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## VIRGINIA TECH ON-FARM SMALL GRAIN TEST PLOTS Eastern Virginia August 2009

**A Summary of Replicated Research and Demonstration Plots Conducted by Virginia Cooperative Extension in Cooperation with Local Producers and Agribusinesses**



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**FINANCIAL ASSISTANCE PROVIDED BY:  
VIRGINIA SMALL GRAINS BOARD**

## **INTRODUCTION**

The demonstration and research plot results discussed in this publication are a cooperative effort by seven Virginia Cooperative Extension agents, several extension specialists from Virginia Tech, area producers, and agribusinesses. We are proud to present this year's on-farm wheat plot work to you. The 2008-09 wheat season was a tough one for producers. Below normal temperatures in the fall and winter reduced tillering, and wet conditions in the spring delayed harvest and resulted in low quality and yields in many areas. With wheat prices down considerably and input costs relatively high, wheat producers will need to really focus on maximum economic yields during 2009-10 to produce profitable wheat. We hope this information in the publication will help them do so.

The field work and printing of this publication are supported by the Virginia Small Grains Check-Off Funds. The cooperators greatly acknowledge this support. Any small grain producer who would like a copy of this report should contact his/her local extension agent, who can request a copy from Keith Balderson in Essex County at 804-443-3551 or [thbalder@vt.edu](mailto:thbalder@vt.edu).

This is the sixteenth year of this multi-county project. Further work is planned for the upcoming growing season.

The authors wish to thank the many producers who participated in this project. Appreciation is extended to the seed, chemical, and fertilizer representatives who donated products and/or assisted with the field work.

### **DISCLAIMER:**

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## GENERAL SUMMARY

- A. VARIETY SELECTION:** Variety selection remains one of the most important components of wheat production. In our variety plots, yields and test weight values varied considerably between varieties. Five varieties averaged over 80 bushels per acre across the New Kent, Westmoreland, and Middlesex locations: USG 3555 at 85.3 bushels per acre, Pioneer 26R15 at 83.6 bushels per acre, Dominion at 82.4 bushels per acre, USG 3665 at 82.3 bushels per acre, and Pioneer 26R22 at 81.9 bushels per acre. Producers should also review test weight and disease resistance packages when selecting wheat varieties. The best source of information available for selecting small grain varieties is Virginia Cooperative Extension publication “Small Grains in 2009,” which can be found at <http://pubs.ext.vt.edu/2908/2908-1403/2908-1403.pdf>
- B. SEEDING RATE DEMONSTRATION:** In a replicated demonstration plot evaluating seeding rates of 22, 26, and 30 seeds row foot in 7.5 inch row spacing, there was no difference in yield with yields around 70 bushels per acre. For 2 consecutive years, seeding rates of 22 seeds per row foot have produced yields as good as seeding rates of 30 seeds per row foot in 7.5 inch rows. To maximize profits producers need to continue to plant based on seeds per row foot rather pounds per acre. Our work the past 2 years verifies that planting 22 seeds per row foot in 7.5 inch rows is adequate when planting properly and timely.
- C. SOIL FERTILITY PLOTS:** In a nitrogen management plot under long-term continuous no-till in New Kent County, 90 pounds of spring applied nitrogen produced the maximum economic yields. See the individual studies from Charles City and New Kent for more information.
- D. CROP PROTECTION PLOTS:** An at heading application of Prosaro fungicide on Southern States 8309 wheat increased yields by 8 bushels per acre. Test weight was 59.3 pounds in the Prosaro plots and 56.7 pounds in the check plots.

