



Virginia On-Farm Corn Test Plots 2023

Authored by: Trent Jones, Extension Agent, Northumberland and Lancaster Counties; Robbie Longest, Extension Agent, Essex County; Mike Broaddus, Former Extension Agent, Caroline and King George Counties; Stephanie Romelczyk, Extension Agent, Westmoreland County; Scott Reiter, Extension Agent, Prince George County; Roy Flanagan, Extension Agent, City of Virginia Beach; Frank Long, Associate Extension Agent, Middlesex County; Taylor Clarke, Extension Agent, Mecklenburg County; Bruce Jones, Extension Agent, Appomattox County; Joanne Jones, Extension Agent, Charlotte County; Elizabeth Cooper, Extension Agent, City of Suffolk; Rebekah Slabach, Extension Agent, Halifax County; Forrest Hobbs, Former Extension Agent, James City and New Kent Counties; Mike Parrish, Extension Agent, Dinwiddie County; Nathan Sedghi, Associate Extension Agent, City of Chesapeake; Keith Balderson ACES Enrollee, NRCS, Dwight Forrester, Nutrient Management Specialist, NRCS



A summary of replicated research and demonstration plots conducted by Virginia Cooperative Extension in cooperation with local producers and agribusinesses.

The research and demonstration plots discussed in this publication are a cooperative effort by Virginia Cooperative Extension employees, Virginia Tech and Virginia State University, the Natural Resources Conservation Service, numerous producers, and many members of the Virginia agribusiness community. The fieldwork and printing of this publication are mainly supported by the Virginia Corn Check-Off Fund through the Virginia Corn Board. This is the fortieth year of this multi-county cooperative project. Further work is planned for 2024. Anyone who would like a copy of this publication should contact their local extension office, who can request a copy from the VCE Northumberland County Extension Office.



Producers interested in becoming involved with on-farm plot work, and those with research topic ideas that they would like to have investigated in future on-farm publications should contact their local extension office for further information.

The authors wish to thank the many producers and agribusinesses that participated in these research and demonstration plots. This publication is made possible through their continued support and cooperation.

If you are a person with a disability and desire assistance or accommodation, or would like to request a fully accessible copy of this publication, please contact Trent Jones at the Northumberland County VCE Office at 804-580-5694 or jonesrt@vt.edu.

Disclaimer: Commercial products are named in this publication for informational purposes only. Virginia Cooperative Extension does not endorse these products and does not intend discrimination against other products, which also may be suitable.

In Memoriam

Michael G. Broaddus

July 19, 1962 – April 6, 2023

Michael “Mike” Broaddus served as the Virginia Cooperative Extension Agriculture and Natural Resources (ANR) Extension Agent in Caroline and King George Counties for approximately ten years, and was a dedicated member of the agricultural community within the counties he served as well as the surrounding area. During his time as an agent Mike served as the lead, coordinating the Virginia On-Farm Wheat Test Plots Program, and was a valued contributor to both the Virginia On-Farm Corn Test Plots and Virginia On-Farm Soybean Research projects annually. Mikes commitment to on-farm research and agricultural education not only positively impacted the farmers within his counties, but those across the state of Virginia. The 2023 Virginia On-Farm Corn Test Plots publication is dedicated in memory of Mike Broaddus for a lifetime of commitment to agriculture.



Figure 1. Mike Broaddus calculates yields as Robbie Longest manages the weigh wagon while harvesting the corn hybrid trial at the 2022 Virginia Ag Expo plot location in Caroline County – Picture by Trent Jones.

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General Summary

These demonstrations and replicated studies provide information that can be used by Virginia corn growers to make better management decisions on their farm. These results should be used along with data from other replicated studies when making decisions. Refer to individual location results for additional detail.

Hybrid Comparisons

Corn hybrid selection remains a challenge for Virginia producers. With more seed companies, and more GMO options and seed treatment packages than ever before, hybrid selection can be a difficult decision. We evaluated early maturity hybrids (107 day RM or less) at three locations, mid maturity hybrids (108-112 day RM) at six locations, and full season hybrids (113 day RM or more) at eight locations. Hybrids from all three maturity groups were planted at the 2023 Virginia Ag Expo site located in Virginia Beach. Farmers should use the results compiled from these studies to assist with future hybrid selection; however, they should continue to plant hybrids of multiple maturities to help spread production risk.

Corn Planting Population Comparison

The purpose of this population trial was to compare the yield results of a higher seeding rate (30,000 seed / acre) to the grower standard (26,000 seed / acre) for moderate to high productivity soils. The hybrid used, Revere 1307 TC, is a semi-determinate ear type and higher populations are recommended for more productive soils. Results from each planting population are used to determine if additional yield gained through increased planting population offsets the cost of additional seed per acre and results in a profitable return.

Weak Spots in Hairy Vetch Cover Crops

Farmers are interested in alternative fertility sources that allow for reduction in overall inputs. The utilization of legume cover crops like hairy vetch can provide a subsequent corn crop plant available nitrogen converted from previously atmospheric nitrogen. In previous editions of the Virginia On-Farm Corn Test Plot publication an effort was made to gain a better understanding on determining nitrogen fertilizer rates and timing of the application to grain corn following a hairy vetch cover crop. Through that effort it was identified that inconsistent stands of hairy vetch are common. Weak spots throughout the field do not provide as much nitrogen in those areas which would lead to a subsequent corn crop with inadequate nitrogen availability in parts of the field. In this study NRCS ACES enrollee Keith Balderson addresses potential causes and solutions for weak spots in hairy vetch cover crop stands.

Early Maturity Hybrid Comparisons

Early Maturity Hybrid Entries

107 Day RM or Less

Table 1. Corn hybrids entered in the early maturity group as well as the relative maturity, seed treatments, and genetic traits of each hybrid entered

Brand	Hybrid	Relative Maturity	Seed Treatments	Genetic Traits
Augusta Seed Corn	1958	107	Cruiser 250	DV (Duracade Viptera)
Hubner Seed	H0355D	103	Poncho 500	RR, VT2P
Dekalb	DKC 56-26	106	Poncho / Votivo 1250	TRE
Revere Seed	RV0707DGVT2P	107	Radius 500	DG, VT2P
Dyna Gro	DG45TC55RIB	105	Poncho 500 + Votivo	YGCB, RR2, TRE
Chemgro Seeds	6725RDP	107	Acceleron 250	VT2P, RIB Complete
AGRI-GOLD	A636-43	106	Acceleron 250	VT2P, RIB
Innvictis	A0490	104	LumiGEN 500	VT2P, RIB
Seed Consultants	SC1084AM	107	LumiGEN 500	AM, LL, RR

Summary of Early Maturity Hybrid Comparisons

107 Day RM or Less

Table 2. A summary of yield results at 15.5% moisture from corn hybrids entered in the early maturity group by plot location sorted by hybrid average

