</b>
1	Dyna-Gro	D54VC52	178
2	Dyna-Gro	D56VC46	188
3	Dyna-Gro	D57VP51	187
4	Pioneer	P1197YHR	190
5	Pioneer	P1303HR	176
6	Pioneer	P1794VYHR	193
7	Syngenta	N76A-3000GT	176
8	Syngenta	N83D-3000GT	184
9	Terral	REV 23BHR55	189
10	Terral	REV 25BHR26	186
11	Terral	REV 26BHR50	187
12	Terral	REV 28HR20	178
13	Croplan	6640 VT3P/RIB	195
14	Croplan	8512 DGVT2PLF	172
15	DeKalb	DKC 68-26	203
16	DeKalb	DKC 67-72	203
17	DeKalb	DKC 66-59	208
18	DeKalb	DKC 65-20	210
19	DeKalb	DKC 62-08	207
20	DeKalb	DKC 70-27	197

## Multi-Year Summary

Several varieties were evaluated in both 2015 and 2016 with a few in 2014, 2015 and 2016 (Table 5). Croplan 6640, Dekalb DKC 67-72 and DKC 62-08 yielded in excess of 200 bu/A when averaged over two years.

**Table 5. Multi-Year Corn Variety Performance, WFREC, Jay, FL (2014-2016).**

Brand	Variety	2016	2-Year Average	3-Year Average
Dyna-Gro	D56VC46	187	191	191
Dyna-Gro	D57VP51	<b>206</b>	197	197
Croplan	6640 VT3P/RIB	<b>206</b>	<b>203</b>	196
Pioneer	P1916YHR	184	183	
Syngenta	N83D-3000GT	178	189	
Terral	REV 23BHR55	189	189	
Terral	REV 25BHR26	<b>211</b>	197	
Terral	REV 26BHR50	190	188	
Terral	REV 28HR20	193	193	
Croplan	8512 DGVT2PLF	173	189	
DeKalb	DKC 67-72	191	<b>204</b>	
DeKalb	DKC 65-20	199	185	
DeKalb	DKC 62-08	<b>212</b>	<b>203</b>	

Yields in excess of 200 bu/A are in **bold**.