## 2009 PRINCE GEORGE LATE-BARLEY SEEDING RATE TRIAL

**Cooperators:** Producer: Charles Skalsky  
 Extension: Scott Reiter, Prince George

**Previous Crop:** Full Season Group IV Soybeans  
**Soil Type:** Norfolk, Emporia, and Slagle fine sandy loam  
**Tillage:** No-Till  
**Test/Plot Size:** 804 feet x 20 feet; 3 replications  
**Planting Equipment:** Great Plains 1005 No-till Drill  
**Planting Date:** November 6, 2008  
**Row Spacing:** 7 inches  
**Variety:** Eve hulless and Thoroughbred hulled barley  
**Seeding Rate:** see treatments  
**Fertilizer:** 30-30-60 preplant  
 70-0-0 topdressed as 30% UAN, February 20  
 2 qts/A 10% Manganese, March 20

**Crop Protection:** Herbicides:  
 glyphosate 1 lb/A + 2,4-D 1 pt/A burndown, October 25 Harmony Extra  
 SG 0.75 oz/A, February 20  
 Insecticides: None  
 Fungicides: None

**Harvest Date:** June 11, 2009  
**Harvest Equipment:** John Deere 4420 with 13 ft. head

Treatment	Rep 1	Rep 2	Rep 3	Test Wt.	Avg. Yield
	(bu/A)	(bu/A)	(bu/A)	(lbs/bu)	(bu/A)
Eve – 20 seed/ft	38.1	33.1	31.9	52	34.4
Eve – 24 seed/ft	37.9	36.8	41.9	53	38.9
Eve – 28 seed/ft	38.3	36.8	37.5	53	37.5
LSD (0.10)					NS
Thoroughbred – 16 seed/ft	70.3	61.4	54.6	43	62.1
Thoroughbred – 20 seed/ft	73.0	68.1	69.4	43	70.2
Thoroughbred – 24 seed/ft	69.4	62.1	57.4	43	63.0
LSD (0.10)					NS

**Discussion:** The objective of this field trial was to determine if barley seeding rates need to be increased in early November no-till plantings. This is of concern because most barley will follow Group IV

soybeans rather than corn. We did find that Eve hull-less barley should be planted early due to its earlier maturity in the spring. It headed out about 10 days ahead of the Thoroughbred but yielded about 40% less. The yield decline in Reps 2 & 3 of the Thoroughbred plots was due to severe manganese deficiency confirmed through tissue testing. Soil tests revealed that the pH was 7.8 in the severe Mn deficient areas. Test weight of Eve ranged from 52-54 lbs/bushel and Thoroughbred 42-44 lbs/bushel. There was no significant statistical difference among the seeding rates tested for each variety. However, the medium seeding rates did produce the highest yields.

Lessons learned:

- Eve should be planted in October
- Medium seeding rates produced yields as good as high seeding rates
- Late seeded barley will likely be lower yielding
- Soil pH should be closely monitored in fields with a history of biosolids or other by-product soil amendment applications

We hope to repeat this study in 2009. Use this and other Virginia Cooperative Extension recommendations for barley production this year. Thanks to Wade Thomason, Extension Grains Specialist and Bruce Beahm, Virginia Crop Improvement Association, for their assistance in obtaining seed for the trial.

## 2009 WESTMORELAND COUNTY WHEAT VARIETY COMPARISONS

**Cooperators:** Producer: F. F. Chandler, Jr.  
 Extension: Keith Balderson, VCE, Middle Peninsula  
 Matt Lewis, VCE, Northern Neck  
 Eric Jochum, VCE Summer Intern  
 Agribusiness: Curtis Packett, Crop Production Services  
 Various Seed Company Representatives

**Previous Crop:** Corn  
**Soil Type:** Kempsville  
**Tillage:** No-tillage  
**Planting Date:** November 10, 2008  
**Row Spacing:** 7.5 inches  
**Variety:** Various  
**Seeding Rate:** 2.5 bushels per acre  
**Fertilization & Crop Protection:** February: 50-0-0-6 plus .75 oz. per acre Harmony Extra  
 April: 50-0-0-6 plus 2 oz per acre Warrior T  
 May: 7.5 oz. per acre Prosaro  
**Harvest Date:** June 30, 2009  
**Harvest Equipment:** John Deere 9400 with 18 foot header

