

## Virginia On-Farm Soybean Test Plots 2008



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

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## **Introduction**

The demonstration and research plot results discussed are a cooperative effort of Virginia Cooperative Extension Agents and Specialists, area producers, and agribusiness. The purpose of this publication is to provide research-based information to aid in the decision-making process for grain producers in Virginia. It provides an unbiased evaluation of certain varieties, management practices, and new technology through on-farm replicated research using producer equipment and time. The plot work and analyzed results enable those producers to make management decisions based on research and provides them a greater opportunity to improve yields and profits, which can improve the quality of life for them and their families. The success of these on-farm plots is very dependent on the cooperative effort of the producer and the assisting agribusinesses. We are grateful for their cooperation. We hope that the information will be beneficial to you and your individual agribusiness operations.

This publication will be presented each year at the Virginia Grain and Soybean Conference and will be available at least 8 regional production meetings throughout Virginia. The information found inside reaches over 400 Virginia soybean and grain producers and agribusinesses impacting over 250,000 acres of soybeans valued at approximately \$65 million.

The field work and printing of this publication is supported by the Virginia Soybean Check-Off Funds. The cooperators graciously wish to acknowledge this support. Any producer or agribusiness professional wishing to receive a copy of this publication should contact their local Extension Agent who can request a copy from David Moore in Middlesex County at 804-758-4120 or [damoore3@vt.edu](mailto:damoore3@vt.edu).

This is the twelfth year of this multi-county cooperative effort and further work is planned for 2009.

The authors wish to thank the many producers who participated in this project. Appreciation is extended to seed, chemical, and fertilizer representatives who donated products and/or assisted with the field work. Special thanks Paige Hogge, for her valuable technical assistance in compiling the book.

## General Summary:

- A. **VARIETY SELECTION:** Soybean variety selection remains one of the most important components of successful a soybean production system. Soybean yields fluctuate with variety, location, and environment. One should not compare varieties of different maturity groups because weather conditions during pod and seed development is most responsible for whether those varieties yields well or poor. Some years, timing of rainfall favors Group 4s and other years, it favors Group 5s. Let the information contained here help you select varieties that do well in your management system. It is always good to spread your risks. When viewing the variety information, look for plots that are similar to your location and soil type. When looking at overall variety performance, remember that the more locations a variety is in, the more reliable the yield information. Use this information along with Virginia Soybean Variety Evaluation Tests 2008, Virginia Cooperative Extension publication 424-107 to help make variety selections for your operation.
- B. **SOYBEAN POPULATION:** Seed costs continue to rise. Historically, seeding rate recommendations included an “insurance” factor to insure that final plant populations were high enough, even when stands were poor. However, recent research has revealed that full-season seeding rates may be lowered. Therefore, we continue to evaluate reduced seeding rates.
- C. **LATE SEASON SPRAYER TRACKS EVALUATION:** There is always concern about yield loss when making postemergent treatments in soybeans. When late season applications for insects and diseases are made, soybeans are generally in a vulnerable stage of growth (beginning to mid pod fill). These tests were done to evaluate the loss of yield due to sprayer tracks. With wide boom applications, the loss is minimized. This information also may be of interest to those producers considering air applications versus ground applications. In two tests in 2008, losses by late season sprayer tracking were  $\frac{3}{4}$  to 1.6 bushels per acre.
- D. **WEED CONTROL IN ORGANIC SOYBEANS:** Weed pressure in organic soybeans is a major limitation to soybean yields and harvest and handling efficiency. Redroot pigweed was the predominant species in the field, and there were some jimson weeds present. At harvest, the weeded plots were mostly weed free with only a few escapes. Weed pressure in the un-weeded plots was moderate to heavy. The weeded plots were rated at less than 1% foreign material (no dockage), while the un-weeded plots were rated at 6.7% foreign material. Most grain elevators deduct foreign material in excess of 1% from the weight so we deducted 5.7% in the adjusted yield column for the un-weeded plot. We got a very good yield response to weeding in the plot. In an organic system, controlling weeds in this plot probably increased gross income by about \$150 per acre. Weeding took about 21 man hours per acre so the practice would have not increased net income without an inexpensive labor source.
- E. **SOYBEAN NEMATODE CONTROL TEST:** This test evaluated soybean varieties with and without nematode resistance. These studies demonstrate the need for varieties adapted to Virginia that contain multi-species and multi-race resistance.
- F. **2008 VIRGINIA NEMATODE SURVEY.** With the financial assistance of your check-off dollars, soils were sampled in historically poor-growth fields or in fields suspected of having nematode problems.

