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# 2012
# Virginia On-Farm Corn Test Plots

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

# 2012 Virginia On-Farm Corn Test Plots

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The research and demonstration plots discussed in this publication are a cooperative effort by several Virginia Cooperative Extension Agents and Specialists, a faculty member from Va. State University, numerous producers, local soil and water conservation districts, and many members of the agribusiness community. The fieldwork and printing of this publication is mainly supported by the Virginia Corn Check-Off Fund through the Virginia Corn Board. Anyone who would like a copy should contact their local extension agent, who can request a copy from the Essex County Extension office.

This is the twenty-first year of this multi-county cooperative project. Further work is planned for 2013.

The authors wish to thank the many producers and agribusinesses that participated in these research and demonstration plots.

*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.*

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General Summary

These demonstration and replicated studies provide information that can be used by Virginia corn growers to make better management decisions on their farms.

Corn hybrid selection is becoming increasingly challenging. With more seed companies and more GMO options and seed treatment packages than ever before, it can be very difficult to decide which hybrids to plant. We evaluated early season hybrids (107 day RM or less) at 5 locations, mid season hybrids (108-112 day RM) at 6 locations and full season hybrids (113 day RM or more) at 3 locations. Two locations of each maturity group were irrigated. Yields were very good in some of the dryland locations and very poor in others, reflecting the variability in rainfall during pollination and grain fill. In general, the later hybrids continue to yield better than the earlier hybrids. Farmers should continue to plant hybrids of multiple maturities to help spread risk. In fields with very good soil types and/or irrigation, farmers should consider mid or full season hybrids.

We also conducted some other hybrid plots, including "challenge" plots comparing 2 hybrids. In two plots evaluating a Pioneer Hi-Bred® Aquamax hybrid to a hybrid of similar maturity, there was no statistical difference in yields in one plot, while the Aquamax hybrid yielded almost 14 bushels per acre better in the other plot. Both plots experienced significant drought stress as yields were 85 to 100 bushels per acre.

We evaluated Avicta® and Votivo® seed treatments under irrigation in a field with a past history of root knot nematodes. Nematode assays did find below threshold levels of root knot nematodes, and we did not get a yield response to either treatment.

Obtaining good plant stands can be a challenge in no-tillage corn due to crop residue and slugs. Some growers are using vertical tillage tools to help manage residue. In a plot evaluating a Great Plains Turbo-Chopper, plant stands were increased by over 4,500 plants per acre in the Turbo-Chopper strips compared to the "straight" no-till plots. Residue in the field was relatively heavy and slugs were also present. Stand loss in the straight no-till plots was probably a result of slug damage and poorer seed to soil contact in check plots compared to the turbo chopper plots. Excessive heat and drought greatly damaged the plot, and yields were not taken.

Fertilizer plot work this year included 2 plots evaluating "pop up" fertilizers, one plot evaluating injected vs. "dribbled" sidedress nitrogen and two plots evaluating variable rate sidedress nitrogen applications to a fixed nitrogen rate. In the variable rate plot comparing Greenseeker technology to zone-based variable rate technology and a fixed rate of sidedress nitrogen, Greenseeker produced corn with a nitrogen use efficiency (NUE) of .86 lbs. of nitrogen applied per bushel of corn produced compared to an NUE of 1.01 for the fixed rate plots and 1.10 for the zone-based variable plots. All treatments yielded over 200 bushels per acre with no statistical difference in any of the treatments.

## 2012 Surry County Early Corn Hybrid Plot

**Cooperators:** **Producer:** Timberneck Farms: Anthony and Darren Howell
**Extension:** Glenn Slade, Surry Agriculture and Natural Resources Agent
**Agribusiness:** Various Seed companies

**Previous Crop:** Soybeans
**Planting Date:** May 2, 2011 no till, rip under row JD 71 Planters
**Fertilizer:** 450# per acre 7-18-36 Broadcast, 30 gal 30% N Side Dressed
**Crop Protection:** 1 qt. Roundup, 2.5 qt. Bicep at planting

**Harvest Date:** October 26, 2012 JD 6620 4 row

| Hybrid | Maturity | Traits | Population | % Moisture | Yield (Bu./A @ 15.5% |
|---|---|---|---|---|---|
| Southern States SS 538 | E | VT3 Acceleron | 24,000 | 14.2 | 95.45 |
| Augusta A2954 | E | GT3000 Cruiser 500 Avicta | 24,000 | 14.5 | 86.63 |
| Mycogen 2K595 | E | Smartstax 95-5 Refuge | 24,000 | 15.2 | 110.97 |
| Channel BIO 199-55 | E | RR2 YGCB | 24,000 | 14.7 | 90.14 |
| Pioneer 35H46 | E | Aquamax 1250 Vitovo | 24,500 | 14.5 | 104.17 |
| Hubner 5368 | E | | 24,000 | 14.8 | 96.41 |
| Doeblers 587 | E | | 24,000 | 15.3 | 89.16 |
| Great Heart HT 972 | E | 3111VIP | 24,000 | 14.8 | 66.75 |
| Seed Consultants 10HQ70 | E | HXX,LL,RR2 Votivo | 24,000 | 14.8 | 79.82 |
| DeKalb 52-61 | E | GENVT3 Poncho Vitovo | 24,000 | 15.4 | 96.4 |
| Dyna-Gro 45Q50 | E | 3000 GT Trilex Poncho 250 | 24,000 | 15.1 | 76.53 |
| Average: | | | | | 90.2 |

**Discussion:**

Hybrids were listed as planted and not by decreasing yield.

## King & Queen Early Corn Hybrid Comparison

| | | |
|---|---|---|
| **Cooperators:** | **Producer:** | David Carlton & William Davis Carlton |
| | **Extension:** | David Moore, VCE-Middlesex |
| | | Laura Maxey, VCE-King & Queen/ King William Counties |
| | **Industry:** | Participating Seed Suppliers |

**Previous Crop:** Soybeans
**Soil Type:** Emporia Sandy Loam
**Plant Date:** April 12, 2012
**Plant Equipment:** John Deere 16-Row Air Planter
**Land Preparation:** No-Till
**Fertilization:** 0-0-100 Broadcast
70-50-0 Pre-emerge (starter included)
90-0-0 injected
**Crop Protection:** Pre: Glyphosate, Atrazine, Simazine
Post: Resolve Q, Glyphosate
**Harvest Date:** August 29, 2012
**Harvest Equipment:** John Deere 9760STS

| Hybrid | Moisture | Yield @ 15.5% |
|---|---|---|
| Doeblers RPM637AM (Check) | 25.5 | 61.8 |
| Augusta 2954 | 24.5 | 86.3 |
| Channel-Bio 199-55VT3 | 25.0 | 81.0 |
| Dekalb DKC52-61 | 23.8 | 107.2 |
| Dyna-Gro D45Q50 | 24.0 | 93.0 |
| Mycogen 2K595 | 23.0 | 83.0 |
| Pioneer P0210AM-R | 23.3 | 113.6 |
| Seed Consultants SCS10HQ70 | 24.0 | 95.0 |
| Southern States SS538VT3 | 22.0 | 100.2 |
| TA Seeds TA583-22DP | 21.0 | 97.6 |
| Phoenix 5320A3 | 24.0 | 83.1 |
| Hubner 5368 | 22.7 | 77.5 |
| Doebler's RPM587AM | 24.0 | 69.6 |
| Check | 23.0 | 52.0 |

**Discussion:**
The check hybrid was 113 day maturity corn. It just did not compete well with these early maturity hybrids due to the weather this year, nor did it vary a lot between the beginning of the plot and the end.

Use this and other Virginia Tech hybrid comparison information when making planting decisions for 2013.

## 2012 Essex County Irrigated Early Maturity Corn Hybrid Demonstration Plot

| | | |
|---|---|---|
| **Cooperators:** | Producer: | Hundley Brothers |
| | Extension: | Keith Balderson, VCE Middle Peninsula |
| | | Daniel Bowie, Summer Intern |
| | Agribusiness: | Participating Seed Companies |
| **Soil Type:** | Tetotum loam | |
| **Previous Crop:** | Double Crop Soybeans | |
| **Planting Date:** | April 2, 2012 | |
| **Fertilizer:** | Pop-Up: | 4 gallons per acre Season Pass 6-18-6 |
| | Broadcast: | 82-69-60 per acre |
| | Sidedress: | 100-0-0-18 per acre |
| **Crop Protection:** | Herbicides: | Burndown: 2,4-D |
| | | Pre-emergence: 1 lb. per acre simazine, .5 lb. per acre atrazine 2.5 qts. per acre Lumax |
| | Insecticides: | 4 oz. per acre Capture LFR in furrow |
| **Harvest Date**: | August 31, 2012 | |

| **Hybrid** | **Population** | **%Moisture** | **Yield (Bu./Acre @15.5%** | **% of Check** |
|---|---|---|---|---|
| Hubner H4222RC2P | 27,000 | 17 | 197 | 112.5% |
| Augusta 2954 | 28,000 | 19.7 | 185 | 105.7% |
| Check—Channel 199-55VT3 | 25,500 | 18.8 | 175 | |
| Mycogen 2K595 | 28,750 | 20.1 | 174 | 95.6% |
| Check | 28,000 | 19.2 | 189 | |
| Phoenix 5320A3 3000GT | 26,000 | 19.7 | 191 | 94.5% |
| Check | 30,250 | 19.5 | 215 | |
| Pioneer 0210 AM-R | 24,250 | 18.9 | 189 | 90.4% |
| Check | 26,250 | 18.8 | 203 | |
| Southern States 538 VT3 | 28,250 | 19.8 | 191 | 94.0% |

**Discussion:**
Overall yields in this plot were very good. Yields in the non-irrigated part of this field were around 50 bushels per acre due to drought and heat stress. There was significant variability in the yields of the check hybrid so using the percentage of check might be useful when evaluating yields. Be sure to use the replicated Virginia Tech corn hybrid performance evaluations when selecting hybrids for 2013.