Variety	Test Weight	Moisture	Seed Trt.	Yield
Featherstone176	57.4	13.8	Raxil/Thiram	71.8
Sisson	57.9	13.8	Raxil/Thiram	77.6
Jamestown	59.3	13.4	Raxil/Thiram	71.7
Tribute	60.2	14.8	Dividend Ext.	75.4
Dominion	58.4	13.4	Dividend Ext.	75.5
Vigoro 9510	57.6	12.5	Dividend Ext.	69.1
SS 8641	58.4	13.0	Raxil/Thiram	69.6
SS 520	56.8	13.1	Raxil/Thiram	71.9
Renwood 3434	58.3	13.9	Dividend Ext.	75.3
USG 3665	58.2	13.8	Dividend Ext.	72.1
USG 3555	58.7	14.0	Dividend	76.1
Pioneer 26R15	57.8	13.2	Raxil/Thiram	72.4
Pioneer 26R22	57.4	13.5	Raxil/Thiram	74.1

**Discussion:** Wheat yields were down considerably compared to 2008. Yields and test weights in this plot were very good for the season. Scab infection was low in this field compared to many fields in the area. Later planting may have delayed flowering to a point where scab infection conditions were not

favorable. The use of Prosaro may have also reduced scab infection. Use this with other variety information to select high-yielding varieties in 2008.



## 2009 MIDDLESEX WHEAT VARIETY COMPARISONS

**Cooperators:** Producer: Jason Benton  
 Extension: David Moore, VCE-Middlesex  
 Agribusiness: Participating Seed Company Reps.  
**Previous Crop:** Corn  
**Soil Type:** Suffolk fine sandy loam  
**Tillage:** No-Till following stalk shredder  
**Test/Plot Size:** 15' X 560'  
**Planting Equipment:** Great Plains 1500  
**Planting Date:** October 24, 2008  
**Row Spacing:** 7.5 inches  
**Check Variety:** Southern States 8309  
**Seeding Rate:** 25-26 seeds per ft. of row  
**Crop Protection:** Herbicides: Glyphosate @ 1 qt/A at planting  
 Finesse at 4/10 oz in February  
 Insecticides: Warrior in December  
 Fungicides: Prosaro in May  
**Harvest Date:** July 1, 2009  
**Harvest Equipment:** AGCO R62

Variety	Moisture	TW	Yield	% of Check
USG 3665	12.9	58	88.0	101.6
Check—SS 8309	12.9	59	86.6	
USG 3555	12.9	59	96.1	106.3
Check	13.0	58	94.2	
Renwood 3434	12.0	58	88.0	93.6
Check	12.9	58	93.8	
Pioneer 26R22	12.3	58	86.3	94.6
Check	12.6	58	88.7	
Pioneer 26R15	12.6	59	96.9	111.4
Check	12.9	59	85.3	
Coker Branson	13.3	59	92.1	104.8
Check	13.5	58	90.5	
Coker 9804	13.0	57	78.8	84.4
Check	13.1	59	96.1	
Featherstone 176	13.6	59	71.9	78.8
Check	13.6	59	86.4	

Jamestown	13.2	61	80.9	93.3
Check	13.0	59	87.0	
Sisson	13.1	60	81.0	91.1
Check	13.2	59	90.9	
Southern States 520	12.9	58	66.0	73.4
Check	13.3	59	89.0	
Southern States 8641	13.2	56	74.8	84.2
Check	13.3	58	88.6	
Tribute	13.5	62	77.8	90.0
Check	13.7	58	84.1	
Dominion	13.7	59	86.4	100.9
Check	13.8	59	87.2	
Vigoro 9510	12.2	58	78.9	90.5
<b>Variety Average</b>			82.9	
<b>Check Average</b>			89.2	

**Discussion:** Great plot! Prosaro fungicide was applied in early May, but was somewhat late for Scab protection. Some varieties had noticeable scab and seed quality issues. Yields from this plot were good. Decision-making for 2009-10 will be tough due to low prices and high input prices. When choosing a variety, look for more than yield as the major buying factor. Look for good disease package and a variety with above average test weight. I have included heading dates and disease rating for the Benton and Corbin Hall plots. Use this with other variety information to select high-yielding varieties in 2010.