### 2008 Overall Maturity Group 4 Soybean Variety Comparison

<i>Brand</i>	<i>Variety</i>	<i>CHA</i>	<i>DIN</i>	<i>ESS</i>	<i>K&amp;Q</i>	<i>NOR</i>	<i>VSU</i>	<i>WES</i>	<i>AVG</i>	<i>ARY<sup>1</sup></i>
Deltapine	DP 4888 RR/S	25.0	54.1	62.5	37.5	52.2		45.4	46.1	106
USG	7495nRS	18.0	59.9	59.8	45.3	47.9	37.2	48.7	45.3	106
S. States	RT 4777N	20.0	65.9	61.8	37.4	50.2	35.2	47.6	45.4	106
S. States	RT 4996N	17.0	60.9	58.3	42.9	50.6	37.3	48.3	45.0	105
Asgrow	AG4903	22.0	58.7		37.8	53.9	30.0	47.6	41.7	105
Deltapine	DP 4919 RR/S	21.0	55.4	60.5	36.9			48.3	44.4	103
Vigoro	V47N8RR	22.0	59.7	58.3	35.1		33.6	43.6	42.1	103
Vigoro	V44N6RR	17.0	71.4	56.4	34.7	60.0	29.7	41.8	44.4	101
Pioneer	94Y70	20.0	57.7	61.4	37.6	45.5	30.8	45.4	42.6	100
USG	74A45		60.8	54.8	38.5	47.5	31.0	45.8	46.4	99
Pioneer	94M80	22.0	54.1	57.3	37.2	44.7	29.2		40.8	98
Hubner	H 454NRR	16.0	54.1	53.8	37.8	53.2	30.5	45.8	41.6	97
Asgrow	AG4801	15.0	58.7		36.8	48.4	29.3	42.5	38.5	94
Hubner	H 484NRR	13.0	45.9	57.3	39.6	50.1	29.2	43.6	39.8	92
T.A. Seed	TS3989RS	14.0	51.2	55.9	39.3		28.5	42.5	38.6	91
T.A. Seed	TS4299RS		46.6	55.4	36.5		27.6	40.0	41.2	90
<b>Average</b>		<b>18.7</b>	<b>57.2</b>	<b>58.1</b>	<b>38.2</b>	<b>50.3</b>	<b>31.4</b>	<b>45.1</b>	<b>42.7</b>	<b>100</b>

<sup>1</sup>Average Relative Yield. Relative yield is calculated by dividing the yield of a variety by the average yield of all varieties at that location. Relative yield is not an actual yield, but a value that is relative to all other yield values at that location. A variety with a relative yield of 105 was 5% greater than average.