## 2012 Gloucester Mid-Maturity Corn Comparison

**Cooperators:** **Producer:** Clas Corporation, Chuck Hunt
**Extension:** David Moore, VCE-Middlesex
**Industry:** Participating Companies
**Previous Crop:** Soybeans followed by Rye Cover
**Soil Type:** Kempsville Fine Sandy Loam
**Plant Date:** April 30, 2012
**Plant Equipment:** Kinze 3500 8-Row No-Till
**Check Hybrid:** DKC 62-54
**Fertilization:** Broadcast: 0-0-90 Starter: 200# 20-10-0 with micros
Side: 125-0-0 dribble
**Crop Protection:** Burndown: Glyphosate and 2,4-D, Pre: Simazine and Atrazine
Warrior insecticide added to burndown Post: Halex GT
**Harvest Date:** September 21, 2012 with John Deere 9760STS

| Hybrid | Pop.(6/29) | M% | Yield 15.5% | %Check |
|---|---|---|---|---|
| Augusta 0606 | 27,500 | 16.5 | 148.1 | 93.3 |
| Check | 26,500 | 16.6 | 160.5 | |
| Channel-Bio 211-01 | 25,000 | 16.0 | 167.5 | 104.4 |
| Check | | 15.9 | 160.2 | |
| Dekalb DKC62-97 | 24,000 | 15.8 | 167.5 | 104.6 |
| Check | | 15.7 | 160.2 | |
| Doeblers 633HXR | 24,500 | 15.9 | 141.5 | 89.2 |
| Check | | 16.2 | 157.1 | |
| Dyna-Gro 52YC20 | 27,000 | 15.8 | 157.8 | 99.6 |
| Check | 26,000 | 15.7 | 159.8 | |
| Great Heart HT-120RR | 23,500 | 15.6 | 151.2 | 97.5 |
| Check | | 15.7 | 150.4 | |
| Hubner H5405 | 28,500 | 15.5 | 149.8 | 97.1 |
| Check | | 15.5 | 158.2 | |
| Mycogen 2V702 | 27,000 | 15.5 | 154.2 | 99.6 |
| Check | | 15.3 | 151.4 | |
| Phoenix 5552A4 | 26,000 | 15.7 | 143.4 | 94.7 |
| Check | | 15.5 | 151.3 | |
| Pioneer P1498HR | 24,500 | 15.8 | 145.8 | 97.8 |
| Check | | 16.1 | 146.8 | |
| Seed Consultants SC11AGT30 | 27,000 | 15.9 | 152.0 | 101.1 |
| Check | | 15.7 | 153.8 | |
| Southern States SS755 | 26,500 | 15.6 | 161.5 | 100.9 |
| Check | 25,000 | 15.6 | 166.3 | |
| TA Seeds TA617-20 | 27,500 | 15.6 | 160.6 | 99.3 |

**Discussion:** See Mid-Maturity Hybrid replications and summary later in this publication.

## 2012 Westmoreland County Mid Maturity Corn Variety Plot

**Cooperators:** Producer: F.F. Chandler, Jr.
Extension: Stephanie Romelczyk, ANR – Westmoreland
Keith Balderson, ANR - Essex
Agribusiness: Participating Seed Company Representatives
**Previous Crop:** Soybeans
**Soil Type:** Savannah loam; Kempsville loam
**Tillage:** No-till
**Planting Date:** May 4, 2012
**Fertilizer:** Starter: 15-15-0, 200 lbs/A
Broadcast: 8-0-14-4S, 500 lbs/A
Sidedress: 24-0-0-3S, 100 lbs/A
**Crop Protection:** Burndown: Gramoxone 3 pts, Salvo 12 oz
Bicep 1.5 qts, Princep 1.5 qts, Tombstone 2 oz
Post-emergence: Halex 3.6 pts, Magnesium 1 qt
**Harvest Date:** September 27, 2012

| Variety | Moisture (%) | Yield (Bu./A @ 15.5%) |
|---|---|---|
| Augusta 0606 (no starter) | 17.1 | 61 |
| ChannelBio 211-01VT2P | 17.7 | 64 |
| Dekalb 62-97 | 17.9 | 55 |
| Dyna-Gro D52VC20RIB | 18.0 | 8 |
| Doeblers RPM 633HXR | 18.1 | 34 |
| Great Heart HT-120RR | 17.3 | 21 |
| Mycogen 2V702 | 15.3 | 67 |
| Pioneer P1498HR | 17.1 | 43 |
| Seed Consultants SC 11AGT30 | 15.8 | 26 |
| Southern States SS 755 VT3 Pro | 16.8 | 64 |
| T.A. Seeds TA617-20 | 16.0 | 60 |
| Phoenix 5552A4 | 16.6 | 42 |
| Hubner H5405VT3P | 15.4 | 89 |
| Augusta 0606 (w/starter) | 16.7 | 66 |
| **AVERAGE** | | 50 |

**Discussion:** Westmoreland County experienced extremely hot and dry conditions at corn pollination in 2012 as evidenced in the yields. Although yields are greatly reduced, data from this trial may be useful in identifying varieties that are adaptable to drought conditions. Starter fertilizer was not turned on for the first repetition of Augusta 0606.

## 2012 Chesapeake RR Corn Hybrid Test

**Cooperators:** Producer: Russell Temple
Extension: Watson Lawrence and Roy Flanagan
Agribusiness: Participating Seed Companies
**Previous Crop:** Soybeans
**Planting Date:** April 28, 2012
**Population:** Approximately 26,000 plants/acre
**Row Width:** 24 inches
**Tillage:** Conventional with rows planted flat
**Fertilizer:** Broadcast: 665 lbs./acre 24-12-12
**Soil Type:** Munden Fine Sandy Loam
**Crop Protection:** 32 oz. Round-up PowerMax postemergence
**Check Hybrid:** Dekalb DKC62-09 (112 days RM)
**Harvest Date:** September 24, 2012

| Hybrid | Maturity | % Moisture | TW | Actual Yield | % of Check | Adjusted Yield |
|---|---|---|---|---|---|---|
| Mycogen 2K595 | E | 15.4 | 59 | 167.2 | 90.0 | 172.60 |
| Great Heart HT110 | E | 15.9 | 58 | 174.8 | 89.1 | 170.76 |
| Doeblers D587 | E | 16.0 | 57 | 177.2 | 87.4 | 167.64 |
| Augusta 2954 | E | 15.7 | 58 | 174.4 | 87.3 | 167.42 |
| Pioneer P35H46 | E | 16.6 | 63 | 172.4 | 86.3 | 165.53 |
| Channel Bio 199-55 | E | 15.1 | 55 | 170.7 | 85.0 | 162.90 |
| Southern States 538 | E | 16.5 | 58 | 158.0 | 81.2 | 155.70 |
| Dekalb DKC52-61 | E | 14.8 | 57 | 154.8 | 77.6 | 148.79 |
| Dyna Gro 45Q50 | E | 15.3 | 58 | 154.0 | 75.0 | 143.72 |
| Average Early Maturity | | | | 167.0 | | 161.67 |
| Mycogen 2V702 | M | 15.5 | 58 | 190.8 | 101.0 | 193.69 |
| Pioneer P1319 | M | 17.7 | 61 | 186.1 | 98.3 | 188.41 |
| TA Seeds 617-20 | M | 15.4 | 60 | 188.2 | 95.8 | 183.67 |
| Dekalb DKC62-97 | M | 17.5 | 59 | 177.1 | 95.7 | 183.38 |
| Southern States 755 | M | 15.6 | 59 | 183.9 | 94.7 | 181.54 |
| Dyna Gro 52VC20 | M | 18.1 | 58 | 164.5 | 94.1 | 180.29 |
| Channel Bio 211-01 | M | 16.9 | 61 | 175.9 | 91.8 | 175.95 |
| Great Heart HT212 | M | 17.3 | 57 | 172.8 | 91.1 | 174.70 |
| Doeblers D633 | M | 17.3 | 62 | 174.4 | 88.8 | 170.27 |
| Hubner H5405 | M | 16.6 | 59 | 165.5 | 88.5 | 169.58 |
| Augusta A0606 | M | 16.9 | 59 | 165.2 | 87.1 | 167.01 |
| Average Medium Maturity | | | | 176.8 | | 179.53 |
| Average Check | M | | | 191.59 | | |

**Discussion:** A check hybrid was planted on both sides of each hybrid. Adjusted yields were calculated as a % of the adjacent check averages to account for variation in the field. The medium maturity hybrids yielded better than the early maturity which is typically the case. Good yields reflected adequate rainfall this season on well drained land. All hybrids were glyphosate resistant.

## 2012 Virginia Beach Corn Hybrid Plot

**Cooperators:** Producer: Russell H. Malbone
Extension: Roy D. Flanagan III
Agribusiness: Participating Seed Companies
**Soil Type:** Bojac fine sandy loam, Munden fine sandy loam
**Previous Crop:** Soybeans
**Planting Date:** April 20, 2012
**Fertilizer:** 250 lbs. 7-18-36 pre-plant
30 gallons of 30% N. side-dress
**Crop Protection:** Burndown-24oz. Round-up PowerMax and 1.5 pints 2-4D
32 oz. Round-up PowerMax and 1.5 quarts Atrazine post-emergence
**Harvest Date:** September 13, 2012

| Hybrid | Maturity | Moisture | TW | Actual Yield (bu./a @ 15.5%) | Adjusted Yield (bu./a @ 15.5%) |
|---|---|---|---|---|---|
| Augusta A0606 | M | 16.8 | 57 | 129.7 | 141.8 |
| Great Heart HT212 | M | 17.1 | 58 | 115.9 | 117.4 |
| Channel Bio, LLC 211-01 | M | 17.0 | 59 | 123 | 109.7 |
| Mycogen 2V702 | M | 16.8 | 58 | 118.2 | 108.9 |
| Southern States SS755 | M | 17.4 | 58 | 106.1 | 93.6 |
| Pioneer P1319 | M | 17.5 | 62 | 128.4 | 119.6 |
| Hubner H5405 | M | 16.6 | 59 | 94.5 | 106.9 |
| Dekalb DKC62-97 | M | 16.6 | 60 | 84.7 | 95 |
| Doeblers D633 | M | 18.5 | 62 | 102.3 | 107.3 |
| TA Seeds 617-20 | M | 16.8 | 58 | 85.4 | 89.6 |
| Average Medium Maturity | | | | 108.8 | 108.1 |
| Augusta A2954 | E | 16.4 | 57 | 90.2 | 102.5 |
| Great Heart HT110 | E | 16.5 | 60 | 70.4 | 80 |
| Hubner 5368 | E | 15.2 | 60 | 70.2 | 79.8 |
| Doeblers D587 | E | 16.8 | 60 | 93.3 | 99.5 |
| Dekalb DKC52-61 | E | 15.1 | 57 | 81.1 | 86.5 |
| Pioneer P35H46 | E | 17.4 | 63 | 88.9 | 94.7 |
| Mycogen 2K595 | E | 16.3 | 60 | 94.7 | 90.8 |
| Southern States SS538 | E | 16.3 | 58 | 67.5 | 64.8 |
| Channel Bio, LLC 199-55 | E | 15.1 | 59 | 98.5 | 94.4 |
| Average Early Maturity | | | | 83.9 | 88.1 |

**Discussion:** A check hybrid was planted on both sides of each Hybrid. Adjusted yields were calculated as a % of the adjacent check averages to account for variation in the field. The medium maturity hybrids yielded better than the early maturity which is typically the case.