#### **Heading Dates:**

April 24 Jamestown, SS 520

April 26 Featherstone 176, USG 3555

April 28 Coker 9804, Branson, Tribute, Sisson, SS 5205, Renwood3434, USG3665

April 30 Dominion, Vigoro 9510, Pioneer 26R15, Pioneer 26R22, SS 8641

**Scab Rating (Done 6-2-09) (0-9 with 0=none)**

<b>Variety</b>	<b>Benton Rating</b>	<b>Corbin Hall Rating</b>
Renwood 3434	3-4	3-4
USG 3665	1-2	3-4
USG 3555	1-2	4-5
Branson	1-2	5
Coker 9804	2-3	5
Tribute**	2-3	3-4
Shirley		5
Dominion	3-4	5
Vigoro 9510	3	3-4
Pioneer 26R22	4-5	5-6
Pioneer 26R15	2-3	2-3
Featherstone 176	3-4	7
Jamestown	1	1-2
Sisson*	3-4	6-7
SS 5205		5-6
SS 8641	3-4	5
SS 520	2-3	6-7
McCormick		4-5

## 2009 NEW KENT WHEAT VARIETY TOLERANCE TO AXIOM TRIAL

**Cooperators:** Producer: John Black & Sons/Providence Forge  
 Extension: Paul H. Davis, New Kent & Charles City Counties  
 Wade Thomason, VT Grain Specialist  
 Agribusiness: Jim Wallace, Colonial SWCD  
**Previous Crop:** Cotton  
**Soil Type:** Kempsville, fine sandy loam  
**Tillage:** No-Till  
**Test/Plot Size:** 20' x 25'  
**Planting Equipment:** 10' Great Plains No-Till Drill  
**Planting Date:** November 6, 2008  
**Row Spacing:** 7 ½"  
**Variety:** See Treatments  
**Seeding Rate:** 28 seeds/ft of row  
**Crop Protection:** Herbicides: Osprey @ 4.75 oz. – 12/30/09  
 Harmony @ .40 oz – 3/11/09  
 Insecticides: Baythroid @ 1.5 oz – 3/11/09  
 Fungicides: None  
**Harvest Date:** June 30, 2009  
**Harvest Equipment:** VA Tech Plot Combine

Axiom Rates/Acre on 11/21/08	(0 oz)	(8 oz)	(16 oz)	% of Check
Variety	(bu/A)	(bu/A)	(bu/A)	Without Axiom
USG 3434	76.6	76.5	72.2	88.4
USG 3555	83.8	81.0	73.1	96.5
Check (Pioneer 26R22)	86.8	82.8	68.5	
USG 3665	86.8	80.9	73.0	100.0
Pioneer 26R22	98.2	83.6	75.7	113.0
Pioneer 26R15	81.4	79.6	66.4	96.1
Dominion	85.4	87.2	81.2	100.8
Check	84.7	89.2	75.4	
Vigoro 9510	69.4	62.8	57.2	81.9
Tribute	73.7*	65.4	70.9	87.0
SS 520	56.3*	59.8	69.6	66.5
SS 8641	68.8	77.8	64.8	96.5

Branson	77.4	93.0	70.1	108.5
Coker 9804	70.7	76.4	59.9	99.2
Panola	69.1	78.8	58.8	96.9
AgriPro X543	*	50.1*	41.2*	-
Check	71.3	84.2	60.2	
Sisson	70.6	69.6	55.3	99.0
Jamestown	74.8	82.8	61.4	104.9
Featherstone 176	*	*	*	-
Totals	77.0	78.4	67.4	
Check Average	80.9	85.4	68.0	

**\*=Deer Damage**

**Discussion:**

Wheat yields varied greatly in this plot because of deer damage. Some varieties were more susceptible and/or favorable to deer than others with or without beards. Pioneer 26R22, Branson, and Jamestown were the highest yielding followed by Dominion and USG 3665. At the recommended labeled rate of 8 oz. per acre applied at the 1 leaf stage (early emergence), Axiom did not effect wheat development or yields, but at the 16 oz. rate yields were reduced by 10 bushels per acre across all varieties. Please compare these yields with other variety plots from your area before making your 2010 wheat production decisions.