### 2008 Overall Maturity Group 5 Soybean Variety Comparison

<i>Brand</i>	<i>Variety</i>	<i>CHA</i>	<i>CHE</i>	<i>DIN</i>	<i>GRE</i>	<i>MID</i>	<i>SOU</i>	<i>SUR</i>	<i>VSU</i>	<i>AVG</i>	<i>ARY</i>
Pioneer	95Y70	41.0	53.7	61.4	45.8	34.0	41.4	29.9	41.4	43.6	111
Deltapine	DP 5915 RR	40.0	50.6	52.0	42.3	38.0	47.9	28.1	40.6	42.4	108
Deltapine	DP 5634 RR	37.0	47.9	55.5	41.9	36.0	41.6	23.7	47.6	41.4	104
USG	Allen	38.0	53.7	49.5	44.1	41.0	51.9	18.3	37.5	41.7	104
Pioneer	95M82	38.0	51.5	57.5	43.3	33.0	39.7	24.9	37.7	40.7	103
Vigoro	V51N7RS	34.0	51.3	58.3	37.8	44.0	53.3	14.4	40.4	41.7	102
USG	7553nRS	28.0	45.0	50.8	39.8	47.0	47.9	25.3	34.0	39.7	100
Asgrow	AG5605	30.0	54.3	49.8	39.0	47.0	39.7	19.1	38.2	39.6	98
Asgrow	AG5301	32.0	47.0	58.7	39.5	43.0	39.2	16.9	41.3	39.7	98
Vigoro	V54N8RS	34.0	42.7	57.7	29.9	40.0	46.0	23.5	37.0	38.8	97
S. States	RT 5450N	30.0	53.1	59.4	24.9	38.0	37.3	25.5	38.9	38.4	96
S. States	RT 5160N	33.0	51.4	56.3	21.0	45.0	39.5	17.1	38.4	37.7	92
Hubner	H 571RR	31.0	49.0	61.1	34.5	40.0	43.4		36.0	42.1	86
Hubner	H 502NRR	23.0	49.6	51.7	29.5	37.0	38.3		29.3	36.9	75
<b>Average</b>		<b>33.5</b>	<b>50.1</b>	<b>55.7</b>	<b>36.6</b>	<b>40.2</b>	<b>43.4</b>	<b>22.2</b>	<b>38.4</b>	<b>40.3</b>	<b>100</b>

<sup>1</sup>Average Relative Yield. Relative yield is calculated by dividing the yield of a variety by the average yield of all varieties at that location. Relative yield is not an actual yield, but a value that is relative to all other yield values at that location. A variety with a relative yield of 105 was 5% greater than average.

#### Variety Comparison Discussion:

The more locations a variety is in the more reliable the yield information is. Soybean yields this year were spotty. Late showers helped a lot of DC MG5 soybeans yield well. Dry conditions also limited some areas with FS MG 4 soybeans. On average, MG4s and MG 5s yielded about the same this year due to sporadic rainfall events in during the growing season. It is still a good idea to spread your risks with soybeans in order to catch the sporadic rain showers.

Past analysis of data has shown that more test locations result in more reliable information. It is better to choose a variety by averaging yields over all test locations than by choosing a variety that yielded well only in a test close to where you farm. But, average yields should not be used unless all varieties are tested in all locations because data will be skewed to those varieties that are tested in the highest yielding locations. If varieties were not tested in all locations, relative yield is a better method of comparing varieties. Relative yield is calculated by dividing the yield of a variety by the average yield of all varieties at that location. A variety with a relative yield of 105 was 5% above the average of all varieties at that location. Relative yield is not an actual yield, but a value that is relative to all other yield values at that location. Thanks to all the cooperators and supporters. Use these data, official soybean variety tests, and other Virginia Tech variety information when making planting decisions for 2009.

## 2008 CHARLES CITY GROUP 4 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Evelynton Farms, Archer & Tim Ruffin  
 Extension: Paul Davis, New Kent & Charles City Counties  
 William Townsend, VA Tech Summer Intern  
 Agribusiness: Various Seed Companies  
**Previous Crop:** Soybeans  
**Soil Type:** Roanoke and New Flat, silt loams  
**Tillage:** No-Till  
**Test/Plot Size:** 20' x 1000'  
**Planting Equipment:** 10' Great Plains No-Till Drill  
**Planting Date:** May 30, 2008  
**Row Spacing:** 7.5 inches  
**Seeding Rate:** 150,000 seeds/A  
**Crop Protection:** Herbicides: Roundup @ 1.5 pts/A on 5/20/08  
 Roundup @ 1.5 pts/A on 6/20/08  
**Harvest Date:** November 10, 2008  
**Harvest Equipment:** John Deere 9560