## 2012 Virginia State University Mid & Late Corn Hybrid Comparison

**Cooperators:** Ruddy Grammar and Mack West, VSU-Randolph Farm
Glenn F. Chappell, II, Virginia State University
**Previous Crop:** Soybeans
**Soil Type:** Tetotum loam & Bourne Fine Sandy Loam
**Planting Date:** April 11, 2012
**Fertilizer:** Broadcast: 30-60-90, Preemergence Herbicides + 50-0-0, Sidedress: 145-0-0
**Crop Protection:** 1qt glyphosate + 0.5pt Banvel – March 30, 2012; 2qt Bicep II Mag. + 1qt Simazine – April 16, 2012
**Check Hybrid:** Hubner 5505
**Harvest Date:** September 24, 2012
**Harvest Equipment:** John Deere 9560 STS

| Hybrid | Maturity | Traits | % Moisture | Yield (bu./a @ 15.5%) | % of Check* |
|---|---|---|---|---|---|
| Hubner 5505 (check) | M | Yieldguard VT Triple | 16.8 | 90.1 | ------ |
| Augusta 0606 GT | M | CB LL | 17.8 | 84.1 | 73.2 |
| Augusta 6867 | F | CB LL | 19 | 118.2 | 102.9 |
| Channel BIO 211-01VT2P | M | RR2 YG2P | 18.4 | 127.8 | 111.3 |
| Channel BIO 217-08VT3P | F | RR2 YG3P | 17.7 | 169.5 | 147.6 |
| DeKalb 62-97 | M | GENVT3Pro | 15.2 | 140.4 | 122.2 |
| DeKalb 67-57 | F | GENVT3Pro | 15.3 | 164.6 | 143.3 |
| Dyna-Gro D52VC20RIB | M | ECB EW RR | 16.8 | 109.1 | 95.0 |
| Dyna-Gro D54VP81 | F | ECB RW EW RR | 18.7 | 131.9 | 114.8 |
| Great Heart HT-120RR | M | RR | 13.8 | 94.6 | 82.3 |
| Great Heart 4373 VT3Pro | F | VT3Pro | 17.6 | 109.6 | 95.4 |
| Hubner 5505 (check) | M | Yieldguard VT Triple | 15.9 | 139.6 | ------ |
| Mycogen 2V702 | M | HerculexExtra LL RR | 15.2 | 150.6 | 111.2 |
| Mycogen 2P886 | F | Herculex1 LL RR | 20 | 109.0 | 80.4 |
| Doeblers 633 HXR | M | RR2 HX LL | 16.7 | 116.6 | 86.0 |
| Doeblers 743 HXR | F | RR2 HX LL | 16.7 | 77.8 | 57.4 |
| Hubner 5405 VT3P30 | M | VT3P30 | 16.1 | 156.0 | 115.2 |
| Hubner 5709 VT3P30 | F | VT3P30 | 18.8 | 140.8 | 103.9 |
| Pioneer Hi-Bred P1489HR | M | Optimum AguaMax | 17.9 | 139.7 | 103.1 |
| Pioneer Hi-Bred P2088YHR | F | Optimum Intrasect | 16.7 | 74.0 | 54.6 |
| Seed Consultants SC 11AGT30 | M | CB LL GT | 15.4 | 111.3 | 82.2 |
| Southern States SS755 VT3 Pro | M | VT3Pro | 16.1 | 124.4 | 91.8 |
| Southern States SS824 | F | RR | 17.2 | 63.5 | 46.9 |
| T. A. Seeds 753-22DP | F | Genuity VT Double Pro | 17.7 | 87.2 | 64.4 |
| Hubner 5505 (check) | M | Yieldguard VT Triple | 15.4 | 131.4 | ------ |

| | |
|---|---|
| **PLOT AVERAGE:** | 117.4 |
| Mid Hybrids | 119.7 |
| Late Hybrids | 113.3 |

**Discussion:**

Rainfall and irrigation information is currently unavailable but the plot was irrigated during pollination and tasseling due to drought conditions in central Virginia.

* % of Check is calculated by dividing an individual hybrid's yield by the average of the two closest check hybrids and multiplying by 100.

## 2012 Middlesex Full Season Corn Comparison

**Cooperators:** **Producer:** William Wright; Barry Powell
**Extension:** David M. Moore, VCE-Middlesex
Brittany Moring, Summer Intern
**Industry:** Participating Companies

**Previous Crop:** Soybeans
**Soil Type:** Suffolk Fine Sandy Loam
**Plant Date:** May 3, 2012
**Plant Equipment:** John Deere 7000 Planter
**Tillage:** No Till into Turbo-Tilled Soybean mulch
**Check Hybrid:** Pioneer P1404HR
**Fertilization:** 3 T/A Poultry litter; Sidedress 60-0-0
**Crop Protection:** Pre-Plant: 1qt. Glyphosate and Banvel
Pre-emerge: Brawl II and Atrazine
**Harvest Date:** September 24, 2012
**Harvest Equipment:** Gleaner R50

| Hybrid | Pop.(6/22) | M% | Yield15.5% | %Check |
|---|---|---|---|---|
| Augusta 6867 | 23,500 | 17.2 | 135.3 | 107.4 |
| Check | 26,500 | 16.5 | 113.4 | |
| Channel-Bio 217-08 | 27,000 | 16.5 | 160.1 | 131.4 |
| Check | | 16.1 | 130.1 | |
| Dekalb DKC-67-57 | 24,500 | 15.9 | 152.9 | 112.0 |
| Check | | 15.7 | 142.9 | |
| Doebler's RPM743HXR | 22,500 | 15.7 | 156.9 | 111.3 |
| Check | | 15.6 | 138.8 | |
| Dyna-Gro D54VP81 | 25,000 | 16.0 | 131.5 | 93.9 |
| Check | | 15.5 | 141.3 | |
| Great Heart HX-4373 | 23,500 | 15.4 | 148.6 | 104.1 |
| Check | 26,000 | 15.4 | 144.3 | |
| Hubner H5709 | 28,000 | 15.9 | 136.9 | 94.2 |
| Check | | 15.9 | 146.3 | |
| Mycogen 2P886 | 26,000 | 19.9 | 147.8 | 99.4 |
| Check | | 16.1 | 151.0 | |
| Phoenix 6522A4 | 24,500 | 16.1 | 159.0 | 107.6 |
| Check | | 15.5 | 144.5 | |
| Pioneer P2088YHR | 26,500 | 15.5 | 145.2 | 102.6 |
| Check | | 15.4 | 138.4 | |
| Southern States SS824RR | 24,000 | 15.7 | 144.8 | 105.6 |
| Check | 27,500 | 15.4 | 135.8 | |
| TA Seeds TA753-22DP | 27,500 | 15.6 | 126.4 | 92.2 |

**Discussion:** See Full Season Hybrid replications and summary later in this publication.

## 2012 Ag Expo Irrigated Corn Hybrid Demonstration Plot

**Cooperators:** **Producer:** Chuck McGhee, Grainfield Farm
**Extension:** Jim Schroering, VCE, Hanover County
Keith Balderson, VCE, Middle Peninsula
Wade Thomason, Extension Grains Specialist
Daniel Bowie, Summer Intern
**Agribusiness:** Participating Seed Companies

**Soil Type:** Pamunkey fine sandy loam
**Previous Crop:** Soybeans
**Planting Date:** April 17, 2012
**Fertilizer:** Pop-Up: Season Pass
Broadcast: 90-46-200-10 per acre
Sidedress: 80-0-0-10 per acre twice
**Crop Protection:** Burndown: Roundup, 2, 4-D, and Leadoff
Post-emergence: Halex GT and 1 qt. per acre atrazine
**Harvest Date:** September 20, 2012

| Hybrid | Maturity | Population | % Moisture | Yield (Bu./Acre @ 15.5%) |
|---|---|---|---|---|
| Pioneer 1456HR (Check) | | 34,000 | 18.8 | 253.0 |
| Augusta 2954 GT3000 | Early | 32,500 | 17.4 | 211.4 |
| Augusta 0606 GTCBLL | Mid | 34,000 | 19.1 | 209.1 |
| Augusta 6867 GTCBLL | Full | 31,500 | 19.7 | 223.7 |
| Channel Bio 199-55VT3 | Early | 33,500 | 16.4 | 203.0 |
| Channel Bio 211-01VT2P | Mid | 34,500 | 17.2 | 251.3 |
| Channel Bio 217-08VT3P | Full | 36,000 | 18.4 | 286.7 |
| Dekalb 52-61 GENVT3P | Early | 33,000 | 16.4 | 217.5 |
| Dekalb 62-97 GENVT3P | Mid | 34,000 | 17.1 | 250.5 |
| Dekalb 67-57 GENVT3P | Full | 33,000 | 18.7 | 246.2 |
| Dyna-Gro 45Q5 ECB/RW/EW/RR | Early | 29,500 | 17.4 | 213.6 |
| Dyna-Gro 52VC20RIB ECB/EW/RR | Mid | 34,000 | 17.9 | 246.6 |
| Dyna-Gro 54VP81 ECB/RW/EW/RR | Full | 34,500 | 18.2 | 241.3 |
| Doeblers RPM 587AM HX1/LL/RR2 | Early | 34,000 | 17.4 | 226.7 |
| Doeblers RPM 633HXR HX1/LL/RR2 | Mid | 33,000 | 17.7 | 229.7 |
| Doeblers 743HX HX1/LL/RR2 | Full | 32,500 | 17.7 | 272.0 |
| Great Heart HT 972/3111 | Early | 31,500 | 16.9 | 209.1 |
| Great Heart HT 120RR | Mid | 33,000 | 18.3 | 233.5 |
| Check | | 35,000 | 18.5 | 228.2 |
| Great Heart 4373 VT3 Pro | Full | 34,500 | 18.5 | 231.5 |