## 2009 GREENSVILLE COUNTY WHEAT VARIETY COMPARISONS

**Cooperators:** Producer: Glenn Moore  
 Extension: Cyndi Estienne, Greenville County Ag Agent  
 Kevin Lynch, Greenville County Extension Intern  
 Agribusiness: Crop Production Services; Southern States; Hawkins Supply  
**Previous Crop:** Double Crop Soybean following Wheat  
**Soil Type:** Slagle fine sandy loam  
**Tillage:** No-Till  
**Test/Plot Size:** 25 ft by 440 ft  
**Planting Equipment:** 20 ft John Deere 750 Drill  
**Planting Date:** November 19, 2008  
**Row Spacing:** 7 inches  
**Variety:** Multiple Variety Test  
**Seeding Rate:** 30 seed/ft  
**Crop Protection:** Herbicides: Finesse Grass and Broadleaf @ .75 oz, January 12, 2009  
**Harvest Date:** June 25, 2009  
**Harvest Equipment:** Case International 2188 with 25 ft head

Brand	Variety	Moisture	Test Weight	Yield
N/A	Bin Run	9.9	55	32.2
Southern States	520	9.9	58	42.4
Pioneer	26R24	9.9	56	39.3
CPS	Tribute	10.3	58	41.5
Vigoro/CPS	9713	9.6	54.5	35.9
CPS	Shirley	10.0	55	39.1
CPS	Dominion	10.2	57	40.3
Southern States	520	9.9	57	45.5
	McIntosh	9.6	53.5	38.9
Southern States	8404	9.4	53.8	37.4
Southern States	8302	9.8	53.5	36.3
Pioneer	26R15	9.6	50	33.2
Featherstone	176	10.4	52.5	33.1
Southern States	520	11.2	53	44.1

**Discussion:** Cold weather immediately after planting slowed initial growth in this field. Frequent and intense rainfall delayed harvest for several weeks. The crop rotation in this plot of wheat double crop soybeans followed by wheat double crop soybeans is a very poor rotation for good wheat production. Use this with other variety information to select high-yielding varieties in 2009.

## 2009 DINWIDDIE COUNTY WHEAT VARIETY COMPARISONS

**Cooperators:** Producer: Alvin Blaha  
 Extension: Mike Parrish, Dinwiddie  
**Previous Crop:** Corn  
**Soil Type:** Mattaponi Sandy Loam  
**Tillage:** No-Till  
**Planting Equipment:** Case IH 5400  
**Planting Date:** 10/27/ 2008  
**Row Spacing:** 7 inches  
**Seeding Rate:** 22 seed/ft.  
**Crop Protection:** Herbicides: Roundup @ 1 qt/A, 10/20/08  
 Insecticides: Warrior @ 3oz, 3/20/09  
 Fungicides: Stratego @ 10oz, 5/08/09  
**Harvest Date:** 6/27/2009  
**Harvest Equipment:** Case IH 1666

Brand	Variety	Moisture	Test Weight	Yield
Southern States	SS8404	13.0	58	39.70
Coker	Branson	13.5	56	53.20
Coker	9804	13.5	49	51.75
Pioneer	26R15	14.0	56	59.59
Southern States	SS560	13.5	53	53.21
Unisouth	USG3665	13.0	54	60.58
Renwood	Renwood3434	13.5	50	55.55
VT	Jamestown	13.0	61	60.58
VT	Sisson	13.0	52	56.75
Featherstone	FS176	13.5	55	62.28
Southern States	SS8641	12.5	45	32.23
Southern States	SS520	13.0	57	61.75
Unisouth	USG3555	13.5	57	64.35
Southern States	SS8404	13.0	58	44.99
Southern States	SS8404	13.0	58	43.06

**Discussion:** During the planting season the plot experienced extensive periods of rain that delayed planting. In addition to the fall rains we encountered more wet conditions during the month of April. The plot was treated with a fungicide (Stratego) to help with powdery mildew. Varieties with low test weight had more glume blotch injury. Use this and other variety information to select high-yielding varieties in 2009.