Brand	Variety	Moisture	Yield
		(%)	(bu/A)
Deltapine	DP 4888 RR/S	14.8	25
Asgrow	AG4903	14.7	22
Pioneer	94M80	14.4	22
Vigoro	V47N8RR	14.0	22
Deltapine	DP 4919 RR/S	14.2	21
Pioneer	94Y70	14.3	20
S. States	RT 4777N	14.3	20
USG	7495nRS	14.7	18
S. States	RT 4996N	14.4	17
Vigoro	V44N6RR	14.9	17
Hubner	H 454NRR	14.4	16
Asgrow	AG4801	14.8	15
T.A. Seed	TS3989RS	15.0	14
Hubner	H 484NRR	14.7	13
<b>Test Average</b>		<b>14.7</b>	<b>18.7</b>

\*USG 74A45 and TA Seeds TS 4299 – harvest error

**Discussion:** This area of Charles City was one of the driest places in Virginia all summer. These soybeans received less than 5 inches of rainfall the entire season, then 5 inches in September after the crop had matured. Even under these extreme conditions you can see that some varieties withstand drought stress better than others. Most years the MG4 soybeans are not significantly different in yield to the MG5 full season soybeans, but this year the MG5 beans out yielded the MG4 by nearly 15 bu/A. This year was a good reminder not to plant all your soybeans from the same Mature Group. Please compare these yields with other studies in your area.

## 2008 NORTHUMBERLAND/ LANCASTER GROUP 4 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Dan and Craig Brann  
 Extension: Matt Lewis, Northumberland & Lancaster  
 Agribusiness: Participating Seed Companies  
**Previous Crop:** Wheat  
**Soil Type:** Sassafras fine sandy loam  
**Tillage:** No-till  
**Test/Plot Size:** 8 acres  
**Planting Equipment:** Great Plains 15-foot No-Till Drill  
**Planting Date:** June 26, 2008  
**Row Spacing:** 7.5 inches  
**Variety:** Check – Pioneer 94M50  
**Seeding Rate:** 67lbs seed/A  
**Crop Protection:** Herbicides: Roundup Powermax @ 26 oz w/ AMS, Post  
 Insecticides: Warrior @ 2oz, Aug 20  
**Harvest Date:** October 31, 2008  
**Harvest Equipment:** John Deere 9650

Brand	Variety	STS	Seeds/lb	Canopy 8/18 (%)	Moisture (%)	Yield (bu/A)	Adj. Yield <sup>1</sup> (bu/A)
Pioneer	94M50 (Check)		2700	65	12.1	36	39.7
T.A. Seed	TS3989RS	X	2350	85	---	---	---
Vigoro	V44N6RR		3725	100	13.1	56	60.0
Vigoro	V47N8RR		2950	75		---	---
Deltapine	DP 4888 RR/S	X	2900	100	13.6	50	52.2
Asgrow	AG4801		2970	60	12.9	47	48.4
Asgrow	AG4903	X	3190	90	12.7	53	53.9
Hubner	H454NRR		3997	95	12.8	53	53.2
Pioneer	94M50 (Check)		2700	60	12.4	40	39.7
Hubner	H484NRR		3250	95	12.4	51	50.1
S. States	RT 4996N		3108	90	13.1	52	50.6
S. States	RT 4777N		3268	95	13.5	52	50.2
Pioneer	94M80		2800	80	12.8	44	42.1
Pioneer	94Y70		3300	95	12.7	48	45.5
USG	7495nRS			80	13.1	51	47.9
USG	74A45			100	12.2	51	47.5
Pioneer	94M50 (Check)		2700	75	13.3	43	39.7
<b>Test Average</b>						<b>48.5</b>	<b>48.0</b>

<sup>1</sup>Yields were adjusted by linear interpolation using the checks on either side of the plot.

**Discussion:** Timely rainfall led to excellent overall yields – the entire plot averaged 49 bu/acre. Because of their weed control program in wheat and soybeans, Craig & Dan are keenly interested in the performance of STS soybean varieties. The two STS varieties entered in the plot performed quite well. Visual ratings of canopy coverage were taken on Aug 18. Looking at the data above, seed size seemed to affect both canopy coverage and final yield. Use this with other variety information to select high-yielding varieties in 2009.