| | | | | |
|---|---|---|---|---|
| Hubner 5368VT3P | Early | 34,000 | 16.8 | 214.2 |
| Hubner 5405VT3P | Mid | 33,500 | 18.2 | 228.4 |
| Hubner 5709VT3P | Full | 35,500 | 18.5 | 244.3 |
| Mycogen 2K595 SmartStax | Early | 33,500 | 18.2 | 212.3 |
| Mycogen 2V702 HXX/LL/RR | Mid | 37,500 | 18.0 | 233.4 |
| Mycogen 2P886 HX1/LL/RR | Full | 33,500 | 21.3 | 213.1 |
| Phoenix 5320A3 | Early | 36,000 | 19.6 | 206.9 |
| Phoenix 5552A4 | Mid | 30,500 | 18.1 | 236.7 |
| Phoenix 6522A4 | Full | 33,000 | 18.9 | 231.1 |
| Pioneer 0210 AM-R RIB/AquaMax | Early | 33,500 | 16.1 | 202.6 |
| Pioneer 1498 HR AquaMax | Mid | 34,000 | 18.1 | 239.9 |
| Pioneer 2088 YHR Optimum Intrasect | Full | 34,000 | 18.7 | 285.8 |
| Southern States 538 VT3 | Early | 35,000 | 17.2 | 175.7 |
| Check | | 35,500 | 17.5 | 236.6 |
| Southern States 755 VT3 | Mid | 36,000 | 18.1 | 222.6 |
| Southern States 824 RR | Full | 35,500 | 18.8 | 219.7 |
| TA Seeds 583-22DP GENVTDoublePro | Early | 34,000 | 15.2 | 191.6 |
| TA Seeds 617-20 Agrisure 3000GT | Mid | 36,000 | 16.9 | 217.1 |
| TA Seeds 753-22DP GENVTDoublePro | Full | 35,000 | 16.1 | 230.5 |
| Croplan 4421 VT3 | Early | 34,000 | 15.9 | 166.0 |
| Croplan 6431 VT3 | Mid | 36,000 | 18.1 | 224.4 |
| Croplan 6640 VT3 | Full | 35,500 | 19.0 | 214.5 |
| Syngenta 61P-3000GT** | Early | 36,000 | 18.0 | 179.5 |
| Syngenta 84U58-3111** | Mid | 33,000 | 18.0 | 163.8 |
| Syngenta 78S-3111 | Full | 32,500 | 18.3 | 222.2 |
| Seed Consultants 10HQ70 HXX/LL/RR2 | Early | 32,500 | 18.0 | 192.9 |
| Seed Consultants11AGT30 CB/LL/RR | Mid | 34,500 | 18.0 | 212.4 |
| Check | | 34,500 | 17.7 | 225.7 |
| Average Early Hybrids | | | | 201.5 |
| Average Mid Hybrids | | | | 226.6 |
| Average Full Hybrids | | | | 240.2 |

**These 2 hybrids were visibly stunted at harvest. Possible causes include herbicide injury, nematodes, or soil type differences and/or soil fertility.

**Discussion:**

Be sure to consult replicated yield data from the Va. Corn Performance Trials when selecting hybrids. This plot makes the case for planting multiple maturities as the Mid-Maturity and Full-Maturity Hybrids outperformed the early hybrids by 25 and 40 bushels, respectively, on average.

**2012 Virginia Cooperative Extension On-Farm Corn Hybrid Plot Yield Summary (bushels per acre at 15.5%)**

**Upper Coastal Plain and Va. State University**

**Early Hybrids (107 Dary RM or Less)**

| Hybrid | Hanover* | K&Q | Essex* | Average*** |
|---|---|---|---|---|
| Augusta 2954GT3000A | 211 | 86 | 185 | 149 |
| Channel Bio 199-55VT3 | 203 | 81 | 196** | 142 |
| Croplan 4421 VT3 | 166 | | | |
| Dekalb 52-61 | 218 | 107 | | 163 |
| Doeblers RPM 587AM | 227 | 70 | | 149 |
| Dyna-Gro 45Q50 | 214 | 93 | | 154 |
| Great Heart HT 972/3111 VIP | 209 | | | |
| Hubner 5368 VT3P | 214 | 78 | | 146 |
| Mycogen 2K595 | 212 | 83 | 174 | 148 |
| Phoenix 5320A3 | 207 | 83 | 191 | 145 |
| Pioneer 0210 AM-R | 203 | 114 | 189 | 159 |
| Seed Consultants 10HQ70 | 193 | 95 | | 144 |
| Southern States 538VT3 | 176 | 100 | 191 | 138 |
| Syngenta 61P-3000GT | 180 | | | |
| T.A. Seeds 583-22DP | 192 | 98 | | 145 |
| Average | 202 | 91 | 188 | 149 |

***Irrigated locations; **Used as check hybrid--average of 4 checks reported; ***Hanover and King and Queen locations only.**

**Medium Hybrids (108-112 Day RM)**

| Hybrid | Hanover* | Va. State* | Gloucester | Westmoreland | Average*** |
|---|---|---|---|---|---|
| Augusta 0606 | 209 | 84 | 148 | 66 | 141 |
| Channel Bio 211-01VT2P | 251 | 128 | 168 | 64 | 161 |
| Croplan 6431 VT3 | 224 | | | | |
| Dekalb 62-97 | 251 | 140 | 168 | 55 | 158 |
| Doeblers RPM 633HXR | 230 | 117 | 142 | 34 | 135 |
| Dyna-Gro 52VC20RIB | 247 | 109 | 158 | 8 | 138 |
| Great Heart HT 120RR | 234 | 95 | 151 | 21 | 135 |
| Hubner 5405 VT3P | 228 | 156 | 150 | 89 | 156 |
| Mycogen 2V702 | 233 | 151 | 154 | 67 | 151 |
| Phoenix 5552A4 | 237 | | 143 | 42 | 141 |
| Pioneer 1498 HR | 240 | 140 | 146 | 43 | 143 |
| Seed Consultants 11AGT30 | 212 | 111 | 152 | 26 | 130 |
| Southen States 755 VT3 Pro | 223 | 124 | 162 | 64 | 150 |
| Syngenta 84U58-3111 | 164 | | 161 | | |
| T.A. Seeds 617-20 | 217 | | | 60 | |
| Average | 227 | 120 | 154 | 50 | 145 |

***Irrigated locations; ***Average of Hanover, Gloucester, and Westmoreland--Va. State not used due to high variability under irrigation.**

**Full Hybrids (113 Day RM or More)**

| Hybrid | Hanover* | Va. State* | Middlesex | Average*** |
|---|---|---|---|---|
| Augusta 6867 | 224 | 118 | 135 | 180 |
| Channel Bio 217-08VT3P | 287 | 170 | 160 | 224 |
| Dekalb 67-57 | 246 | 165 | 153 | 200 |
| Dyna-Gro 54VP81 | 241 | 132 | 132 | 187 |
| Doeblers 743HXR | 272 | 78 | 157 | 215 |
| Great Heart 4373 VT3 Pro | 232 | 110 | 149 | 191 |
| Hubner 5709 VT3P | 244 | 141 | 137 | 191 |
| Mycogen 2P886 | 213 | 109 | 148 | 181 |
| Phoenix 6522A4 | 231 | | 159 | 195 |
| Pioneer 2088YHR | 286 | 74 | 145 | 216 |
| Southern States 824 | 220 | 64 | 145 | 183 |
| T.A. Seeds 753-22DP | 231 | 87 | 126 | 179 |
| Croplan 6640 VT3 | 215 | | | |
| Syngenta 78S-3111 | 222 | | | |
| Average | 240 | 113 | 146 | 195 |

***Irrigated locations; ***Average of Hanover and Middlesex--Va. State not used due to high variability under irrigation.**

**2012 Virginia Cooperative Extension On-Farm Corn Hybrid Plot Yield Summary (bushels per acre at 15.5%)**

**Southeast Virginia**

**Early Hybrids (107 Day RM or Less)**

| Hybrid | Chesapeake | Va. Beach | Surry | Average |
|---|---|---|---|---|
| Doeblers D587 | 177 | 93 | 89 | 119 |
| Great Heart HT110 | 175 | 70 | | |
| Augusta 2954 | 174 | 90 | 87 | 117 |
| Pioneer P35H46 | 172 | 89 | 104 | 122 |
| Channel Bio 199-55 | 171 | 99 | 90 | 120 |
| Mycogen 2K-595 | 167 | 95 | 111 | 124 |
| Southern States 538 | 158 | 68 | 95 | 107 |
| Dekalb DKC52-61 | 155 | 81 | 96 | 111 |
| Dyna Gro 45Q50 | 154 | | 77 | |
| Hubner 5368 | | 70 | 96 | |
| Great Heart HT 972/3111 | | | 67 | |
| Seed Consultants 10HQ70 | | | 80 | |
| Average | 167 | 84 | 90 | 117 |

**Medium Hybrids (108-112 Day RM)**

| Hybrid | Chesapeake | Va. Beach | Average |
|---|---|---|---|
| Mycogen 2V702 | 191 | 118 | 155 |
| TA Seeds 617-20 | 188 | 85 | 137 |
| Pioneer P1319 | 186 | 128 | 157 |
| Southern States 755 | 184 | 106 | 145 |
| Dekalb DKC62-97 | 177 | 85 | 131 |
| Channel Bio 211-01 | 176 | 123 | 150 |
| Doeblers D633 | 174 | 102 | 138 |
| Great Heart HT212 | 173 | 116 | 145 |
| Hubner H5405 | 166 | 95 | 131 |
| Augusta A0606 | 165 | 130 | 148 |
| Dyna Gro 52VC20 | 165 | | |
| Average | 177 | 108 | 144 |

## 2012 Southampton County Corn Hybrid Plot

**Cooperators:** **Producer:** Chance W. Crowder
**Extension:** Chris Drake, Southampton County
**Agribusiness:** Augusta Seed, Coastal Agrobusiness, Dekalb, Dyna-Gro, Hubner, Pioneer, Syngenta