### 2009 On-Farm Wheat Variety Plot Yield Summary

Variety	Westmoreland	Middlesex	New Kent	Avg.	Ranking
Featherstone 176	71.8	71.9	*		
Sisson	77.6	81	70.6	76.4	8
Jamestown	71.7	80.9	74.8	75.8	9
Tribute	75.4	77.8	73.7*	76.6	7
Dominion	75.5	86.4	85.4	82.43	3
Vigoro 9510	69.1	78.9	69.4	72.47	10
SS 8641	69.6	74.8	68.8	68.13	11
SS 520	71.9	66	56.3*	64.7	12
Renwood 3434	75.3	88	76.6	79.97	6
USG 3665	72.1	88	86.8	82.3	4
USG 3555	76.1	96.1	83.8	85.33	1
Pioneer 26R15	72.4	96.9	81.4	83.6	2
Pioneer 26R22	74.1	86.3	85.3**	81.9	5
Coker Branson		92.1	77.4		
Coker 9804		78.8	70.7		
Panola			69.1		

\*Indicates Deer Damage

\*\* Pioneer 26R22 was used as check variety in the New Kent plot and the average of the 4 checks is reported here.

Yield averages given only where a variety yield is reported in all 3 sites.

### 2009 On-Farm Wheat Variety Plot Test Wt. Summary

Variety	Westmoreland	Middlesex	Avg.	Ranking
Featherstone 176	57.4	59	58.2	7
Sisson	57.9	60	58.95	3
Jamestown	59.3	61	60.15	2
Tribute	60.2	62	61.1	1
Dominion	58.4	59	58.7	5
Vigoro 9510	57.6	58	57.8	10
SS 8641	58.4	56	57.2	13
SS 520	56.8	58	57.4	12
Renwood 3434	58.3	58	58.15	8
USG 3665	58.2	58	58.1	9
USG 3555	58.7	59	58.85	4
Pioneer 26R15	57.8	59	58.4	6
Pioneer 26R22	57.4	58	57.7	11
Coker Branson		59		
Coker 9804		57		



## 2009 WHEAT SEEDING RATE TRIAL

**Cooperators:** **Producer:** Keith Balderson  
**Extension:** Keith Balderson, VCE, Middle Peninsula  
Eric Jochum, Summer Intern

**Previous Crop:** Corn  
**Soil Type:** Tetotum  
**Tillage:** No-tillage, corn stalks bush hogged  
**Planting Date:** October 16, 2008  
**Row Spacing:** 7.5 inches  
**Variety:** Dominion  
**Seeding Rate:** Various  
**Fertilization and Crop Protection:** 30-60-90 plus Gramoxone Inteon at planting  
28-0-0-8 plus Finesse @.4 oz per acre and Mustang Max @ 3.25 oz. per acre in late November  
70-0-0-8 per acre in early March  
**Harvest Date:** June 24, 2009  
**Harvest Equipment:** John Deere 7720 with 18 foot header

Treatment	Rep 1	Rep 2	Test Wt.	Heads per sq. foot @ harvest	Avg. Yield
	(bu/A)	(bu/A)	(bu/A)	(bu/A)	(bu/A)
175 lbs. per acre	64.7	75.8	56.7	61	70.1
22 seeds per row ft.	71.7	69.5	56.7	61	70.6
26 seeds per row ft.	69.8	70.2	56.7	60	70.0
30 seeds per row ft.	71.1	72.4	56.7	64	71.7
18 seeds per row ft.	70.0	one rep. only	56.7	58	70.0

### Discussion:

Wheat producers continue to ask questions about wheat seeding rates, especially in no-tillage systems, where wheat is planted into corn stalks. For timely planted, conventionally tilled wheat in 7 inch rows, 20 seeds per row foot is the recommended seeding rate. The standard recommendation has been to increase this rate by 10-20 percent in no-tillage systems. In this plot, the 155 pound per acre seeding rate on the drill setting actually resulted in a seeding rate of 175 pounds per acre, illustrating very well the importance of calibrating seeding rates based on seeds per row foot, not pounds per acre. It should be noted that even with the wide range in seeding rates in this plot, the number of seed heads produced per square foot in all plots was very similar. Remember that 60-70 heads per square foot with an average of 30 seeds per head should produce wheat yields of 100 bushels per acre. These results verify that no-tillage wheat seeding rates probably do not need to be increased more than 10-20 percent over conventionally planted wheat.