Brand	Hybrid	Virginia Ag Expo	Lancaster	New Kent	Hybrid Average
Seed Consultants	SC1084AM	294.9	239.6	240.0	258.2
Dekalb	DKC 56-26	293.9	235.8	243.6	257.8
Dyna Gro	DG45TC55RIB	291.3	221.0	233.0	248.4
Chemgro Seeds	6725RDP	258.4	233.0	218.1	236.5
Revere Seed	RV0707DGVT2P	269.2	218.4	215.3	234.3
Hubner Seed	H0355D	250.8	222.2	217.7	230.2
Innvictis	A0490	253.0	220.2	208.3	227.2
AGRI-GOLD	A636-43	239.8	213.0	224.1	225.6
Augusta Seed Corn	1958	246.5	204.2	217.7	222.8
	Location Average	266.4	223.0	224.2	

Virginia Beach - Virginia Ag Expo Early Maturity Corn Hybrid Comparison

Cooperators

Producer: Land of Promise Farms

Extension: Roy D. Flanagan III, VCE - Virginia Beach
Nathan Sedghi, Ph.D., VCE - Chesapeake

Crop Management

Previous Crop: Soybeans

Soil Type: Nimmo and Portsmouth Loams

Tillage: Conventional

Planting Date: April 13, 2023

Planting Equipment: John Deere 1795

Seeding Rate: 36,000/acre

Total Fertility: 250N-30P-84K

Preplant Crop Protection: Harness

Post Emergence Crop Protection: RoundUp Powermax 3 and Atrazine

Harvest Date: September 6, 2023

Harvest Equipment: JD S780

Virginia Beach - Virginia Ag Expo Early Maturity Corn Hybrid Comparison

Table 3. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the early maturity group planted at the Virginia Beach location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Innictis	A0490	104	18.8	58	253.0
Augusta Seed Corn	1958	107	20.8	57	246.5
Dyna Gro	DG45TC55RIB	105	17.8	56	291.3
Seed Consultants	SC 1084AM	107	20.9	57	294.9
AGRI-GOLD	A636-43	106	21.2	54	239.8
Hubner Seed	H0355D	13	17.8	55	250.8
Dekalb	DKC 56-26	106	17.8	56	293.9
Revere Seed	RV0707DGVT2P	107	17.6	57	269.2
Chemgro Seeds	6725RDP	107	20.8	56	258.4

Lancaster County Early Maturity Corn Hybrid Comparison

Cooperators

Producer: Ridgefield Farms

Extension: Trent Jones, VCE Northumberland and Lancaster Counties

Industry: Helena Agri-Enterprises

Crop Management

Previous Crop: Soybeans, Rye cover crop aerially planted in to standing beans prior to harvest.

Soil Type: Woodstown Fine Sandy Loam

Tillage: No-Till

Planting Date: April 18, 2023

Planting Equipment: Kinze 3200 12 Row Planter

Seeding Rate: 31,000 Seed / Acre

Preplant Fertilizer: Variable Rate P&K. 20 GPA 15-15-0-2.5S-0.25Zn-0.1B

Sidedress Fertilizer: 110-0-0-15S with Boron 1st Side-Dress. 60-0-0-10S with Boron 2nd Side-Dress.

Preplant Crop Protection: 32 oz/acre Gramoxone SL 3.0. 24 oz/acre Empyros. 32 oz/acre Atrazine.

Post Emergence Crop Protection: 3.6 pints/acre Halex GT. 1 pint/acre Atrazine. 1 pint/acre Megafol

Harvest Date: September 15, 2023

Harvest Equipment: John Deere S760

Lancaster County Early Maturity Corn Hybrid Comparison

Table 4. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the early maturity group planted at the Lancaster County location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (bu./A at 15.5%)
Hubner Seed (CHECK)	H0355D	103	14.0	55.8	222.9
Dekalb	DKC 56-26	106	14.2	54.2	235.8
Dyna Gro	DG45TC55RIB	105	14.4	56.0	221.0
Seed Consultants	SC1084AM	107	14.8	55.2	239.6
Augusta Seed Corn	1958	107	15.8	58.3	204.2
AGRI-GOLD	A636-43	106	15.4	55.8	213.0
Innvictis	A0490	104	14.4	54.7	220.2
Revere Seed	RV0707DGVT2P	107	14.2	56.1	218.4
Chemgro Seeds	6725RDP	107	15.2	55.3	233.0
Hubner Seed (CHECK)	H0355D	103	14.4	54.8	221.4

Discussion: This hybrid trial was planted and emerged to cool wet temperatures for several weeks in April. As temperatures increased this plot received adequate rainfall throughout the entire season up until a several week dry period at the end of grain-fill, just before harvest. Overall the drought did not impact yield severely with the plot averaging 223 Bu./A dry yield. This plot was placed in a field with very little topographic or soil variability, which is apparent when comparing checks.

Thank you to Jock Chilton and Ridgefield Farms for their continued support of on-farm corn hybrid comparison research, and to Spencer Moody, with Helena Agri-Enterprises for supplying the supporting production information related to this plot.

New Kent County Early Maturity Corn Hybrid Comparison

Cooperators

Producer: Paul Davis

Extension: Forrest Hobbs, Former VCE – New Kent County

Crop Management

Previous Crop: Soybeans, Cover Crop – 50 lb. Rye, 20 lb. Hairy Vetch, 2lb. Balansa Clover

Soil Type: Tetotum Fine Sandy Loam

Tillage: No-Till

Planting Date: April 18, 2023

Seeding Rate: 32,000 Seed / Acre

Preplant Fertilizer: March 3, 2023 – 20 lb. N on Cover Crop

March 16, 2023 – Variable Rate NPK, Avg. 12-60-60

April 18, 2023 – 2x2 Starter, 35 lb. N

Sidedress Fertilizer: June 1, 2023 – 60 lb. N (24-0-0-3)

Preplant Crop Protection: March 9, 2023 – Burndown, 8 oz. Clethodim

Post Emergence Crop Protection: April 20, 2023 – 1 qt. Glyphosate 1.5 qt. Bicep, 1 pt. 2,4-D

May 23, 2023 – Post emergence, 1 qt. Glyphosate, 3 oz Callisto

June 5, 2023 - 4 oz. Approach Prima

Harvest Date: October 2, 2023

New Kent County Early Maturity Corn Hybrid Comparison

Table 5. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the early maturity group planted at the New Kent County location

Brand	Hybrid	Relative Maturity	% Moisture	Yield (Bu./A at 15.5%)
Revere Seed	RV0707DGVT2P	107	15.9	215.3
Dekalb	DKC 56-26	106	15.7	243.6
Hubner Seed	H0355D	103	15.1	217.7
Dyna Gro	DG45TC55RIB	105	16.1	233.0
Innictis	A0490	104	15.7	208.3
AGRI-GOLD	A636-43	106	16.7	224.1
Augusta Seed Corn	1958	107	17.7	217.7
Chemgro Seeds	6725RDP	107	16.2	218.1
Seed Consultants	SC1084AM	107	16.3	240.0

Mid Maturity Hybrid Comparisons

Mid Maturity Hybrid Entries

108 – 112 Day RM

Table 6. Corn hybrids entered in the mid maturity group as well as the relative maturity, seed treatments, and genetic traits of each hybrid entered.