**Soil Type:** State Fine Sandy Loam **Plot Size:** Four 36" rows of 1115 feet (0.3072 acres)
**Previous Crop:** Soybeans
**Planting Date:** April 11, 2012
**Fertilizer:** 3/28 – 140# 0-0-60, 4/11- 11 gallons 10-34-0 starter w/ 10oz./ac Advance LCO, 4/16 -20 gallons 30% UAN, 25 gallons 24-0-0-3S sidedress
**Crop Protection:** Burndown – 3 pints Gramoxone, 1.5 oz Leadoff, Early Post – 1 pint atrazine, 22 oz. Roundup Powermax, 3 oz. Capreno
**Harvest Date:** September 15, 2012

| Hybrid | Maturity | Planted Population | % Moisture | Yield (Bu./Acre @15.5%) |
|---|---|---|---|---|
| Check--NK 77P | 114 | 24700 | 17.8 | 123.8 |
| Augusta 6867 | 117 | 24700 | 17.7 | 119.3 |
| Augusta 6166 | 116 | 24700 | 18.9 | 118.8 |
| Phoenix 6948 | 114 | 24700 | 17.9 | 120.4 |
| Phoenix 6542 | 116 | 24700 | 17.8 | 126.9 |
| Check | 114 | 24700 | 17.7 | 121.5 |
| Hubner 4600 | 112 | 24700 | 17.8 | 136.3 |
| Hubner 5709 | 114 | 24700 | 18.1 | 125.4 |
| Hubner EX844 | 115 | 24700 | 17.6 | 134.9 |
| Pioneer 0210 AMR | 102 | 24700 | 15.9 | 114.7 |
| Pioneer 1498 | 114 | 24700 | 17.5 | 137.4 |
| Pioneer 2088 | 120 | 24700 | 18.1 | 137.1 |
| Check | 114 | 24700 | 17.8 | 130.7 |
| Dekalb 64-69 | 114 | 24700 | 17.9 | 136.5 |
| Dekalb 67-57 | 117 | 24700 | 17.7 | 138.8 |
| Dekalb 68-03 | 118 | 24700 | 18.2 | 125.9 |
| Dyna-Gro 54VP81 | 114 | 24700 | 16.9 | 134.9 |
| Dyna-Gro 55VC21 | 115 | 24700 | 17.7 | 122.8 |
| Dyna-Gro 56VP10 | 115 | 24700 | 18.1 | 125.8 |
| Check | 114 | 24700 | 17.8 | 126.6 |
| PLOT AVERAGE | | | | 127.9 |

**Discussion:** Use this data as an aid when making seed selections for 2013.

## 2012 Corn Hybrid Comparison Plot

**Cooperators:** Producer: Keith Balderson
Extension: Keith Balderson; VCE, Middle Peninsula
Daniel Bowie, Summer Intern

**Soil Type:** Kempsville sandy loam

**Previous Crop:** Double Crop Soybeans

**Planting Date:** April 19, 2012

**Fertilizer:** 60-60-60 per acre at planting
90-0-0-11 per acre sidedress

**Crop Protection:** Burndown Herbicide: Gramoxone and 2, 4-D
Pre-emergence Herbicide: Bicep and Simazine
Post-emergence Herbicide: Touchdown

**Harvest Date:** September 4, 2012

| Hybrid | Rep. | Population | % Moisture** | Yield (Bu./Acre @15.5%) |
|---|---|---|---|---|
| Pioneer 0210HR | 1 | 24,500 | | 79.1 |
| Pioneer 35F37 | 1 | 24,500 | | 79.9 |
| Pioneer 0210HR | 2 | 23,500 | | 84.7 |
| Pioneer 35F37 | 2 | 23,500 | | 89.1 |
| Pioneer 0210HR | 3 | 25,000 | | 90.6 |
| Pioneer 35F37 | 3 | 24,000 | | 92.3 |
| Ave. Pioneer 0210HR | | 24,000 | 17.1 | 84.8 |
| Ave. Pioneer 35F37 | | 24,000 | 16.9 | 87.1 |
| LSD (0.10) | | ns | | ns |

**One composite moisture sample was taken for each hybrid.

**Discussion:**
This was a split planter plot evaluating Pioneer 0210HR, an Optimum® AQUAmax™ hybrid with the Herculex® I Insect Protection gene to its refuge hybrid, Pioneer 35F37. There was little to no European corn borer (ECB) pressure in this field. As evidenced by the yields, this plot experienced significant drought and heat stress. There was no statistical difference in the yields of either hybrid.

## Early Maturity Corn Comparison

**Cooperators:** **Producer:** Robert Bland IV
**Extension:** David Moore, VCE Middlesex

**Previous Crop:** Soybeans
**Soil Type:** Emporia/Suffolk Fine Sandy Loam
**Plant Date:** April 14, 2012 into 30 inch rows
**Hybrids:** Pioneer P0210AM vs Dekalb 52-59
**Crop Protection:** Preplant: Glyphosate, Atrazine, Simazine, 2,4-D
Post: Halex GT
**Fertilization:** Preplant: 35-60-90-15s
With Pesticides: 40-0-0
Sidedress Injected: 75-0-0
**Harvest Date:** September 10, 2012
**Harvest Equipment:** AGCO R52

| Hybrid | Rep. | Moisture | Yield @ 15.5% |
|---|---|---|---|
| P0210 | 1 | 15.2 | 89.5 |
| DKC 52-59 | 1 | 15.6 | 74.9 |
| | | | |
| P0210 | 2 | 15.5 | 97.3 |
| DKC 52-59 | 2 | 15.4 | 84.0 |
| | | | |
| P0210 | 3 | 15.1 | 111.6 |
| DKC 52-59 | 3 | 15.4 | 97.8 |
| | | | |
| Ave. P0210 | | 15.3 | 99.5 |
| Ave. DKC 52-59 | | 15.5 | 85.6 |
| LSD (0.10) | | ns | 1.1 |

**Discussion:**
Here are two 102 RM hybrids compared in a field with less than adequate rain and high temperatures this growing season. These two hybrids have been compared in other locations around the middle peninsula this year. Results have varied, but in this particular plot, the P0210 yielded significantly higher than the DKC52-59.

Use this and other Virginia Tech corn hybrid yield information when making plans for 2013.

## 2012 Corn Hybrid Comparison

| | | |
|---|---|---|
| **Cooperators:** | Producer: | David Carlton and William Davis Carlton |
| | Extension: | David Moore, VCE-Middlesex |
| | | Laura Maxey, VCE-King & Queen/ King William Counties |
| | Industry: | Participating Seed Suppliers |

**Previous Crop:** Soybeans
**Soil Type:** Emporia Sandy Loam
**Plant Date:** April 12, 2012
**Plant Equipment:** John Deere 16-Row Air Planter
**Land Preparation:** No-Till
**Fertilization:** 0-0-100 Broadcast
70-50-0 Pre-emerge (starter included)
90-0-0 injected
**Crop Protection**: Pre: Glyphosate, Atrazine, Simazine
Post: Resolve Q and Glyphosate
**Harvest Date:** August 29, 2012
**Harvest Equipment:** John Deere 9760STS

| Hybrid | Moisture | Yield @ 15.5% |
|---|---|---|
| Pioneer P0210AM | 23.3 | 99.3 |
| Pioneer P0210AM | 23.2 | 103.4 |
| Doebler's RPM638AM | 23.5 | 54.7 |
| Doebler's RPM638AM | 25.2 | 58.9 |
| Pioneer P0210AM | 23.5 | 117.0 |
| Pioneer P0210AM | 23.5 | 133.5 |
| Doebler's RPM638AM | 24.5 | 90.8 |
| Doebler's RPM638AM | 25.2 | 96.1 |
| | | |
| Average Pioneer P0210AM-R | 23.4 | 113.3 |
| Average Doebler's RPM638AM | 24.6 | 75.1 |

**Discussion:**
The Doebler Hybrid is 113 day maturity and the Pioneer Hybrid is 102 day maturity. This year, early maturing hybrids did better because they caught a better couple of weeks of weather when pollinating than did the mid maturing hybrids. I think this is pretty much the case in most of the lower Middle Peninsula. What a difference a week makes. This could really be seen this year. Also, later planted/full season hybrids caught the weather right at pollination. The weather just wasn't right for timely planted mid maturity hybrids this year in our area.

Use this and other Virginia Tech hybrid information when making planting decisions for 2013.

## Mathews Mid-Season Hybrid Comparison

**Cooperators:** Producer: Robert Respess, Jr.
Extension: David Moore, VCE-Middlesex
Industry: Chuck Unser, Coastal Agrobusiness

**Previous Crop:** Soybeans
**Soil Type:** Woodstown Fine Sandy Loam
**Plant Date:** April 17, 2012 no till into 30 inch rows
**Check Hybrid**: Pioneer P0912AMX
**Harvest Date:** September 18, 2012

| Hybrid | Moisture (%) | Yield@ 15.5% |
|---|---|---|
| Check (P0912) | 15.9 | 122.8 |
| Phoenix 6522A4 | 17.6 | 127.7 |
| Check | 16.1 | 137.6 |
| Phoenix 5552A4 | 17.4 | 121.3 |
| Check | 16.4 | 121.9 |
| Pioneer P1184 | 16.8 | 92.7 |
| Check | 16.3 | 112.4 |

**Discussion:**
This is a small comparison plot done in Mathews County. Use this and other Virginia tech on-farm plot information when making planting decisions for 2013.

## 2012 Ag Expo Irrigated Twin Row Corn Demonstration Plot

| | | |
|---|---|---|
| **Cooperators:** | **Producer:** | Chuck McGhee, Grainfield Farm |
| | **Extension:** | Jim Schroering, VCE, Hanover County |
| | | Keith Balderson, VCE, Middle Peninsula |
| | | Wade Thomason, Extension Grains Specialist |
| | | Daniel Bowie, Summer Intern |
| **Hybrid:** | Pioneer 1456HR | |
| **Soil Type:** | Pamunkey fine sandy loam | |
| **Previous Crop:** | Soybeans | |
| **Planting Date:** | April 17, 2012 | |
| **Fertilizer:** | Pop-Up: Season Pass (30 inch rows only) | |
| | Broadcast: 90-46-200-10 per acre | |
| | Sidedress: 80-0-0-10 per acre twice | |
| **Crop Protection:** | Burndown: Roundup, 2, 4-D, and Leadoff | |
| | Post-emergence: Halex GT and 1 qt. per acre atrazine | |
| **Harvest Date:** | September 20, 2012 | |

| Treatment | Planted Population | % Moisture | Yield (Bu./Acre @15.5%) |
|---|---|---|---|
| 30” | 32K | 20.2 | 211.2 |
| twin | 32K | 20.2 | 208.0 |
| | | | |
| twin | 36K | 20.2 | 207.5 |
| 30” | 36K | 20.2 | 209.2 |
| | | | |
| 30” | 40K | 20.2 | 201.8 |
| twin | 40K | 20.2 | 198.8 |
| | | | |
| 30” | | | 207.4 |
| twin | | | 204.8 |

**Discussion:**
This demonstration plot evaluated 30 inch row spacing corn to twin rows at 3 different populations. We only had one replication of each population; however; increasing populations did not increase yields, and there was no difference in yield in the 30 inch rows and twin rows.