## 2008 ESSEX COUNTY GROUP 4 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Hundley Brothers Farm, John Hundley and John Hundley, Jr.  
 Extension: Keith Balderson, Essex and David Moore, Middlesex  
 Agribusiness: Various Seed Company Reps.  
**Previous Crop:** Double Crop Soybeans  
**Soil Type:** Emporia sandy loam and Slagle fine sandy loam  
**Tillage:** No-Till  
**Test/Plot Size:** Approximately .6 acre per plot  
**Planting Equipment:** Kinze 23 row  
**Planting Date:** May 23, 2008  
**Row Spacing:** 15 inches  
**Seeding Rate:** 140,000 seeds per acre  
**Fertilization:** 0-0-60  
**Crop Protection:** Burndown Herbicides: Glyphosate at 1 qt. per acre plus .5 pt. per acre 2,4-D 2 weeks prior to planting  
 Post-emergence: Glyphosate at 1 qt. per acre plus 2 oz. per acre Butyrac approximately 1 month after planting  
**Harvest Date:** October 22, 2008  
**Harvest Equipment:** Case IH 2388 with 30 foot header

Brand	Variety	Moisture	Yield	Adj. Yield <sup>1</sup>
		(%)	(bu/A)	(bu/A)
Asgrow	AG4801	--- <sup>2</sup>	---	---
Pioneer	94M80 (Check)	---	---	---
Asgrow	AG4903	---	---	---
Pioneer	94M80 (Check)	---	---	---
Deltapine	DP 4888 RR/S	11.5	60	62.5
Pioneer	94M80 (Check)	11.2	55	57.3
Deltapine	DP 4919 RR/S	11.9	58	60.5
Pioneer	94M80 (Check)	11.7	55	57.3
Pioneer	94Y70	11.6	60	61.4
Pioneer	94M80 (Check)	11.5	57	57.3
S. States	RT 4777N	11.7	62	61.8
Pioneer	94M80 (Check)	11.7	58	57.3
S. States	RT 4996N	11.5	59	58.3
Pioneer	94M80 (Check)	11.4	58	57.3
T.A. Seed	TS3989RS	10.8	57	55.9
Pioneer	94M80 (Check)	11.3	59	57.3
T.A. Seed	TS4299RS	11.0	56	55.4
Pioneer	94M80 (Check)	11.5	57	57.3
USG	74A45	11.5	55	54.8
Pioneer	94M80 (Check)	11.5	58	57.3

USG	7495nRS	11.2	61	59.8
Pioneer	94M80 (Check)	11.2	59	57.3
Vigoro	V44N6RR	10.9	58	56.4
Pioneer	94M80 (Check)	11.5	59	57.3
Vigoro	V47N8RR	11.4	59	58.3
Pioneer	94M80 (Check)	11.4	57	57.3
Hubner	H 454NRR	11.3	53	53.8
Pioneer	94M80 (Check)	11.6	56	57.3
Hubner	H 484NRR	11.0	56	57.3
<b>Pioneer 94M80 (Check) Average</b>			<b>57.3</b>	<b>57.3</b>
<b>Test Average</b>			<b>57.7</b>	<b>57.7</b>

<sup>1</sup>Yields were adjusted by linear interpolation using the checks on either side of the plot.

<sup>2</sup>Not Harvested due to slug damage.