Brand	Hybrid	Relative Maturity	Seed Treatments	Genetic Traits
Augusta Seed Corn	2061	111	Cruiser 250	PWE (PowerCore Enlist)
Hubner Seed	H09G056	109	Poncho 500	RR, V2P, DG
Dekalb	DKC 62-70	112	Poncho / Votivo 1250	VT2P
Revere Seed	RV0918VT2P	109	Radius 500	VT2P
Dyna Gro	DG50VC09RIB	110	Poncho 1250 + Votivo	YGCB, RR2
Chemgro Seeds	7035RDP	110	Acceleron 250	VT2P, RIB Complete
AGRI-GOLD	A642-05	111	Acceleron 500 + Votivo	VT2P, RIB
Pioneer	P1222YHR	112	L1250	YGCB, HX1, LL, RR2
Innvictis	1257	112	FALEH1	VT2P, RIB
Seed Consultants	SC 1112AM	111	LumiGen 500	AM, LL, RR

Summary of Mid Maturity Hybrid Comparisons

108 – 112 Day RM

Table 7. A summary of yield results at 15.5% moisture from corn hybrids entered in the mid maturity group by plot location sorted by hybrid average

Brand	Hybrid	Virginia Ag Expo	New Kent	Westmoreland 1	Westmoreland 2	Southampton	City of Suffolk	Hybrid Average
Revere Seed	RV0918VT2P	291.4	258.6	206.6	203.9	195.1	195.8	225.2
Pioneer	P1222YHR	307.6	243.2	197.0	201.1	184.3	186.5	220.0
Dekalb	DKC 62-70	282.7		205.3	202.1	194.2	190.2	214.9
Augusta Seed Corn	2061	281.8	235.2	201.3	199.9	181.5	175.1	212.5
Seed Consultants	SC 1112AM	313.9	256.1	196.2	158.2	178.9	165.1	211.4
Innqvictis	1257	279.2		227.0	190.6	183.2	155.8	207.2
Hubner Seed	H09G056	260.8		186.5	199.6	191.4	196.2	206.9
AGRI-GOLD	A642-05	271.3	194.7	208.0	192.6	198.0	173.8	206.4
Dyna Gro	DG50VC09RIB	260.4	192.1	183.2	119.9	190.5	190.3	189.4
Chemgro Seeds	7035RDP	249.0	215.0	167.1	157.4	182.1	144.6	185.9
	Location Average	279.8	227.8	197.8	182.5	187.9	177.3	

Virginia Beach - Virginia Ag Expo Mid Maturity Corn Hybrid Comparison

Cooperators

Producer: Land of Promise Farms

Extension: Roy D. Flanagan III, VCE-Virginia Beach
Nathan Sedghi, Ph.D., VCE-Chesapeake

Crop Management

Previous Crop: Soybeans

Soil Type: Nimmo and Portsmouth Loams

Tillage: Conventional

Planting Date: April 13, 2023

Planting Equipment: John Deere 1795

Seeding Rate: 36,000/acre

Total Fertility: 250N-30P-84K

Preplant Crop Protection: Harness

Post Emergence Crop Protection: RoundUp Powermax 3 and Atrazine

Harvest Date: September 6, 2023

Harvest Equipment: JD S780

Virginia Beach - Virginia Ag Expo Mid Maturity Corn Hybrid Comparison

Table 8. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the mid maturity group planted at the Virginia Beach location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
AGRI-GOLD	A642-05	111	20.2	56	271.3
Revere Seed	RV0918VT2P	109	19.7	57	291.4
Chemgro Seeds	7035RDP	110	19.7	58	249.0
Pioneer	P1222YHR	112	21.6	58	307.6
Dekalb	DKC 62-70	112	21.6	59	282.7
Dyna Gro	DG50VC09RIB	110	21.9	57	260.4
Seed Consultants	SC 1112AM	111	22.5	56	313.9
Hubner Seed	H09G056	109	23.2	54	260.8
Innictis	1257	112	21.7	57	279.2
Augusta Seed Corn	2061	111	21.9	56	281.8

New Kent County Mid Maturity Corn Hybrid Comparison

Cooperators

Producer: Paul Davis

Extension: Forrest Hobbs, Former ANR – New Kent County

Crop Management

Previous Crop: Soybeans, Cover Crop – 50 lb. Rye, 20 lb. Hairy Vetch, 2lb. Balansa Clover

Soil Type: Tetotum Fine Sandy Loam

Tillage: No-Till

Planting Date: April 18, 2023

Seeding Rate: 32,000 Seed / Acre

Preplant Fertilizer: March 3, 2023 – 20 lb. N on Cover Crop

March 16, 2023 – Variable Rate NPK, Avg. 12-60-60

April 18, 2023 – 2x2 Starter, 35 lb. N

Sidedress Fertilizer: June 1, 2023 – 60 lb. N (24-0-0-3)

Preplant Crop Protection: March 9, 2023 – Burndown, 8 oz. Clethodim

Post Emergence Crop Protection: April 20, 2023 – 1 qt. Glyphosate 1.5 qt. Bicep, 1 pt. 2,4-D

May 23, 2023 – Post emergence, 1 qt. Glyphosate, 3 oz Callisto

June 5, 2023 - 4 oz. Approach Prima

Harvest Date: October 2, 2023

New Kent County Mid Maturity Corn Hybrid Comparison

Table 9. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the mid maturity group planted at the New Kent County location

Brand	Hybrid	Relative Maturity	% Moisture	Yield (Bu./A at 15.5%)
Augusta Seed Corn	2061	111	17.1	235.2
Revere Seed	RV0918VT2P	109	16.4	258.6
Dyna Gro	DG50VC09RIB	110	16.9	192.1
Seed Consultants	SC 1112AM	111	17.8	256.1
Pioneer	P1222YHR	112	17.5	243.2
Chemgro Seeds	7035RDP	110	17.9	215.0
AGRI-GOLD	A642-05	111	17.4	194.7

Southampton County Mid Maturity Corn Hybrid Comparison

Cooperators

Producer: D&J Farms, Dennis & Denton Spruill

Extension: Elizabeth Cooper, VCE - Surry/Sussex

Crop Management

Previous Crop: Soybeans

Soil Type: Slagle, Fine Sandy Loam

Tillage: Strip-Till

Planting Date: April 17, 2023

Planting Equipment: KMC 8-Row Strip-Till Rig, John Deere 7300 MaxEmerge Planter

Seeding Rate: 28,000

Preplant Fertilizer: 2.5 tons Poultry Litter, (17-17-0 2x2 band @ 11 gal./acre at planting)

