



Florida 2003 Short, Mid, and Full Season Corn Variety Tests for Silage and Grain¹

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The objective of the corn variety trials was to compare various corn varieties for silage and grain yields grown under North Florida weather conditions. The studies were conducted on a Dothan sandy loam (fine loamy siliceous, thermic Plinthic Kandiudult) at the North Florida Research and Education Center (NFREC) / University of Florida, Quincy, Florida in 2003.

The experimental area planted in rye was broadcast sprayed with Banvel @ 0.5 pt/A + Roundup WeatherMax @ 32 oz/A on 11 March, and rows were ripped with the Brown Ro-till implement on 25 March. On 1 and 2 April, corn was planted strip-till with a Cone planter in 23 ft long plots and 3 ft row spacing, fertilized with 3-9-18 (N-P₂O₅-K₂O) fertilizer @ 600 lbs/A (2-3 inches beside the planted corn rows), and broadcast sprayed with Roundup WeatherMax @ 1 pt/A. All studies were broadcast sprayed with Dual II Magnum @ 1.5 pt/A + Aatrex @ 1 qt/A on 11 April and Permit @ 1.33 oz/A + Induce @ 1.5 qt/A on 24 April. On 28 April, corn was side-dressed with ammonium nitrate (34-0-0) @ 450 lbs/A. All studies were irrigated at 0.3 inch on 7

April, 0.6 inch on 15 April, 0.5 inch on 1 and 2 May, 0.6 inch on 9 May, and 0.5 inch on 13 May. A Hesston silage chopper was used to cut 2 rows of corn x 23 ft for silage on 15 July (Short and Mid Season Variety Trial for Silage) and on 28 July (Full Season Variety Trial for Silage) at the 1/2 kernel milk-line stage. Silage yields were calculated to 35% dry matter (DM). Corn was harvested for grain with a corn supersheller on 11 and 14 August (Short Season Variety Trial for grain) and on 14-18 August (Mid and Full Season Variety Trial for grain). Corn grain yields were adjusted to 15.5% moisture.

Tables 1 and 2 show silage yields for the Short and Mid, and Full Season Corn Variety Trials, and Tables 3 and 4 show grain yields for the Short and Mid and Full Season Corn Variety Trials.

Key management Considerations for Corn Production:

1. *Variety selection*—Varieties should be compared over years and location for consistency in yield and quality.

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2. *Fertilizer*—Starter fertilizer should be applied 2" X 2" or as a surface dribble and not sprayed over the row in a wide band. Nitrogen should be applied on the surface an inch away from the row for each 10 lbs/A N used. Starter N mixtures containing 50% solution of N+S and 50% 10-34-0 makes a good starter for corn.

3. *Conservation tillage*—Strip-till planting decreases erosion, increases soil organic matter, soil moisture, and improves soil texture and may result in increased yields. Strip till rigs should have in-row rippers to break through the compaction layer to improve root growth and yield under stress conditions.

4. *Cover crops*—Cover crops should be killed 3 to 4 weeks prior to planting to reduce insect problems and potential moisture deficits.

5. *Planting date*—Plantings made from mid-February to mid-April are most suitable for corn in Florida to avoid severe insect and disease problems.

6. *Plant population*—Irrigated corn should end up with a final plant population of about 28,000 plants on most soils with most varieties and 22,000 to 24,000 for non-irrigated corn and can vary with soil type and hybrid.

7. *Nitrogen*—Nitrogen applications should be split. For both irrigated and non-irrigated corn, N should be applied at 20-30 lbs/A as a starter, 30-40 lbs/A when corn is 12-15 inches tall, and 60 lbs/A when corn is 24-30 inches tall. An additional rate of 60-80 lbs/A can be applied 2 weeks later through the irrigation system for irrigated corn. All N should be applied before or no later than silking and tasselling. Total application of N for non-irrigated corn is 120-150 lbs/A and 180-210 lbs/A for irrigated corn, depending on soil type and cropping history. Other nutrients should be applied according to soil tests at planting. Potassium may be split with 1/3 applied at planting and the remainder by the time corn is 24 inches tall on sandy soils.