**Discussion:** Yields in the plot were very good and consistent. Unfortunately, slugs (we think) damaged the first four varieties and we were unable to harvest those plots. Use this with other variety information to select high-yielding varieties in 2009

## 2008 KING & QUEEN COUNTY GROUP 4 SOYBEAN VARIETY COMPARISONS

**Cooperators:**            Producer:    William Davis Carlton, David Carlton  
                                  Extension:    David Moore, VCE-Middlesex  
                                                             Paul Davis, VCE-New Kent/Charles City  
                                                             Will Townsend, VCE Summer Intern  
                                  Agribusiness: Participating Seed Suppliers  
**Previous Crop:**        Soybeans/Barley Cover Crop  
**Soil Type:**             Emporia Sandy Loam/Slagle Sandy Loam  
**Tillage:**                No-Till  
**Test/Plot Size:**        17.5' wide and 800' long  
**Planting Equipment:** Kinze 3000 Series Planter (8 row corn/15 row soybeans)  
**Planting Date:**        May 23, 2008  
**Row Spacing:**         15 inches  
**Seeding Rate:**         155,000 seed/A  
**Crop Protection:**     Herbicide: 2 applications Glyphosate, at planting/at 4 weeks  
                                  Insecticides: Warrior @ 3 oz./A Augusta 20, 2008  
**Harvest Date:**         October 23, 2008  
**Harvest Equipment:** John Deere 9650

Brand	Variety	Moisture	Yield	Adj. Yield <sup>1</sup>
		(%)	(bu/A)	(bu/A)
NK	S43-B1 (Check)	12.6	32	35.4
Deltapine	DP 4888 RR/S	11.8	36	37.5
NK	S43-B1 (Check)	12.0	36	35.4
Deltapine	DP 4919 RR/S	11.9	37	36.9
NK	S43-B1 (Check)	12.6	35	35.4
S. States	RT 4777N	11.8	37	37.4
NK	S43-B1 (Check)	12.4	35	35.4
S. States	RT 4996N	11.9	43	42.9
NK	S43-B1 (Check)	12.4	36	35.4
Asgrow	AG4903	11.7	39	37.8
NK	S43-B1 (Check)	12.3	37	35.4
Asgrow	AG4801	12.2	38	36.8
NK	S43-B1 (Check)	12.2	36	35.4
Vigoro	V47N8RR	11.8	37	35.1
NK	S43-B1 (Check)	12.0	--	35.4
Vigoro	V44N6RR	11.6	39	34.7
NK	S43-B1 (Check)	11.6	41	35.4
Pioneer	94Y70	11.7	42	37.6
NK	S43-B1 (Check)	11.7	38	35.4
Pioneer	94M80	11.7	40	37.2
NK	S43-B1 (Check)	11.6	38	35.4
Hubner	H 484NRR	11.6	42	39.6

NK	S43-B1 (Check)	11.6	37	35.4
Hubner	H 454NRR	11.7	39	37.8
NK	S43-B1 (Check)	11.8	36	35.4
USG	74A45	11.9	37	38.5
NK	S43-B1 (Check)	12.0	32	35.4
USG	7495nRS	12.1	41	45.3
NK	S43-B1 (Check)	11.8	32	35.4
T.A. Seed	TS3989RS	12.8	35	39.3
NK	S43-B1 (Check)	11.7	31	35.4
T.A. Seed	TS4299RS	12.3	32	36.5
NK	S43-B1 (Check)	11.7	31	35.4
<b>NK S43-B1 (Check) Average</b>		<b>12.0</b>	<b>35.4</b>	<b>35.4</b>
<b>Test Average</b>		<b>11.9</b>	<b>36.8</b>	<b>36.7</b>

<sup>1</sup>Yields were adjusted by linear interpolation using the checks on either side of the plot.

**Discussion:** Use this and other Virginia Tech soybean variety information to select high yielding varieties for 2009

## 2008 VIRGINIA STATE UNIVERSITY GROUP 4 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Virginia State University  
 Cooperators: Glenn F. Chappell, II – VSU  
 Rudy Grammer – Randolph Farm Manager  
**Previous Crop:** Corn  
**Soil Type:** Tetotum – fine sandy loam  
**Tillage:** Conventional tillage and ripped under the row  
**Test/Plot Size:** 10 feet x 1125 feet  
**Planting Equipment:** JD Max Emerge  
**Planting Date:** June 1, 2008  
**Row Spacing:** 30 inches  
**Variety:** Variety trial  
**Seeding Rate:** 120,000 seed/A  
**Fertilization:** 5-10-30 @ 250 lb/A  
**Crop Protection:** Herbicides: Buccaneer @ 1.5qt/A  
 First Rate 0.3oz/A  
**Harvest Date:** November 11, 2008  
**Harvest Equipment:** John Deere 9660