Sidedress Fertilizer: 32-0-0 @ 120 units

Preplant Crop Protection: 32 oz. Roundup, 1 qt. 2,4-D, 2 oz. Valor

Post Emergence Crop Protection: 3.6 qt. Halex GT, 2 qt. Atrazine

Harvest Date: September 28, 2023

Harvest Equipment: John Deere 9760 Grain Combine

Southampton County Mid Maturity Corn Hybrid Comparison

Table 10. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the mid maturity group planted at the Southampton County location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Augusta Seed Corn	2061	111	16.7	54.8	181.5
Hubner Seed	H09G056	109	17.4	52.9	191.4
Dekalb	DKC 62-70	112	17.1	55.6	194.2
Revere Seed	RV0918VT2P	109	16.8	55	195.1
Dyna Gro	DG50VC09RIB	110	16.3	56	190.5
Chemgro Seeds	7035RDP	110	16.3	56.3	182.1
AGRI-GOLD	A642-05	111	17.2	56.9	198.0
Pioneer	P1222YHR	112	16.2	58.7	184.3
Seed Consultants	SC 1112AM	111	16.6	57.3	178.9
Innvictis	1257	112	17.0	58.8	183.2

Discussion: The growing season was ideal with adequate rainfall even throughout the extreme heat we saw in July and August. Harvest was delayed by approximately 2 weeks due to lack of storage and availability to bring trucks to the local elevators. The overall crop in the area overwhelmed the elevators and grain buyers to the point that they stopped taking grain and most producers were slowed down in their harvest unless they had the on-farm storage to hold all/most of their crop. This resulted in additional heavy rains on the plot after what was considered an ideal picking date for it that caused some downed corn that was sporadic across the entirety of the plot.

City of Suffolk Mid Maturity Corn Hybrid Comparison

Cooperators

Producer: Matt Wilkins, MBM Farms

Extension: Elizabeth Cooper, VCE - Surry/Sussex

Crop Management

Previous Crop: Soybeans

Soil Type: Eunola, Loamy Fine Sand

Tillage: No-till

Planting Date: April 24, 2023

Planting Equipment: John Deere 4 Row 7100

Seeding Rate: 29,000

Preplant Fertilizer: 1.5 tons chicken litter

Sidedress Fertilizer: 33-0-0-1 @ 100 units

Preplant Crop Protection: 1qt Roundup Powermax 3, 12oz Vertias, 3oz Fierce

Post Emergence Crop Protection: 1qt Roundup Powermax 3, 3oz Laudis, 1qt Atrazine

Harvest Date: September 14, 2023

Harvest Equipment: John Deere 9500 Grain Combine

City of Suffolk Mid Maturity Corn Hybrid Comparison

Table 11. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the mid maturity group planted at the City of Suffolk location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Innvictis	1257	112	16.2	58.4	155.8
Hubner Seed	H09G056	109	15.7	54.9	196.2
Dekalb	DKC 62-70	112	18.1	55.0	190.2
Augusta Seed Corn	2061	111	17.2	51.7	175.1
Seed Consultants	SC 1112AM	111	15.7	56.8	165.1
Dyna Gro	DG50VC09RIB	110	15.7	60.8	190.3
Pioneer	P1222YHR	112	17.3	56.3	186.5
Chemgro Seeds	7035RDP	110	15.7	56.7	144.6
Revere Seed	RV0918VT2P	109	16.5	54.2	195.8
AGRI-GOLD	A642-05	111	16.2	59.8	173.8

Discussion: The growing season was ideal with adequate rainfall even throughout the extreme heat we saw in July and August. Harvest was delayed across the region due to lack of storage and availability to bring trucks to the local elevators. The overall crop in the area overwhelmed the elevators and grain buyers to the point that they stopped taking grain and most producers were slowed down in their harvest unless they had the on-farm storage to hold all/most of their crop.

Westmoreland County Mid Maturity Corn Hybrid Comparison - Chandler

Cooperators

Producer: Louis Chandler and F.F. Chandler, Jr.

Extension: Stephanie Romelczyk, ANR - Westmoreland, Trent Jones, ANR – Northumberland/Lancaster

Crop Management

Previous Crop: Soybean

Soil Type: Kempsville loam

Tillage: No-till

Planting Date: April 20, 2023

Planting Equipment: Case IH 950 Cyclo Planter

Seeding Rate: 32,000

Preplant Fertilizer: 40-30-80-5S in April, Starter 200 lbs 20-10-0 with boron, zinc, sulfur and Accomplish Max

Sidedress Fertilizer: May 30: 110 lbs N, 15 lbs S

Preplant Crop Protection: April 12: 1 qt/A Gramoxone + 1.5 qts/A Bicep + 1.5 pts/A Princep (?) + 3 oz/A Explorer + 1.5 oz/A Tombstone + 12 oz/A 2,4-D

Post Emergence Crop Protection: May 5: 3.75 pt/A Acuron GT + 1 qt/A Atrazine + 2 oz/A Radiate + 1 gal Black Label Zn, July 7 (aerial): 13.7 oz/A Miravis Neo + 6 oz/A Sniper + 1 qt/A Terramar

Harvest Date: October 6, 2023

Harvest Equipment: CAT Challenger 670 with 6 row corn header

Westmoreland County Mid Maturity Corn Hybrid Comparison - Chandler

Table 12. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the mid-maturity group planted at the Chandler Westmoreland County location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Revere Seed	RV0918VT2P	109	16.0	57.3	206.6
Dyna Gro	DG50VC09RIB	110	16.6	56.1	183.2
Chemgro Seeds	7035RDP	110	16.6	60.5	167.1
Innvictis	1257	112	16.4	59.1	227.0
Pioneer	P1222YHR	112	16.5	58.3	197.0
Augusta Seed Corn	2061	111	16.4	56.6	201.3
Seed Consultants	SC 1112AM	111	15.8	58.0	196.2
AGRI-GOLD	A642-05	111	16.2	57.5	208.0
Hubner Seed	H09G056	109	15.5	57.1	186.5
Dekalb	DKC 62-70	112	15.5	59.3	205.3

Discussion: Overall, very good yields at this trial location. At harvest, Innvictis 1257 was still standing nice. This field is located 2.4 miles from a weather station; total rainfall from April 21 to October 9 was 23 inches (April=2.92", May=1.67", June=3.78", July=5.20", August=3.67", September=5.53", October=0.23"). The trial average is 197.8 bu/A.