8. *Weed control*—Effective weed control is one of the many critical components of successful corn production. Weeds must be controlled early for best yields and lowest cost.

9. *Insect control*—Insect control on new planted corn is critical to good stands and yield. Scout for late season insect control and pay attention to stink bugs prior to silking.

10. *Rotation*—Good rotation is key to maintaining good yields and nematode levels should be monitored at the end of every season. See EDIS publication ENY-27 *Nematode Assay Laboratory* (<http://edis.ifas.ufl.edu/SR001>) for information on how to monitor nematode populations.

Table 1. Short and Mid Season Irrigated Corn Variety Trial for Silage, Quincy, FL in 2003.

Brand	Hybrid	Silage yield†
		-----T/A-----
DeKalb	DKC69-71(RR/YGCB)*	33.3
Pioneer	32D99	29.1
NK	1851W	26.6
Croplan Genetics	827RR	25.7
Pioneer	33J56	25.0
Garst	8230IT*	24.8
DeKalb	DKC67-60(RR)	24.6
Croplan Genetics	780RR/Bt*	24.6
Dyna-Gro	58K22	24.2
Croplan Genetics	895Bt*	23.8
Southern States	SS842RR*	23.7
Croplan Genetics	DS822RR*	23.6
Garst	8288*	23.5
Greenwood	780*	23.5
Dyna-Gro	58K56*	23.3
NK	N 82-N5*	22.3
Croplan Genetics	DS830*	21.5
Average		24.9
LSD (0.05)		5.5
†Silage yields adjusted to 35% DM.		
*Mid-Season hybrid.		

Table 2. Full Season Irrigated Corn Variety Trail for silage, Quincy, FL in 2003.

Brand	Hybrid	Silage yield†
		-----T/A-----
Pioneer	30F33	29.3
Greenwood	865	27.1
Greenwood	863	26.7
NK	N91-R9	26.4
Greenwood	835	23.1
Average		26.5
LSD (0.05)		3.0
†Silage yields adjusted to 35% DM.		

Table 3. Short Season Irrigated Corn Variety Trail for Grain, Quincy, FL in 2003.

Brand	Hybrid	Grain yield† -----Bu/A-----
DeKalb	DKC67-60(RR)	175
Dyna-Gro	5518	169
Terral	TV214nRR	169
Terral	TV2140RR	166
Terral	TV2130	165
Dyna-Gro	58K15	157
Dyna-Gro	5515	157
Terral	TV25B30	157
Pioneer	31G98	156
NK	1851W	155
Southern States	SS781CL	154
Dyna-Gro	5545	153
Vigoro	V58Y41	153
Terral	TV2160Bt	153
Dyna-Gro	58K22	152
Terral	TV2160Bt	152
Croplan Genetics	691LLBt	152
Croplan Genetics	818BtRR	151
Terral	TV26B23	150
Pioneer	33M54	147
DeKalb	DKC66-80(RR)	147
Terral	TV24R10	138
Terral	TV26BR10n	137
Average		155
LSD (0.05)		NS
†Grain yields adjusted to 15.5% moisture.		

Table 4. Mid and Full Season Irrigated Corn Variety Trial for Grain, Quincy, FL in 2003

Brand	Hybrid	Grain yield† -----Bu/A-----
Pioneer	32D99	164
Greenwood	780	154
DeKalb	DKC69-71(RR/YGCB)	153
Greenwood	863*	146
Pioneer	31G66	145
NK	N 83-N5	138
Croplan Genetics	DS822RR	138
NK	N91-R9*	131
Garst	8288	131

Table 4. Mid and Full Season Irrigated Corn Variety Trial for Grain, Quincy, FL in 2003

Brand	Hybrid	Grain yield† -----Bu/A-----
Southern States	SS842RR	131
Vigoro	V61R36	129
Dyna-Gro	58K56	123
Garst	8230IT	115
Average		138
LSD (0.05)		23
†Grain yields adjusted to 15.5% moisture. *Full-season hybrid.		