## 2009 HENRICO COUNTY LONG TERM NO-TILL WHEAT NITROGEN RATE STUDY

**Cooperators:** Producer: Randolph Aigner  
 Extension: Paul H. Davis, New Kent & Charles City Counties  
 Wade Thomason, VA Tech Grain Specialist  
**Previous Crop:** Soybean  
**Soil Type:** Pamunkey fine sandy loam  
**Tillage:** No-Till  
**Test/Plot Size:** 7' x 30'  
**Planting Equipment:** 10' No-Till Drill  
**Planting Date:** October 24, 2008  
**Row Spacing:** 8" inches  
**Variety:** Pioneer 26R15  
**Seeding Rate:** 30 seeds/ft of row  
**Fertilizer:** Preplant: 30-40-60 on 10/22/08  
**Crop Protection:** Herbicides: Glyphosate 1 qt. burndown – 10/22/08  
 Harmony .5 oz + Osprey 4.75 – 1/12/09  
 Finesse – 2/5/09  
 Insecticides: Karate 1.5 oz – 2/5/09; Fungicides: None  
**Harvest Date:** June 30, 2009  
**Harvest Equipment:** VA Tech plot combine

Treatment	Rep 1	Rep 2	Rep 3	Rep 4	Avg. Yield	Lodging 0-5
GS25 + GS30	(bu/A)	(bu/A)	(bu/A)	(bu/A)	(bu/A)	
0+0	51.2	38.0	41.1	35.1	41.4	0
0+30	64.7	52.0	48.5	49.1	53.6	0
0+45	58.0	66.7	52.4	57.6	58.7	0
0+60	60.1	74.8	53.2	50.0	59.5	0
30+0	59.6	56.7	54.3	DD	56.9	0
30+30	56.7	68.6	71.1	55.5	63.0	.5
30+45	DD	74.8	61.6	DD	68.2	1
30+60	DD	61.3	64.7	DD	63.0	1
45+0	56.4	57.6	55.6	DD	56.5	0
45+30	63.8	DD	63.4	57.2	61.5	1
45+45	61.3	66.8	63.4	63.8	63.8	2
45+60	DD	64.8	73.1	DD	69.0	3
60+0	61.9	53.3	60.6	54.6	57.6	1
60+30	60.2	53.1	70.0	56.1	59.9	1
60+45	DD	76.1	58.3	61.7	65.4	3
60+60	DD	50.8	53.7	DD	52.3	3

## **DD=Deer Damage**

### **Discussion:**

What a difference a year makes!! Last year the adjacent field yielded 86 bu/ac with no winter or spring nitrogen following corn. This year no amount of nitrogen yielded 70 bu/ac. Delayed harvest allowed the deer to concentrate in this plot which caused some yield losses. The soil organic matter in this field was 2.3% vs. 3.0% last year, so that has some influence on available nitrogen between the two fields. Last year was an excellent wheat growing season especially in May 2008, but this May 2009 we had over 6 inches of rainfall and it rained the whole time wheat was trying to flower. Continue to make tiller counts in February at G.S. 25 and take plant tissue samples in late March at G.S. 30 to fine tune your wheat nitrogen needs. As your soil organic matter gets to 3.0% and higher, you should be seeing significant reductions in wheat nitrogen application needs.

## 2009 NEW KENT LONG TERM NO-TILL WHEAT NITROGEN RATE & TIMING STUDY

**Cooperators:** Producer: John Black & Sons, Keith & Jon  
 Extension: Paul H. Davis, New Kent & Charles City  
**Previous Crop:** Cotton  
**Soil Type:** Kempsville, fine sandy loam  
**Tillage:** No-Till  
**Test/Plot Size:** 7' x 30'  
**Planting Equipment:** 30' John Deere Airseeder  
**Planting Date:** November 14, 2008  
**Row Spacing:** 7 ½"  
**Variety:** Vigoro 9510  
**Seeding Rate:** 30 seeds/ft of row  
**Fertilizers:** Preplant: 30-60-80 on 11/14/08  
**Crop Protection:** Herbicides: Glyphosate 1 qt. – 11/14/08  
 Harmony @ .5oz. – 2/14/09  
 Insecticides: Karate @ 1.5oz – 2/14/09  
 Fungicides: None  
**Harvest Date:** June 30, 2009  
**Harvest Equipment:** VA Tech Plot Combine