## 2012 Ag Expo Irrigated Corn Nematicide Seed Treatment Plot

**Cooperators:** **Producer:** Chuck McGhee, Grainfield Farm
**Extension:** Jim Schroering, VCE, Hanover County
Keith Balderson, VCE, Middle Peninsula
Wade Thomason, Extension Grains Specialist
Daniel Bowie, Summer Intern

**Hybrid:** Pioneer 1456 HR
**Soil Type:** Pamunkey fine loamy sand
**Previous Crop:** Soybeans
**Planting Date:** April 17, 2012
**Fertilizer:** Pop-up: Season Pass
Broadcast: 90-46-200-10 per acre
Sidedress: 80-0-0-10 per acre twice
**Crop Protection:** Burndown Herbicides: Roundup, 2, 4-D, and Leadoff
Post-emergence: Halex GT and 1 qt. per acre atrazine
**Harvest Date:** September 20, 2012

| Treatment | Rep. | Population | % Moisture | Yield (Bu./Acre @15.5%) |
|---|---|---|---|---|
| Check-PPST 250 | 1 | 36,000 | 18.3 | 163.3 |
| Avicta+PPST 250 | 1 | 34,500 | 18.0 | 179.8 |
| Poncho 1250/Votivo | 1 | 37,500 | 18.3 | 172.5 |
| Poncho 1250/Votivo | 2 | 35,500 | 17.7 | 190.2 |
| Avicta+PPST 250 | 2 | 36,000 | 18.3 | 184.4 |
| Check | 2 | 37,000 | 18.5 | 193.4 |
| Check | 3 | 37,000 | 18.4 | 183.1 |
| Avicta+PPST 250 | 3 | 36,000 | 17.3 | 179.6 |
| Poncho 1250/Votivo | 3 | 37,500 | 17.6 | 191.4 |
| Poncho 1250/Votivo | 4 | 35,000 | 17.8 | 181.7 |
| Avicta+PPST 250 | 4 | 35,000 | 17.9 | 176.4 |
| Check-PPST 250 | 4 | 34,000 | 16.8 | 186.3 |
| | | | | |
| PPST-Check Ave. | | 36,000 | 18.0 | 181.5 |
| Avicta+PPST 250 Ave. | | 35,375 | 17.9 | 180.1 |
| Poncho 1250/Votivo | | 36,375 | 17.9 | 184.0 |
| LSD (0.10) | | ns | ns | ns |

**Discussion:**
The purpose of this plot was to evaluate nematicide seed treatments in a field with a suspected nematode problem. Soil samples for nematode assay taken about 1 month after planting in all 3 treatments did show some nematodes; however levels were below current economic thresholds. There was no significant difference in yield in any of the treatments.

## 2012 Turbo Chopper Usage on Corn Plot

**Cooperators:** **Producer:** Midway Farms
**Extension:** Keith Balderson, VCE Middle Peninsula
Daniel Bowie, Summer Intern

| Treatment | Population |
|---|---|
| Check | 22,000 |
| Turbo Chopper | 26,333 |
| Turbo Chopper | 25,333 |
| Check | 21,000 |
| Turbo Chopper | 24,333 |
| Check | 19,333 |
| | |
| Ave. Check | 20,778 |
| Ave. Turbo Chopper | 25,333 |

**Discussion:**
Many farmers in the upper coastal plain of Virginia harvested very good small grain and double-crop soybeans in 2011. The result in many cases was significant residue to plant corn into in 2012. While residue is good at preventing soil erosion and ultimately increasing organic matter and overall soil health, excessive amounts can cause planting difficulties. Residue also slows down soil warming in the spring and provides shelter for slugs. Some growers are using vertical tillage tools, such as turbo tills and turbo choppers to manage residue. Prior to planting a turbo chopper was run in this field in strips. Our goal was to see if this implement would have any effects on possible slug infestations and yields. The field did have a slug infestation and the use of this tool increased plant populations by over 4,500 plants per acre. Planting depth was also more uniform in the turbo chopper plots so stand loss was probably a result of slug damage and poorer seed to soil contact in check plots compared to the turbo chopper plots. Excessive heat and drought greatly damaged the plot, and yields were not taken.


Check Strip
Turbo Chopper Strip

## Starter vs. "Pop-Up" Fertilizer

**Cooperators:** **Producer:** Carlton & Calhoun Farms, Roger Calhoun
**Extension:** David Moore, VCE Middlesex

**Previous Crop:** Soybeans
**Plant Date:** April 3, 2012
**Planting Equipment:** Kinze 3650 12 row planter
**Crop Protection:** Burndown: Gramoxone-1.Qt. + 2,4-D – 1 pt.
1 Qt Cinch + 1.25 oz. Karate
Post: 3.6 pints Halex GT
**Fertilization:** Starter: 20 gallons 15-15-0 with micros
Pop-Up: 3 gallons 9-18-9-1s with Advance (LCD)
0-0-90 Broadcast
105-0-0 injected at sidedress
**Corn Hybrid:** Dekalb DKC52-59
**Harvest Date:** August 24, 2012
**Harvest Equipment:** John Deere 9610

| Treatment | Population | M% | Yield @ 15.5% |
|---|---|---|---|
| Starter + "Pop-Up" | 29,000 | 16.2 | 144.0 |
| Pop-Up | 29,000 | 17.7 | 139.8 |
| Starter | 29,000 | 17.4 | 138.1 |
| | | | |
| Starter + "Pop-Up" | 28,500 | 15.4 | 145.2 |
| Pop-Up | 28,500 | 17.9 | 147.7 |
| Starter | 28,500 | 17.3 | 143.9 |
| | | | |
| Average Starter + "Pop Up" | | | 144.6 ns |
| Average Pop Up | | | 143.8 ns |
| Average Starter | | | 141.0 ns |

**Discussion:**
There is lots of interest in "pop-up" fertilizer and using it in place of traditional starter. In this particular test, it seems as though there is no difference in the use of either. Early season evaluation showed the pop-up strips to definitely not look as well as the other strips. Soil samples taken from the areas showed no differences in soil fertility. Producers should realize that the use of "pop-ups" alone is not returning any nutrients to the soil for future use, nor is it building any nutrient reserves.

*It should be noted that the "pop-up" fertilizer had the insecticide in it and the starter alone, did not.

## 2012 Corn "Pop Up" Fertilizer Plot

**Cooperators:** **Producer:** Anonymous
**Extension:** Laura Maxey, VCE, King and Queen and King William Counties
David Moore, VCE, Middle Peninsula

**Hybrid:** Hubner H6644SS
**Soil Type:** Emporia
**Previous Crop:** Soybeans
**Planting Date:** April 24, 2012
**Fertilizer:** 29-46-100-12(S) Broadcast, 126-0-0 Sidedress
**Treatment 1:** Conklin 3-18-18 @ 5 gals. per acre -seed furrow application
Conklin 0-0-25-17 @ 1 gal. per acre - seed furrow application
Conklin Manganese @ 2.3 pts. per acre -seed furrow application
Conklin Zinc @ 1.5 pts. per acre -seed furrow application
**Treatment 2:** Bio Green 11-0-1 @ 5 gals. per acre -seed furrow application
Conklin Manganese @ 2.3 pts. per acre -seed furrow application
**Crop Protection:** Roundup Powermax - 1 @ qt. per acre and 2,4 D @ 1. pt. per acre
Atrazine @ 1.25 qts. per acre and Simazine @ 1.25 qts. per acre
**Harvest Date:** 10-25-12

| Treatment | Rep. | % Moisture | Yield (Bu./Acre @15.5%) |
|---|---|---|---|
| Trt. 1 | 1 | 14.4 | 166.6 |
| Trt. 2 | 1 | 14.8 | 179.3 |
| | | | |
| Trt. 1 | 2 | 14.6 | 172.2 |
| Trt. 2 | 2 | 14.8 | 178.5 |
| | | | |
| Trt. 1 | 3 | 14.6 | 174.4 |
| Trt. 2 | 3 | 14.5 | 176.9 |
| | | | |
| **Ave. Trt. 1** | | 14.5 ns | 171.1 ns |
| **Ave. Trt. 2** | | 14.7 ns | 178.2 ns |

**Discussion:** There is a lot of interest in "pop up" fertilizers applied directly in the seed furrow. These fertilizers supply minimal nutrients and are most likely to provide a benefit when planting into cool, wet soils. They should not be used as the sole source for phosphorous and/or potassium unless soil tests are high or very high. In this test a combination of products were used in furrow in each treatment. Treatment number 2 yielded higher in each replication, but the difference was not statistically significant.

## 2012 Sidedress Nitrogen Injection Test Plot

**Cooperators:** **Producer:** James and Calvin Haile
**Extension:** Keith Balderson, VCE, Middle Peninsula
**Other:** Three Rivers SWCD and National Fish and Wildlife Federation

**Fertilizer:** Broadcast: 78-46-90-12S + 1 lb. boron per acre
Pop Up: 1 gallon 28-0-0-5S, 1 gallon 11-37-0 + 1 pt. 9% zinc/acre
Sidedress: See below

**Insecticide:** 4 oz. per acre Capture LFR

| Treatment | Rep. | Yield (bu./acre) | NUE (lb. N/ bushel) |
|---|---|---|---|
| 100 lbs. N per acre dribbled | 1 | 59.3 | 3.07 |
| 100 lbs. N per acre injected | 1 | 65.3 | 2.79 |
| 85 lbs. N per acre injected | 1 | 71.1 | 2.34 |
| 100 lbs. N per acre dribbled | 2 | 83.4 | 2.18 |
| 100 lbs. N per acre injected | 2 | 100.1 | 1.82 |
| 85 lbs. N per acre injected | 2 | 110.0 | 1.52 |
| 100 lbs. N per acre dribbled | 3 | 105.8 | 1.72 |
| 100 lbs. N per acre injected | 3 | 101.0 | 1.80 |
| 85 lbs. N per acre injected | 3 | 98.1 | 1.70 |
| Average—100 lbs. N per acre dribbled | | 82.8 | 2.32 |
| Average—100 lbs. N per acre injected | | 88.8 | 2.14 |
| Average—85 lbs. N per acre injected | | 93.1 | 1.85 |
| LSD (0.10) | | ns | 0.26 |

** NUE is Nitrogen Use Efficiency and was calculated as the total amount of nitrogen applied divided by corn yield in bushels. 1 lb. of N per bu is considered very efficient. Lower values indicate greater efficiency.