Westmoreland County Mid Maturity Corn Hybrid Comparison - Balderson

Cooperators

Producer: Keith Balderson

Extension: Stephanie Romelczyk, ANR – Westmoreland, Trent Jones, ANR – Northumberland/Lancaster, Robbie Longest, ANR - Essex

Crop Management

Previous Crop: Hairy vetch cover crop

Soil Type: Kempsville loam and Montross silt loam

Tillage: No-till

Planting Date: April 21, 2023

Planting Equipment: John Deere 1750 Conservation Planter

Seeding Rate: 28,531 plants per acre

Preplant Fertilizer: March 1: 14-65-60/A to stimulate cover crop growth and supply P and K for corn

April 14: 30-0-0-4S/A broadcast in burndown herbicides

Sidedress Fertilizer: June 7: 70-0-0-9S/A + Excelis Maxx Nitrogen Stabilizer + 2 qts/A Black Label Zn

Preplant Crop Protection: April 14: 2.5 pts/A Gramoxone SL + 1 oz/A Sharpen + 1 qt/A Atrazine 4L

Post Emergence Crop Protection: May 4: 3.6 pts/gal/A Halex GT + 1 qt/A Atrazine 4L

June 26: 1 qt/A Makaze

Harvest Date: October 9, 2023

Harvest Equipment: John Deere 9400 with 6-row corn header

Discussion: This corn variety trial was planted into a field that had a winter cover crop of hairy vetch. The hairy vetch cover crop stand and growth were very good. The vetch was estimated to supply 80 lbs of N per acre based on the growth. Weather conditions for the two weeks following planting were cool and wet (average high = 70, average low = 47, rain = 2.92 inches). Dyna-Gro DG50VC09RIB was observed to have very poor emergence which is reflected in the low yields. Chemgro 7035RDP also had a poor stand at harvest. This field is located 0.4 miles from a weather station; total rainfall from April 21 to October 9 was 23 inches (April=2.92", May=1.67", June=3.78", July=5.20", August=3.67", September=5.53", October=0.23"). The trial average is 185.8 bu/A and the check average (Invictis 1257) is 190.6 bu/A.

Westmoreland County Mid Maturity Corn Hybrid Comparison - Balderson

Table 13. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the mid-maturity group planted at the Balderson Westmoreland County location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Augusta Seed Corn	2061	111	15.8	56.7	199.9
Innvictis	1257	112	15.9	58.2	208.2
Hubner Seed	H09G056	109	14.8	56.0	199.6
Innvictis	1257	112	16.2	58.3	190.1
Dekalb	DKC 62-70	112	15.2	60.3	202.1
Innvictis	1257	112	16.1	59.2	198.5
Revere Seed	RV0918VT2P	109	14.9	56.9	203.9
Innvictis	1257	112	16.1	58.2	198.7
Dyna Gro	DG50VC09RIB	110	16.3	56.1	119.9
Innvictis	1257	112	16.1	59.0	172.5
Chemgro Seeds	7035RDP	110	14.9	59.0	157.4
Innvictis	1257	112	15.1	59.0	186.6
AGRI-GOLD	A642-05	111	15.0	58.7	192.6
Innvictis	1257	112	15.8	58.3	192.6
Pioneer	P1222YHR	112	15.1	57.1	201.1
Innvictis	1257	112	15.5	58.1	177.5
Seed Consultants	SC 1112AM	111	15.3	58.7	158.2

Full Maturity Hybrid Comparisons

Full Maturity Hybrid Entries

113 Day RM or More

Table 14. Corn hybrids entered in the full maturity group as well as the relative maturity, seed treatments, and genetic traits of each hybrid entered.

Brand	Hybrid	Relative Maturity	Seed Treatments	Genetic Traits
Augusta Seed Corn	1365	115	Cruiser 250	PWE (PowerCore Enlist)
Hubner Seed	H1880D	118	Poncho 500	RR, VT2P
Dekalb	DKC 68-35	118	Poncho / Votivo 1250	VT2P
Revere Seed	RV1307TC	113	Radius 500	TRE
Dyna Gro	DG58VC65RIB	118	Poncho 1250 + Votivo	YGCB, RR2
Chemgro Seeds	7505RDP	115	Acceleron 250	VT2P, RIB Complete
AGRI-GOLD	A6544	113	Acceleron 250	VT2P, RIB
Pioneer	P1383YHR	113	L1250	YGCB, HX1, LL, RR2
Innvictis	A1462	114	ALFH1E	VT2P, RIB
Seed Consultants	SC 1154AM	115	LumiGEN 500	AM, LL, RR
Syngenta NK Seeds	NK1748-3110	117	Cruiser Maxx Corn 500 + Vayantis	RR, Viptera

Summary of Full Maturity Hybrid Comparisons

113 Day RM or More

Table 15. A summary of yield results at 15.5% moisture from corn hybrids entered in the full maturity group by plot location sorted by hybrid average

Brand	Hybrid	Location						Hybrid Average	
		Virginia Ag Expo	Essex	Prince George	Mecklenburg	Brunswick	City of Suffolk		Southampton
Dekalb	DKC 68-35	300.3	249.0	243.6	123.3	199.7	189.4	196.4	214.5
Dyna Gro	DG58VC65RIB	296.1	232.6	227.6	93.5	207.3	186.7	192.7	205.2
Hubner Seed	H1880D	272.2	247.3	237.5	119.8	124.2	191.5	199.1	198.8
Revere Seed	RV1307TC	280.7	223.7	220.0	107.9	181.8	184.9	182.1	197.3
Pioneer	P1383YHR	308.6	226.5	223.0	86.4	158.2	186.3	180.5	195.6
Augusta Seed Corn	1365	292.1	226.4	219.5	96.4	158.6	177.4	181.0	193.1
AGRI-GOLD	A6544	260.7	240.0	228.6	79.0	172.7	175.7	174.6	190.2
Innictis	A1462	280.9	221.3	209.9	110.4	158.4	180.0	147.4	186.9
Chemgro Seeds	7505RDP	250.5	217.5	207.6	96.0	184.2	174.3	167.4	185.4
Seed Consultants	SC 1154AM	263.5	205.8	199.1	86.5	144.1	171.3	171.1	177.3
*Syngenta NK Seeds	NK1748-3110	287.5							
	Location Average	281.2	229.0	221.6	99.9	168.9	181.8	179.2	

Virginia Beach Virginia Ag Expo Full Maturity Corn Hybrid Comparison

Cooperators

Producer: Land of Promise Farms

Extension: Roy D. Flanagan III, VCE-Virginia Beach
Nathan Sedghi, Ph.D., VCE-Chesapeake

Crop Management

Previous Crop: Soybeans

Soil Type: Nimmo and Portsmouth Loams

Tillage: Conventional

Planting Date: April 13, 2023

Planting Equipment: John Deere 1795

Seeding Rate: 36,000/acre

Total Fertility: 250N-30P-84K

Preplant Crop Protection: Harness

Post Emergence Crop Protection: RoundUp Powermax 3 and Atrazine

Harvest Date: September 6, 2023

Harvest Equipment: JD S780

Virginia Beach - Virginia Ag Expo Full Maturity Corn Hybrid Comparison

Table 16. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the full maturity group planted at the Virginia Beach location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Seed Consultants	SC 1154AM	115	23.2	59	263.5
Dekalb	DKC 68-35	118	23.0	58	300.3
Pioneer	P1383YHR	113	22.4	57	308.6
Hubner Seed	H1880D	118	24.7	57	272.2
Augusta Seed Corn	1365	115	22.1	59	292.1
Syngenta NK Seeds	NK 1748-3110	117	23.7	59	287.5
AGRI-GOLD	A6544	113	20.3	57	260.7
Innvictis	A1462	114	20.7	58	280.9
Chemgro Seeds	7505RDP	115	23.5	58	250.5
Dyna Gro	DG58VC65RIB	118	21.8	58	296.1
Revere Seed	RV1307TC	113	22.0	58	280.7
Dekalb	DKC 68-35	118	22.6	59	314.5