Treatment	Rep 1	Rep 2	Rep 3	Rep 4	Avg. Yield	Lodging 0-5
GS25 + GS30*	(bu/A)	(bu/A)	(bu/A)	(bu/A)	(bu/A)	
0+0	44.5	37.3	55.1	52.6	47.4	0
0+30	55.5	58.4	54.9	71.2	60.0	0
0+60	68.2	77.8	65.0	74.8	71.4	1
0+90	84.9	67.3	76.3	87.6	79.0	3
30+0	53.3	58.2	80.6	71.0	65.8	0
30+30	72.1	72.3	73.4	69.3	71.8	0
30+60	67.7	77.4	76.7	80.4	75.6	4
30+90	64.9	76.2	80.9	66.5	72.1	4
60+0	69.0	69.2	71.6	84.3	73.6	0
60+30	74.7	79.7	76.4	74.6	76.4	3
60+60	66.7	68.5	77.0	72.8	71.2	5
60+90	71.0	65.3	60.0	65.8	65.5	5
90+0	74.0	69.1	74.6	78.0	73.9	3
90+30	78.0	70.2	73.6	68.5	72.6	5
90+60	59.4	73.6	77.2	69.6	69.8	5
90+90	69.7	69.8	82.1	62.6	71.0	5
LSD (0.10)					0	

**\* GS 25 on 2/10/09; GS 30 on 3/27/09 with 28% N**

**Discussion:**

These are good wheat yields for this season, ranging from 79 bu/acre to 50 bu/ac. The soil organic matter in this field was 1.8% at planting. This is good for a cotton, wheat, soybean rotation even after 7 years of continuous no-till cropping. The best nitrogen rates for this year on this field was 90 lbs/ac and it didn't matter if it came in one shot early or late or split between GS 25 and GS 30. We have seen in other fields in other years where the soil organic matter is 3.0% or higher that nitrogen application rates have been significantly reduced without effecting yields. To help take the guess work out of your nitrogen needs, make time to take tiller counts at GS 25 in February and plant tissue samples at GS 30 in late March, then follow intensive wheat management nitrogen application recommendations.

## 2009 PROSARO FUNGICIDE STUDY ON WHEAT

**Cooperators:** Producer: Jason Benton  
Extension: David Moore, VCE-Middlesex

**Previous Crop:** Corn

**Soil Type:** Suffolk fine sandy loam

**Tillage:** No-Till following stalk shredder

**Test/Plot Size:** 20' X 650'

**Planting Equipment:** Great Plains 1500

**Planting Date:** October 22, 2008

**Row Spacing:** 7.5 inches

**Variety:** Southern States 8309

**Seeding Rate:** 25 seeds per row foot

**Crop Protection:** Herbicides: Glyphosate burndown, Finesse in February  
Insecticides: Warrior in December  
Fungicides: Prosaro 421C; 7 ounces/A May8, 2009

**Harvest Date:** July 1, 2009

**Harvest Equipment:** AGCO R62

Treatment	Rep 1	Rep 2	Rep 3	Avg. Yield
	(bu/A)	(bu/A)	(bu/A)	(bu/A)
Control	83.7	80.3	78.6	81.0
Treatment (Prosaro)	92.7	88.1	86.6	89.1
LSD (0.10)				1.1

**Discussion:** Prosaro is a relatively new fungicide that boasts Fusarium Head Blight (Scab) suppression. The fungicide was applied actually a little later than we wanted due to the wet early May we had. These weather conditions were perfect for scab. Many producers found this out the hard way. The proper time for application would be at or shortly after heading. When Jason made his application, the plants were well into flowering. Flowering is when the plants are most susceptible to scab. Southern States 8309 is rated above average in its resistance to scab, so we did not expect a lot of difference in the yields. We did, however find that the treated reps yielded significantly better than the control and the average 8 bushels better would pay for the treatment. Test weight was 59.3 pounds in the treated plots and 56.7 pounds in the untreated plots.

What does this mean? It means that we must take into consideration the weather at heading and flowering and act accordingly. We also should find and use varieties that are tolerant of scab. Virginia Tech variety information is a great tool to use when making planting decisions for your next wheat crop.