**Discussion:**
Nitrogen injection at corn sidedressing time helps to avoid both ammonia volatilization and immobilization by microbes and can significantly increase nitrogen use efficiency by corn plants. Hot and dry weather greatly affected yields. Yields in the middle of the plot were better than on either side, most likely a result of soil type differences. There was no statistical difference in the yields of any of the treatments; however, the nitrogen use efficiency (NUE) of the lower injected nitrogen rate was statistically better than the other 2 treatments. Plans are now underway to do more nitrogen injection work in cooperation with 3 Rivers Soil and Water Conservation District and Northern Neck Soil and Water Conservation District. Both districts will have nitrogen injector rigs for farmers to use in 2013.

## 2012 Variable Rate Nitrogen Corn Test Plot

**Cooperators:** **Producer:** Cloverfield Enterprises
**Extension:** Keith Balderson, VCE, Middle Peninsula
Daniel Bowie, VCE Summer Intern
**Others:** Colonial and 3 Rivers SWCD's and Va. NRCS CIG Program

**Hybrid:** Hubner 4222RC2P
**Previous Crop:** Soybeans
**Planting Date:** April 3, 2012
**Soil Type:** See below
**Fertilizer:** Starter: 20 gallons per acre 24-0-0-3 per acre plus 1 pt. per acre boron and 1 qt. per acre zinc
Pop Up: 2.5 gallons per acre 11-37-0
Broadcast: 0-0-114 per acre
Sidedress: Fixed Rate: 90 lbs. N per acre;
Variable rate based on soil type (see below)
**Crop Protection:** Burndown: PowerMax
Pre-emergence: 2.5 qts. per acre Lumax, 1 pt. per acre atrazine, 1 qt. per acre Princep
Insecticide: 4.5 oz per acre Capture LFR in furrow in pop up
**Harvest Date:** August 15, 2012

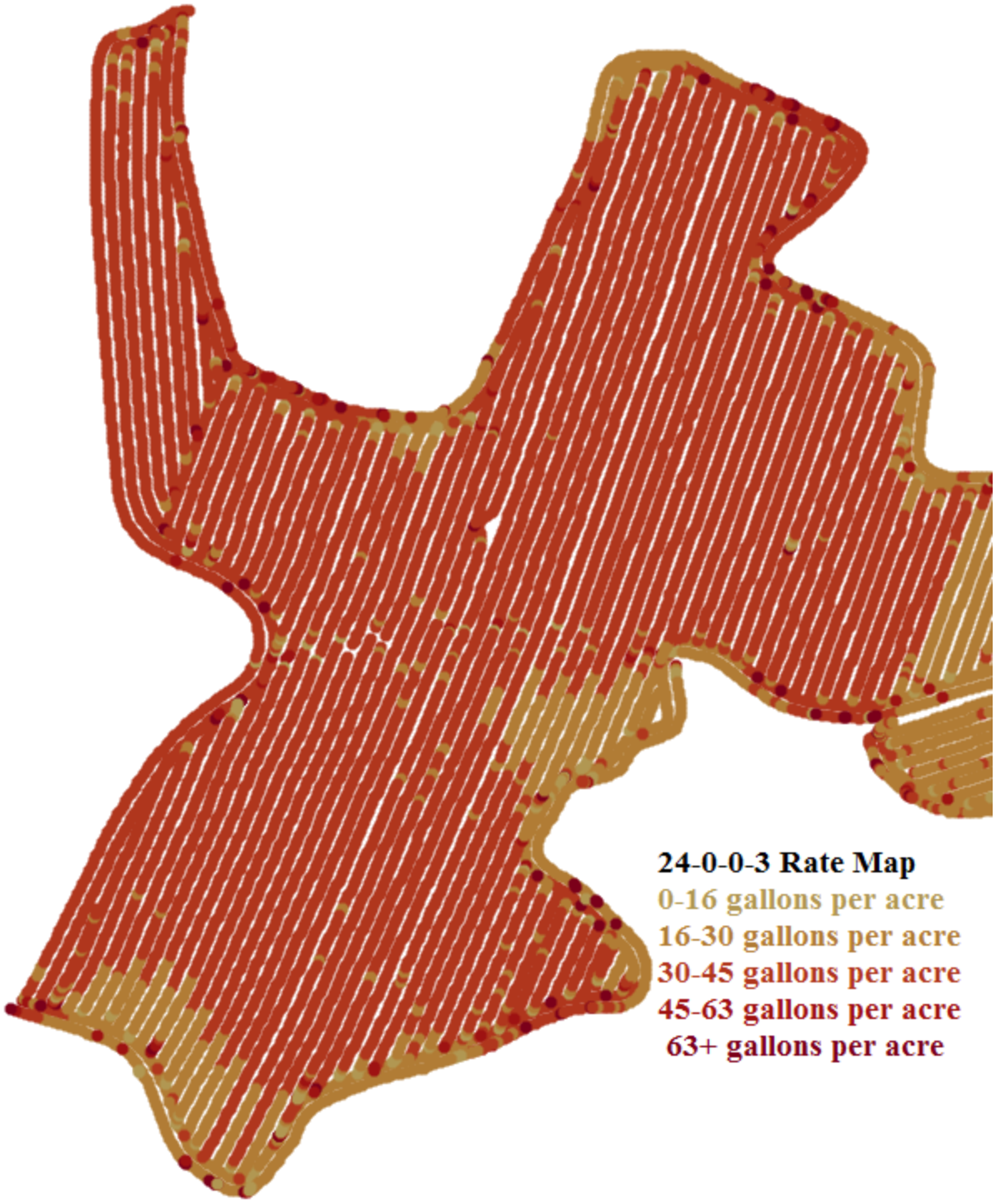
| Treatment | Rep. | N Sidedress Rate (lbs./acre) | % Moisture | Yield (Bu./Acre @15.5%) | NUE, lb N/bu ** |
|---|---|---|---|---|---|
| Fixed Rate | 1 | 90 | 16.3 | 78 | 1.83 |
| Variable Rate | 1 | 86 | 16.4 | 77 | 1.81 |
| Fixed Rate | 2 | 91 | 16.2 | 82 | 1.76 |
| Variable Rate | 2 | 87 | 16.0 | 79 | 1.77 |
| Fixed Rate | 3 | 90 | 16.2 | 74 | 1.93 |
| Variable Rate | 3 | 86 | 16.2 | 78 | 1.78 |
| Fixed Rate | 4 | 91 | 16.4 | 78 | 1.85 |
| | | | | | |
| Ave. Fixed-4 reps. | | 90.5 | 16.25 | 78 | 1.84 |
| Ave. Variable-3 reps. | | 86.3 | 16.2 | 78 | 1.79 |
| LSD (0.05) | | 2.1 | ns | ns | ns |

** NUE is Nitrogen Use Efficiency and was calculated as the total amount of nitrogen applied divided by corn yield in bushels. 1lb of N per bu is considered very efficient. Lower values indicate greater efficiency.

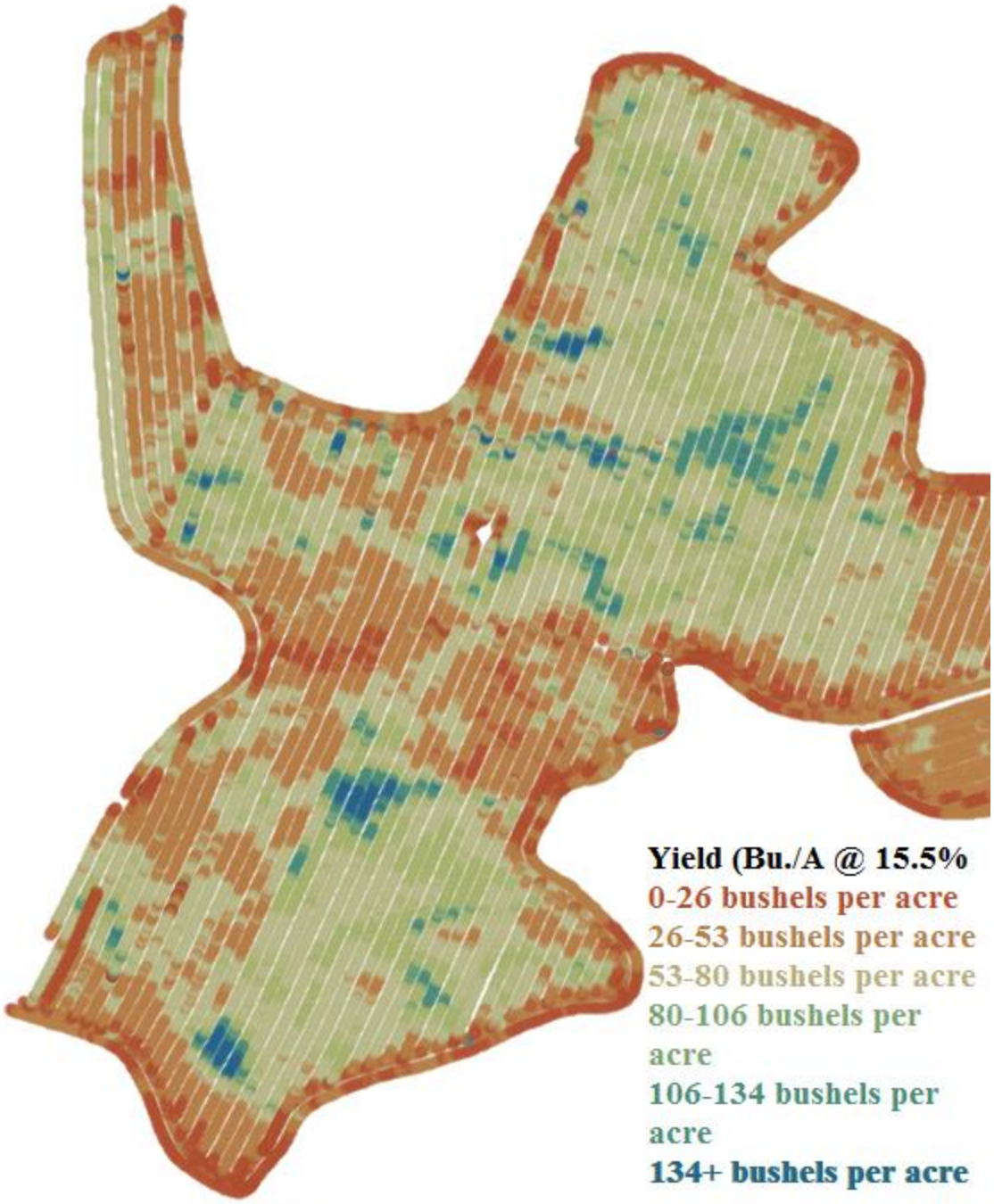
**Discussion:** This work is being done as part of Va. NRCS CIG Project. Excessive heat and dry weather greatly reduced yields, which affected our ability to evaluate zone-based variable rate nitrogen on corn. Nitrogen rate was statistically different, but no differences in corn grain yield or NUE were noted. More work is planned for 2013.