Southampton County Full Maturity Corn Hybrid Comparison

Cooperators

Producer: D&J Farms, Dennis & Denton Spruill

Extension: Elizabeth Cooper, VCE - Surry/Sussex

Crop Management

Previous Crop: Soybeans

Soil Type: Slagle, Fine Sandy Loam

Tillage: Strip-Till

Planting Date: April 17, 2023

Planting Equipment: KMC 8-Row Strip-Till Rig, John Deere 7300 MaxEmerge Planter

Seeding Rate: 28,000

Preplant Fertilizer: 2.5 tons Poultry Litter, (17-17-0 2x2 band @ 11 gal./acre at planting)

Sidedress Fertilizer: 32-0-0 @ 120 units

Preplant Crop Protection: 32 oz. Roundup, 1 qt. 2,4-D, 2 oz. Valor

Post Emergence Crop Protection: 3.6 qt. Halex GT, 2 qt. Atrazine

Harvest Date: September 28, 2023

Harvest Equipment: John Deere 9760 Grain Combine

Southampton County Full Maturity Corn Hybrid Comparison

Table 17. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the full maturity group planted at the Southampton County location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Augusta Seed Corn	1365	115	17.3	57.2	181.0
Hubner Seed	H1880D	118	17.7	58.9	199.1
Dekalb	DKC 68-35	118	18.3	55.7	196.4
Revere Seed	RV1307TC	113	16.7	57.2	182.1
Dyna Gro	DG58VC65RIB	118	16.0	60.7	192.7
Chemgro Seeds	7505RDP	115	16.4	57.5	167.4
AGRI-GOLD	A6544	113	16.5	57.9	174.6
Pioneer	P1383YHR	113	15.6	60.8	180.5
Seed Consultants	SC1154AM	115	17.0	57.6	171.1
Innvictis	A1462	114	16.7	60.6	147.4

Discussion: The growing season was ideal with adequate rainfall even throughout the extreme heat we saw in July and August. Harvest was delayed by approximately 2 weeks due to lack of storage and availability to bring trucks to the local elevators. The overall crop in the area overwhelmed the elevators and grain buyers to the point that they stopped taking grain and most producers were slowed down in their harvest unless they had the on-farm storage to hold all/most of their crop. This resulted in additional heavy rains on the plot after what was considered an ideal picking date for it that caused some downed corn that was sporadic across the entirety of the plot.

City of Suffolk Full Maturity Corn Hybrid Comparison

Cooperators

Producer: Matt Wilkins, MBM Farms

Extension: Elizabeth Cooper, VCE - Surry/Sussex

Crop Management

Previous Crop: Soybeans

Soil Type: Eunola, Loamy Fine Sand

Tillage: No-till

Planting Date: April 24, 2023

Planting Equipment: John Deere 4 Row 7100

Seeding Rate: 29,000

Preplant Fertilizer: 1.5 tons chicken litter

Sidedress Fertilizer: 33-0-0-1 @ 100 units

Preplant Crop Protection: 1qt Roundup Powermax 3, 12oz Vertias, 3oz Fierce

Post Emergence Crop Protection: 1qt Roundup Powermax 3, 3oz Laudis, 1qt Atrazine

Harvest Date: September 14, 2023

Harvest Equipment: John Deere 9500 Grain Combine

City of Suffolk Full Maturity Corn Hybrid Comparison

Table 18. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the full maturity group planted at the City of Suffolk location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (bu./A at 15.5%)
Revere Seed	RV1307TC	113	16.1	55.8	184.9
Hubner Seed	H1880D	118	17.5	56.2	191.5
Dekalb	DKC 68-35	118	17.8	56.1	189.4
Augusta Seed Corn	1365	115	17.7	56.3	177.4
Seed Consultants	SC 1154AM	115	19.2	54.4	171.3
Dyna Gro	DG58VC65RIB	118	17.4	56.4	186.7
AGRI-GOLD	A6544	113	17.6	55.4	175.7
Innvictis	A1462	114	16.3	57.9	180.0
Chemgro Seeds	7505RDP	115	17.3	54.2	174.3
Pioneer	P1383YHR	113	17.6	56.4	186.3

Discussion: The growing season was ideal with adequate rainfall even throughout the extreme heat we saw in July and August. Harvest was delayed across the region due to lack of storage and availability to bring trucks to the local elevators. The overall crop in the area overwhelmed the elevators and grain buyers to the point that they stopped taking grain and most producers were slowed down in their harvest unless they had the on-farm storage to hold all/most of their crop.

Mecklenburg County Full Maturity Corn Hybrid Comparison

Cooperators

Producer: Steve Sizemore

Extension: Taylor Clarke, VCE - Mecklenburg County

Crop Management

Previous Crop: Soybeans

Soil Type: Georgeville Silt Loam (80%) Herndon Silt Loam (20%-Plots 1-6 Grower Varieties)

Tillage: No-till into rye/oats/crimson clover/vetch cover crop planted green

Planting Date: May 8, 2023

Planting Equipment: JD 1755 6row 30 in planter

Seeding Rate: 29,000

Preplant Fertilizer: 2 tons chicken litter, 60 lbs N from 28%, 1 qt Start Rite

Sidedress Fertilizer: 70 lbs N

Preplant Crop Protection: 5/10/23 40oz Roundup, 2.5 Qt Acuron, 0.5 lb Atrazine, 1 oz. Sharpen

Post Emergence Crop Protection: 7/4/23 30 oz Roundup PowerMax, 10 oz. Outlook, 1 oz. Impact

Harvest Date: October 10, 2023

Harvest Equipment: Gleaner M3 with 6 row 30" corn head

Discussion: The Plot location in Southwestern Mecklenburg County experienced below normal rainfall for the entire growing season compared to the 15-year average. Large deficits occurred between the middle of May to Mid-June and from the 1st of August until the end of growing season.

Mecklenburg County Full Maturity Corn Hybrid Comparison

Table 19. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the full maturity group planted at the Mecklenburg County location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
FS InVISION	FS 62ZX1 RIB	112	15.5	58.6	147.1
FS InVISION	FS 6025X RIB	110	15.5	59.6	131.6
Dyna Gro	DG 52SS63 RIB	112	15.5	58.3	137.7
Syngenta NK Seeds	NK 1082-DV	100	14.5	57.9	113.7
Pioneer	P 1383 YHR	113	15.2	60.2	93.0
Dekalb	DKC62-69 RIB	112	14.8	60.6	131.7
Innvictis	A1462	114	15.7	59	110.4
Seed Consultants	SC 1154AM	115	16.9	58.5	86.5
Pioneer	P1383YHR	113	15.1	61.1	86.4
AGRI-GOLD	A6544	113	15.1	59.7	79.0
Chemgro Seeds	7505RDP	115	14.3	60.8	96.0
FS InVISION	FS 62ZX1 RIB	112	14.3	58.9	96.2
Dyna Gro	DG58VC65RIB	118	14.4	60.8	93.5
Revere Seed	RV1307TC	113	14.6	60.8	107.9
Dekalb	DKC 68-35	118	15.9	61.3	123.3
Hubner Seed	H1880D	118	16.1	60.1	119.8
Augusta Seed Corn	1365	115	16.4	59.6	96.4
FS InVISION	FS 62ZX1 RIB	112	17.2	58.9	120.2

