2024 NFREC – Quincy and NFREC – SV Corn Variety Trial

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Purpose and Scope

Crop variety trials are crucial for assessing productivity, climate adaptability, pest and disease resistance, and grain quality under field cultivation conditions. These trials enable the identification of varieties best suited to diverse soil types and climatic conditions, as well as the evaluation of growth cycles and responses to irrigation and nutrient management. With the current market price, it become pertinent to provide research-based information to our growers in terms of varieties that are best suited for their region and agricultural operations. Suwanee Valley and Panhandle represent different agroclimatic zones with different soil types, rainfall, and drought conditions. These conditions warrant to evaluate performance of different germplasms in terms of yield and agronomic parameters when grown in Suwanee Valley and Panhandle. One small plot replicated trial was established as a Randomized Complete Block Design (RCBD) with four replications at North Florida Research and Education Center (NFREC)-Quincy, FL evaluating 30 corn varieties. This site represents Florida Panhandle conditions. Another site, at NFREC-Suwanee Valley, Live Oak was established as a replicated long-plot trial under a pivot. Each quarter under the pivot served as a block and 18 varieties (treatments) were planted in a RCBD with four replications.

Table 1: Corn varieties evaluated at NFREC-SV and NFREC-Quincy in 2024.

Company Names	Corn Varieties NFREC - Live-Oak	Corn Varieties NFREC - Quincy
Agratech	85VT2P	85VT2P
Agratech	704VT2P	704VT2P
Agratech	-	711VT2P
Agratech	-	1778VIP (Silage)
Agratech	-	1025VIP (Silage)
Agratech	-	999VIP
BH Genetics	BH8721BT2P	BH8721BT2P
BH Genetics	BH8939TRE	BH8939TRE
Croplan	CP5760SS	CP5760SS
Croplan	CP5893TRE	CP5893TRE
Dekalb	DKC70-45	DKC70-45
Dekalb	DKC68-35VT2P	DKC68-35VT2P
Dekalb	-	DKC117-78
Dekalb	-	DKC69-99
Dynagro	D58SS65	D58SS65
Dynagro	D57VC51	D57VC51
Dynagro	-	58VC65
Dynagro	-	58TC44
Integra	6915TRE	6915TRE
Integra	6641SS	6641SS
NK	NK1677-3110	NK1677-3110
NK	NK1838-3110	NK1838-3110
Pioneer	P1289YHR	P1289YHR
Pioneer	P17677VHR	P17677VHR
Pioneer	-	P1622VYHR
Pioneer	-	P1847VYHR
Pioneer	-	P2042VYHR
Pioneer	-	P1608YHR
Revere	RV1839	RV1839
Revere	RV1577	RV1577

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Management

Prior to planting, Glyphosate and 2, 4-D Amine were used in Quincy and Live-Oak. At NFREC - Quincy, the treatments consisted of 30 corn varieties with four replications each. Four rows of each variety were planted on April 10th on 36-inch rows spacing and 20 feet long. At NFREC - Live Oak, the treatments consisted of 19 corn varieties with four replications each. Four rows of each variety were planted on April 11th in long plots under a pivot (30-inch rows spacing). In Quincy the corn harvest was on August 15th and in Live-Oak it was on August 20th. For corn harvest a small corn picker was used and the two central lines of each plot were harvested to get yield data.

Fertility

For Quincy:

5-10-15 at 200 lbs/ac was applied on March 13rd.

34-0-0, 40lbs/ac of Phosphate and 80 lbs/ac of Potash were applied preplant on first week of April.

34-0-0 at 50 lbs/ac plus 120 lbs/ac of Potash were applied on April 24th.

34-0-0 at 235 lbs/ac plus 100 lbs/ac of Potash were applied on May 1st.

34-0-0 at 30 lbs/ac plus 30 lbs/ac of Potash on May 8th.

34-0-0 at 118 lbs/ac on May22nd.

For Live-Oak:

1-8-14 at 320 lbs/ac, banded 8 in on each side of the row applied on April 9th.

28-0-0-5 liquid started at 15 gal/ac banded 3in on each side of the row on April 10th.

At the planting day (April 11th) other products were applied, as a AgXplore ContaiN Advanced (N), AgXplore MicroScience (secondary and micronutrients), AgXplore N-Ferno (humic to stimulate microbial activity), and GSI Vermicompost tea (promotes diverse microbial growth).

14-0-22 at 673 lbs/ac banded on both sides of row with First Products unit on May 17th.

28-0-0-5 fertigation at 10 gal/ac on May 21st.

23-9-0-5 fertigation at 20 gal/ac on June 4th.

23-9-0-5 fertigation at 5 gal/ac on June 25th.