| Soil Type | Soil Survey Corn Yield Rating (bushels/acre) | % of Plot Area | Variable Sidedress N Rate (lbs./acre) |
|---|---|---|---|
| Emporia sandy loam (9B) | 120 | 8.0% | 90 |
| Kempsville sandy loam (10B) | 120 | 49.9% | 90 |
| Suffollk sandy loam | 110 | 34.7% | 80 |
| Rumford/Tetotum | no rating | 7.4% | 50 |

**Approximate Plot Area From Soil Survey**




**24-0-0-3 Sidedress Rate Map**


Yield (Bu./A @ 15.5%
0-26 bushels per acre
26-53 bushels per acre
53-80 bushels per acre
80-106 bushels per acre
106-134 bushels per acre
134+ bushels per acre

**Yield Map**

## 2012 Variable Rate Nitrogen on Irrigated Corn Test Plot

**Cooperators:** **Producer:** Cloverfield Enterprises
**Extension:** Keith Balderson, VCE, Middle Peninsula
Daniel Bowie, VCE Summer Intern
**SWCD:** Colonial & 3 Rivers SWCD's and Va. NRCS CIG Program

**Hybrid:** Hubner 5322VT3

**Previous Crop:** Soybeans

**Planting Date:** March 31, 2012

**Soil Type:** See discussion

**Fertilizer:** Starter: 20 gallons per acre 24-0-0-3, 1 qt. zinc, and 1 pint boron per acre
Pop Up: 2.5 gallons per acre 11-37-0
Broadcast: 211 lbs. per acre 11-52-0 and 203 lbs. per acre 0-0-60
Sidedress: Fixed rate of 150 lbs. nitrogen per acre; applied on 5/10/12
Variable rate by soil type (see below) applied on 5/10/12 or based on Greenseeker; applied on 5/29/12

**Crop Protection:** Burndown: Power Max
Pre-emergence: 1.5 qts. per acre Lumax, 1 pt. per acre atrazine, and 1 qt. per acre Princep; Post-emergence: 3.6 pts. per acre Halex GT
Insecticide: 4.0 oz. per acre Capture LFR in furrow
Fungicide: 10.5 oz. per acre Quilt Excel

**Harvest Date:** August 24, 2012

| Treatment | Rep. | N Sidedress Rate (lbs./acre) | % Moisture | Yield (Bu./Acre @15.5%) | NUE, lb N/bu ** |
|---|---|---|---|---|---|
| Fixed Rate | 1 | 151 | 22.7 | 235 | .95 |
| Variable Rate | 1 | 174 | 22.9 | 232 | 1.06 |
| Greenseeker | 1 | 117* | 22.4 | 217 | .88 |
| Greenseeker | 2 | 117* | 22.4 | 211 | .91 |
| Variable Rate | 2 | 171 | 22.8 | 216 | 1.13 |
| Fixed Rate | 2 | 152 | 23.0 | 199 | 1.13 |
| Variable | 3 | 170 | 23.8 | 202 | 1.20 |
| Fixed Rate | 3 | 149 | 23.2 | 218 | 1.02 |
| Greenseeker | 3 | 118* | 23.7 | 226 | .85 |
| Greenseeker | 4 | 118* | 23.6 | 241 | .80 |
| Fixed Rate | 4 | 151 | 24.2 | 237 | .95 |
| Variable Rate | 4 | 168 | 24.2 | 239 | 1.01 |
| Ave. Fixed Rate | | 150.75 | 23.3 | 222.25 | 1.01 |
| Ave. Variable Rate | | 170.75 | 23.4 | 222.25 | 1.10 |
| Ave. Greenseeker | | 117.5 | 23.0 | 223.75 | .86 |
| LSD (0.10) | | 3.0 | ns | ns | 0.09 |

*Greenseeker replications 1 and 2 where installed in the same pass of the sprayer; Greenseeker replications 3 and 4 were installed in the same pass of the sprayer.

** NUE is Nitrogen Use Efficiency and was calculated as the total amount of nitrogen applied divided by corn yield in bushels. 1lb of N per bu is considered very efficient. Lower values indicate greater efficiency.

**Discussion:** This work is being done as part of a Va. NRCS CIG project. This plot evaluated a fixed sidedressing nitrogen rate on corn to variable rates based on soil type (zone) and Greenseeker (sensor). All treatments received approximately 75 lbs. of nitrogen prior to sidedressing. Both the fixed rate and zone based variable rates were injected. Greenseeker rates were dribbled. There was no statistical difference in yields of any of the treatments; however there were differences in the amount of sidedress nitrogen applied and the nitrogen use efficiency. A random tissue sample was taken from all three treatments at ear leaf stage. The levels in all 3 treatments were very consistent and in the sufficient to high range. The results were as follows:

| **Treatment** | **%N** |
|---|---|
| Greenseeker | 3.61% |
| Variable (zone-based) | 3.59% |
| Standard | 3.57% |

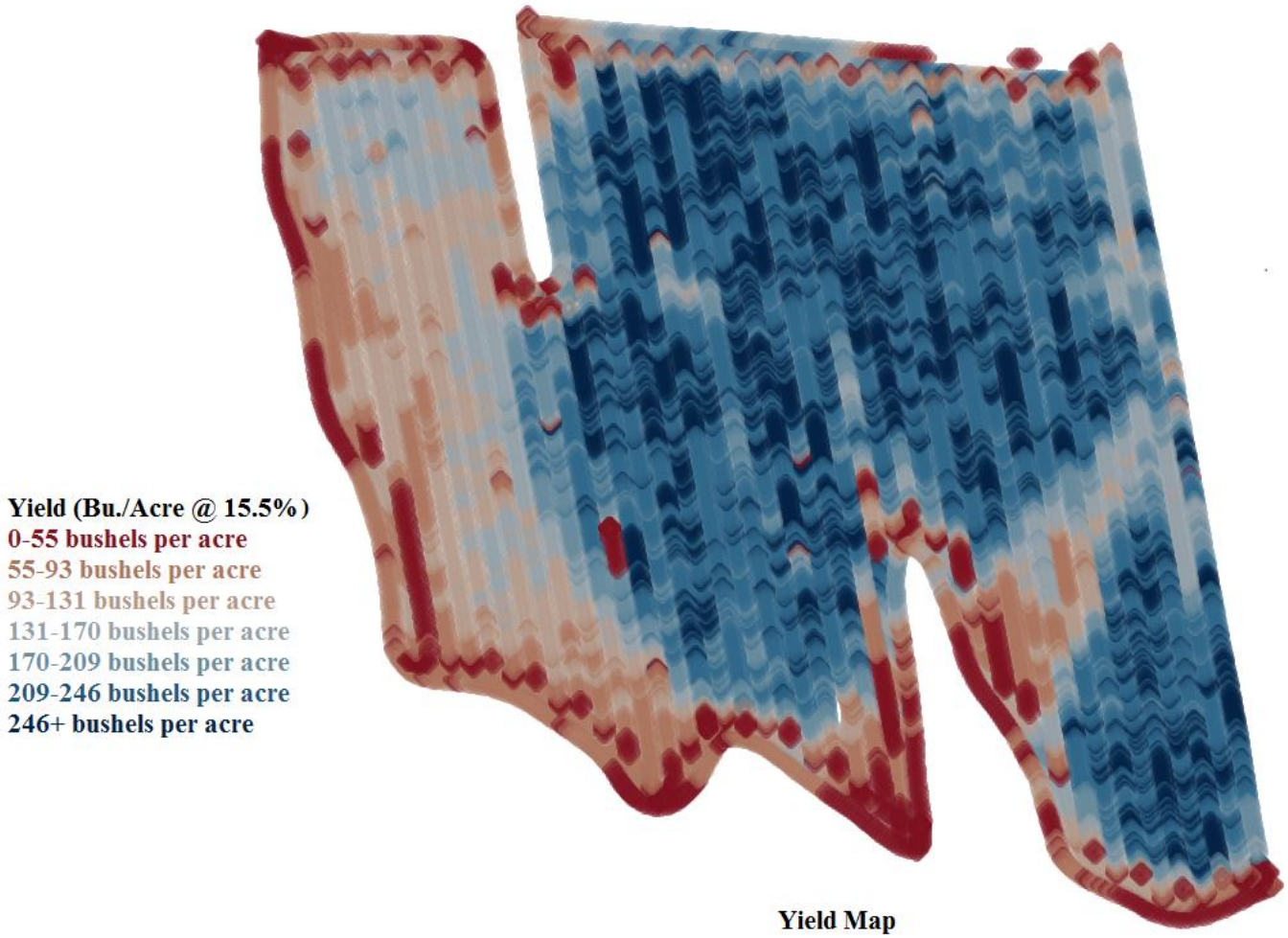
Results of this plot certainly show the Greenseeker technology as very promising for increasing nitrogen use efficiency in corn production. More work will be conducted next year.

| Soil Type | Producer Irrigated Yield Goal (bushels/acre) | % of Plot Area | Variable Sidedress N Rate (lbs./acre) |
|---|---|---|---|
| Bolling silt loam (5A) | 220 | 46.4% | 170 |
| Molena loamy sand (12A) | 200 | 26.0% | 150 |
| Pamunkey loam (15A) | 240 | 27.6% | 190 |

**Approximate Plot Area From Soil Survey**

**24-0-0-3 Rate (gal. per acre)**
**.6-41 gallons per acre**
**41-50 gallons per acre**
**50-60 gallons per acre**
**60-69 gallons per acre**
**69-81 gallons per acre**
**81+ gallons per acre**

**24-0-0-3 Sidedress Rate Map**
**Excluding Greenseeker Strips**


Yield (Bu./Acre @ 15.5%)
0-55 bushels per acre
55-93 bushels per acre
93-131 bushels per acre
131-170 bushels per acre
170-209 bushels per acre
209-246 bushels per acre
246+ bushels per acre

**Yield Map**