Brunswick County Full Maturity Corn Hybrid Comparison

Cooperators

Producer: K and W Farms (William Wright, Howard Wright, Mallory Blackwell)

Extension: Taylor Clarke, VCE Mecklenburg County

Crop Management

Previous Crop: Double Crop Wheat-Soybeans

Soil Type: Appling-Mattaponi Complex

Tillage: No-till in Rye Cover

Planting Date: April 14, 2023

Planting Equipment: 4 row 36" Max-emerge JD planter following Strip-till

Seeding Rate: 32,000

Preplant Fertilizer: 50-60-90 spread broadcast, 5 gal Rizer In-furrow, 50 lb N from 24S 2X2

Sidedress Fertilizer: 100 units N for 24S

Preplant Crop Protection: 1QT Roundup PowerMax 3, 1 oz Sharpen, 3Qt Degree Extra

Post Emergence Crop Protection: 60 oz. Acuron GT, 10oz Roundup PowerMax 3, 1 Qt/100gal Factor 80 surfactant

Harvest Date: October 6, 2023

Harvest Equipment: Gleaner R52 with 4 row 36" head

Brunswick County Full Maturity Corn Hybrid Comparison

Table 20. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the full maturity group planted at the Brunswick County location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Dyna Gro	DG58VC65RIB	118	16.8	59.8	182.7
Seed Consultants	SC 1154AM	115	17.1	59.6	144.1
Hubner Seed	H1880D	118	17.1	59.3	124.2
Innvictis	A1462	114	15.8	59.3	158.4
Pioneer	P1383YHR	113	16.1	60.1	158.2
AGRI-GOLD	A6544	113	16.2	60.5	172.7
Dyna Gro	DG58VC65RIB	118	16.7	59.8	200.6
Chemgro Seeds	7505RDP	115	16.1	60.2	184.2
Dyna Gro	DG58VC65RIB	118	16.4	59.9	207.3
Revere Seed	RV1307TC	113	16	60	181.8
Dekalb	DKC 68-35	118	17	61.2	199.7
Augusta Seed Corn	1365	115	16.8	59.9	158.0
Dyna Gro	DG58VC65RIB	118	16.4	60.6	173.5

Discussion: Precipitation was fairly normal to a little above average from April to the first of August. After the first of August rainfall amounts were well below normal. Temperature data verified that periods in May and June were cooler than average which showed in reduced early season growth and development of crop. Yields were higher than anticipated.

Charlotte County Full Maturity Corn Hybrid Comparison

Cooperators

Producer: Grind-N-Stone Farm- The Poindexter Family

Extension: Joanne Jones, VCE - Charlotte County

Bruce Jones, VCE - Appomattox County

Crop Management

Previous Crop: Soybeans

Soil Type: Appling gravelly Sandy Loam

Tillage: No till

Planting Date: April 21, 2023

Planting Equipment: John Deere 7000

Seeding Rate: 42,000

Preplant Fertilizer: 30-30-20-15S applied 2x2; 2-ton chicken litter;

Sidedress Fertilizer: 100-0-0 dry broadcast 6-8-23

Preplant Crop Protection: 1.5 qt glyphosate April 17, 23

Post Emergence Crop Protection: 2qt glyphosate and 2 qt empiros triad May 20, 2023

Harvest Date: November 13, 2023

Harvest Equipment: R52 Gleaner 4 row corn head

Charlotte County Full Maturity Corn Hybrid Comparison

Table 21. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the full maturity group planted at the Charlotte location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Augusta Seed Corn	1365	115	13.1	62	148.3
Hubner Seed	H1880D	118	13.3	62.4	208.1
DeKalb	DKC 68-35	118	12.9	63.6	190.5
Revere Seed	RV1307TC	113	13.4	61.8	196.1
Dyna Gro	DG58VC65RIB	118	12.8	63.5	200.1
Chemgro Seeds	7505RDP	115	12.8	62.7	165.7
AGRI-GOLD	A6544	113	13.1	60.2	186.9
Pioneer	P1383YHR	113	13.5	60.9	181.2
Seed Consultants	SC1154AM	115	13.6	60.9	185.8

Prince George County Full Maturity Corn Hybrid Comparison

Cooperators

Producer: Calvin Clements

Extension: Scott Reiter, ANR - Prince George County

Crop Management

Previous Crop: Wheat-soybean double crop

Soil Type: Slagle sandy loam

Tillage: Strip-till, in-row subsoiler

Planting Date: April 17, 2023

Planting Equipment: John Deere MaxEmerge XP vacuum

Seeding Rate: 27,000, Stand counts 26,500-29,500

Preplant Fertilizer: Broadcast dry -340 lbs 6-12-35; 20-40-120-13S-0.25Zn-1.1Mn

2x2 Starter -15 gal 16-16-0-2S-0.3Zn-0.3B; 25-25-0-3S-0.75Zn-0.5B

Broadcast liquid – 15 gal 30% UAN; 48-0-0

Sidedress Fertilizer: Dribble – 30 gal 24-0-0-3S; 80-0-0-10S

Total: 173 N – 65 P -120 K -26 S – 1 Zn -1.1Mn – 0.5B

Preplant Crop Protection: Gramoxone 2 pints/A + TrizMet 2 quarts/A

Post Emergence Crop Protection: None

Harvest Date: September 22, 2023

Harvest Equipment: John Deere S760 + weigh wagon

Prince George County Full Maturity Corn Hybrid Comparison

Table 22. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the full maturity group planted at the Prince George location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Dekalb	DKC 67-44 VT2P	117	17.8	60.0	234.2
Dekalb	DKC 68-35	118	19.0	60.3	243.6
Revere Seed	LRV 1307 TCRIB	113	17.7	57.4	220.0
Pioneer	P1383YHR	113	16.6	59.7	223.0
Dyna Gro	DG 58VC65 RIB	118	17.6	60.4	227.6
Augusta Seed Corn	1365	115	17.5	60.7	219.5
AGRI-GOLD	A6544	113	17.6	58.9	228.6
Hubner Seed	H1880D	118	18.3	57.9	237.5
Seed Consultants	SC 1154AM	115	17.8	59.7	199.1
Inn victis	A1462	114	17.6	58.6	209.9
Chemgro Seeds	7505RDP	115	17.1	59.5	207.6
Dekalb	DKC 67-44 VT2P	117	18.3	59.7	234.6

Discussion: An exceptional yielding test in Prince George again in 2023. Rainfall was good in late June – July @ 12.5 inches. A three-week dry spell in occurred in August. Insect and disease pressure were not notable in any hybrids in the test.