Target Fertilizer Usage

For Quincy:	**For Live-Oak:**
Nitrogen: 295 lbs/ac	Nitrogen: 233 lbs/ac
Phosphorus: 60 lbs/ac	Phosphorus: 50 lbs/ac
Potassium: 360 lbs/ac	Potassium: 193 lbs/ac
	Sulfur: 60 lbs/ac
	Magnesium: 22 lbs/ac
	Boron: 2 lbs/ac

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For Quincy:

Gramoxone and Factor were applied on April 15th.

Glyphosate was applied on April 30th.

Atrazine and Twister were applied on May 8th.

For Live-Oak:

Gramoxone, Dual 2, and Atrazine were applied on April 16th.

Dual 2 and Atrazine were applied on April 29th.

Data Collection

The data was collected throughout the season to evaluate several agronomic traits to understand how different corn varieties behave in each location. The data colleting consisted of plant emergence rate, plant height, number of ears per plant, corn ear high, corn ear diameter, corn ear length, number of kernel rows per ear, yield and NUE. In Quincy, the emergence rate was evaluated twice 8 and 11 Days After Planting (DAP). This evaluation was performed randomly in 20 feet in each plot. Plant height was measured twice in Quincy, at 29 and 43 DAP, for this measurement four randomized plants from each plot were used. At both sites, a few weeks before harvest, number of ears per plant, corn ear height, corn ear diameter, corn ear length, number of rows of grains per ear were measured. Also, three plants were taken to biomass and to assess N content.

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Table 2: NFREC – Quincy, 2024 corn trial yield results of each corn variety organized from the highest yield to the lowest yield.

Company Names	Corn Varieties NFREC - Quincy	Yield Bushel/Acre
BH Genetics	BH8721BT2P	300 a
Revere	RV1839	291 ab
Dekalb	DCK70-45	283 abc
Dekalb	DKC68-35VT2P	281 abc
Integra	6915TRE	278 abc
Pioneer	P2042VYHR	277 abc
Dekalb	DKC117-78	266 abcd
Dynagro	58TC44	266 abcd
Croplan	CP5893TRE	262 bcde
Pioneer	P1608YHR	261 bcdef
Agratech	85VT2P	259 bcdef
Pioneer	P17677VHR	259 bcdef
Pioneer	P1622VYHR	259 bcdef
Integra	6641SS	258 bcdef
NK	NK1677-3110	257 bcdef
Revere	RV1577	257 cdefg
Agratech	1778VIP	255 cdefg
Pioneer	P1289YHR	255 cdefg
BH Genetics	BH8939TRE	253 cdefg
Pioneer	P1847VYHR	253 cdefg
Dekalb	DKC69-99	249 defg
Dynagro	D58SS65	241 defg
Dynagro	58VC65	240 defg
Agratech	704VT2P	240 defg
Croplan	CP5760SS	239 defg
NK	NK1838-3110	238 defg
Agratech	999VIP	237 defg
Dynagro	D57VC51	235 efg
Agratech	1025VIP	226 fg
Agratech	711VT2P	221 g

At NFREC - Quincy, the top 5 corn varieties were **BH8721BT2P** (300 bu/ac), **RV1839** (291 bu/ac), **DCK 70-45** (283 bu/ac), **DCK 68-35VT2P** (281 bu/ac), and **6915 TRE** (278 bu/ac).

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Table 3: NFREC – Live-Oak, 2024 corn trial yield results of each corn variety organized from the highest yield to the lowest yield.

Company Names	Corn Varieties NFREC - Live-Oak	Yield Bushel/Acre
Dekalb	DKC68-35VT2P	215 a
Pioneer	P17677VHR	209 abc
Revere	RV1839	198 abcd
Integra	6915TRE	196 abcde
NK	NK1838-3110	195 abcde
BH Genetics	BH8939TRE	194 abcde
Pioneer	P1289YHR	194 abcde
Croplan	CP5760SS	191 bcde
NK	NK1677-3110	191 bcde
Revere	RV1577	188 cde
Integra	6641SS	187 cde
Agratech	85VT2P	186 de
Agratech	704VT2P	179 de
Croplan	CP5893TRE	179 de
Dekalb	DKC70-45	178 de
BH Genetics	BH8721BT2P	177 de
Dynagro	D58SS65	175 e
Dynagro	D57VC51	175 e

At NFREC - Live-Oak, the top 5 corn varieties were **DKC 68-35VT2P** (215 bu/ac), **P17677 VHR** (209 bu/ac), **RV 1839** (198 bu/ac), **6915 TRE** (196 bu/ac), and **NK 1830-3110** (195 bu/ac).