Essex County Full Maturity Corn Hybrid Comparison

Cooperators

Producer: William Lee Andrews

Extension: Robbie Longest, VCE- Essex

Industry: Ian Walker and Michael Rowe, Nutrien Ag Solutions; Participating seed companies

Crop Management

Previous Crop: Soybeans

Soil Type: Kempsville sandy loam

Tillage: No-Till

Planting Date: April 18, 2023

Planting Equipment: Kinze 3665 12 Row

Seeding Rate: 28,000 sds/A

Preplant Fertilizer: 20-0-60-12 broadcast on March 15, 2023; 22-11-0-1 starter @ 200 lbs. at planting

Sidedress Fertilizer: 120# N as 24-0-0-3 (split in 2 applications)

Preplant Crop Protection: Roundup and Bicep

Post Emergence Crop Protection: Halex and Atrazine, Fungicide

Harvest Date: September 27, 2023

Harvest Equipment: Case 7240 w/ Geringhoff 12 row header

Essex County Full Maturity Corn Hybrid Comparison

Table 23. The relative maturity, moisture percentage, test weight, and yield of hybrids entered in the full maturity group planted at the Essex County location

Brand	Hybrid	Relative Maturity	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
Check – Dyna Gro	54VC34	114	20.9	57.7	224.3
Augusta Seed Corn	1365	115	19.5	59.6	226.4
Hubner Seed	H1880D	118	19.9	57.4	247.3
Dekalb	DKC 68-35	118	19.5	60.5	249.0
Revere Seed	RV1307TC	113	18.2	58.7	223.7
Dyna Gro	DG58VC65RIB	118	18.9	59.5	232.6
Chemgro Seeds	7505RDP	115	18.5	59.7	217.5
AGRI-GOLD	A6544	113	18.9	58.6	240.0
Pioneer	P1383YHR	113	17.9	58.8	226.5
Seed Consultants	SC1154Q	115	19.3	59.5	205.8
Innvictis	A1462	114	18.8	60.1	221.3
Check-Dyna Gro	54VC34	114	19.2	59.0	225.6

Discussion: Great dryland yields were observed at this location with a plot average of 228.3 bu/A and conditions throughout the growing season were mostly favorable. Overall, the field was very consistent and the check hybrid on each side of the plot only differed by just over 1 bu/A. Use these results and other replicated yield data to make hybrid selection decisions.

Prince George County Corn Population Comparison

Cooperators

Producer: Reiter Family Farm

Extension: Scott Reiter, VCE - Prince George County

Crop Management

Previous Crop: Soybeans

Soil Type: Mattaponi sandy loam

Tillage: No-till subsoiler under row

Planting Date: April 19, 2023

Planting Equipment: John Deere MaxEmerge2 vacuum with Precision Planting eSets

Hybrid: Revere 1307 TC

Seeding Rate: 26,000 or 30,000 seed per acre; 30 inch rows

Preplant Fertilizer: Broadcast 80-40-120-10S; 2x2 Starter 30-30-0-6S

Sidedress Fertilizer: 80-0-0

Preplant Crop Protection: Roundup PowerMax3 @ 1 qt/A + 2,4-D LV4 @ 1 pt/A + Keystone NXT @ 2 qt/A at planting

Post Emergence Crop Protection: None

Harvest Date: October 6, 2023

Harvest Equipment: John Deere 9660STS + weigh wagon + DickeyJohn MiniGAC moisture meter

Prince George Corn Population Comparison

Table 24. The plant population, moisture percentage, test weight, and yield planted at the Prince George location

Population Treatment	Replication	Stand Count at V4	% Moisture	Test Weight	Yield (Bu./A at 15.5%)
26,000	1	25,887	15.0	59.3	228.0
30,000	1	29,870	15.3	59.2	221.9
30,000	2	31,363	15.6	58.5	218.6
26,000	2	24,891	15.4	58.9	202.9
30,000	3	29,870	15.5	58.8	219.6
26,000	3	25,887	15.5	59.5	205.2
32,000		32,359	15.7	58.9	208.7
Average					
26,000		25,555	15.3	59.2	212.0
30,000		30,367	15.5	58.8	220.1
Difference		+ 4,812	+ 0.2	-0.4	+ 8.1
LSD (0.1)			NS	NS	NS

Discussion: The purpose of this population trial was to compare a higher seeding rate to the grower standard for moderate to high productivity soils. The standard population has been about 26,000 seed per acre. The hybrid used, Revere 1307 TC, is a semi-determinate ear type and higher populations are recommended for more productive soils. The 30,000 population treatment yielded 8.1 bushels per acre more than the standard. However, the differences in yield, moisture, and test weight were not statistically different. This means that even though the yield is numerically higher, there is enough variation within the test that we are not 90% confident the difference was due to the population treatment.

From an economic standpoint, the extra 4,000 seed per acre cost \$13.75 (assuming \$275 per 80,000 seed). The additional 8.1 bushels was worth \$36.45 per acre (assuming \$4.50 per bushel). The net result was a potential \$22.70 per acre positive return on the higher seeding rate.

NS = not significantly different at the 90% confidence level

Addressing Weak Spots in Hairy Vetch Cover Crops

During 2023 Bob Waring, Virginia DCR Precision Nutrient Management Specialist and Keith Balderson, ACES enrollee assisting NRCS in the Tappahannock Field Office continued working with hairy vetch cover crop use in corn grain production in eastern Virginia. Over the years, we have noticed that certain fields often have weak spots in the cover crop. Oftentimes, these weak areas are noted in the sandier parts of the field. Providing nitrogen for the corn crop following the cover crop is a primary benefit of using legume cover crops so determining the cause of these weak spots is important. Trent Jones, VCE ANR extension agent for Lancaster and Northumberland Counties, flew some fields on April 11th with a drone and the picture below shows the weak spots very well. While it is possible dry weather is partly responsible for these weak areas this year, sulfur deficiency might also be causing these weak spots. Poor nodulation on the hairy vetch roots is also another possible cause of the weak growth.

With financial support from the Virginia Corn Board, tissue samples were submitted in April. The results were not definitive, but they do suggest sulfur deficiency could be a concern. Out of 4 samples, 3 samples tested .2% or less in sulfur and the nitrogen sulfur ratios in the 4 samples ranged from 19.6:1 to 24.2:1. While there are no known references that provide information on plant nutrient sufficiency levels in hairy vetch, there are references that indicate the nitrogen sulfur ratio in alfalfa should be 17:1 or less and tissue sample levels should be .25% sulfur or higher.



Figure 2. Hairy vetch cover crop in Westmoreland County, Va., April 11, 2023. Arrows indicate weak areas where a tissue sample was taken. Picture provided courtesy of Trent Jones, VCE extension agent, Lancaster and Northumberland Counties.

Moving forward, we plan to apply some sulfur to weak spots during 2024 in the hairy vetch cover crops to see if there is a growth response. This will be done either using a sulfur source such as Epsom salts (magnesium sulfate) in the weak spots or including sulfur in a complete fertilizer applied to the hairy vetch in early March to stimulate hairy vetch growth and supply nutrients for the following corn crop.