Brand	Variety	Moisture	Yield	Adj. Yield <sup>1</sup>
		(%)	(bu/A)	(bu/A)
Pioneer	94M80 (Check)	16.0	27.9	29.2
Asgrow	AG4903	16.2	28.9	30.0
Asgrow	AG4801	14.9	28.4	29.3
Vigoro	V47N8RR	15.8	32.8	33.6
Vigoro	V44N6RR	16.2	29.2	29.7
S. States	RT 4996N	16.7	36.8	37.3
S. States	RT 4777N	15.7	35.0	35.2
Hubner	H 454NRR	15.2	30.5	30.5
Hubner	H 484NRR	15.6	29.4	29.2
T.A. Seed	TS3989RS	16.4	28.8	28.5
T.A. Seed	TS4299RS	15.7	28.1	27.6
USG	7495nRS	15.2	38.1	37.2
USG	74A45	15.6	31.9	31.0
Pioneer	94Y70	15.8	31.9	30.8
Pioneer	94M80 (Check)	15.0	30.4	29.2
<b>Test Average</b>			<b>31.2</b>	<b>31.2</b>

**Discussion:** The production season was characterized by extremely dry conditions for most of the production season. Use this with other variety information to select high-yielding varieties in 2009.

## 2008 WESTMORELAND COUNTY GROUP 4 SOYBEAN VARIETY COMPARISONS

**Cooperators:**            Producer:    Windsor Farms, F. F. Chandler, Jr.  
                                  Extension:    Keith Balderson, Essex and Sam Johnson, Westmoreland (retired)  
                                  Agribusiness: Curtis Packett, CPS; Participating Companies  
**Previous Crop:**        Corn  
**Soil Type:**             Kempsville sandy loam  
**Tillage:**                1 Disking early, planted in a stale seedbed  
**Fertilization:**        0-50-60 per acre  
**Test/Plot Size:**      333 ft. x 30 ft. (.2293 acre)  
**Planting Equipment:** Case IH 955 cyclo air planter  
**Planting Date:**        May 28, 2008  
**Row Spacing:**         30 inches  
**Seeding Rate:**        140,000 seeds per acre  
**Crop Protection:**     Glyphosate at 1 qt. per acre post-emergence  
**Harvest Date:**        October 30, 2008  
**Harvest Equipment:** John Deere 9400 with 918 header

Brand	Variety	Moisture	Yield
		(%)	(bu/A)
NK	S49-H7	13.0	45.8
Deltapine	DP 4888 RR/S	12.5	45.4
Asgrow	4903	12.5	47.6
S. States	RT 4777N	11.7	47.6
Deltapine	DP 4919 RR/S	12.1	48.3
Campbell	418	12.5	41.4
NK	46U6	12.5	43.2
T.A. Seed	TS3989RS	13.0	42.5
USG	7495nRS	12.3	48.7
T.A. Seed	TS4299RS	12.8	40.0
Pioneer	94Y70	11.9	45.4
USG	74A45	12.4	45.8
Pioneer	94M80	12.7	44.7
Vigoro	V44N6RR	11.8	41.8
Asgrow	AG4801	12.3	42.5
S. States	RT 4996N	12.2	48.3
Hubner	H 484NRR	12.1	43.6
Vigoro	V47N8RR	11.9	43.6
Hubner	H 454NRR	12.1	45.8
Campbell	444	11.8	37.1
<b>Test Average</b>			<b>44.5</b>

**Discussion:** Yields in this plot were good. The plot was under some moisture stress in August, which hurt yields some. Use this with other variety information to select high-yielding varieties in 2009.

## 2008 DINWIDDIE GROUP 4 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Billy Bain  
 Extension: Mike Parrish, Dinwiddie  
 David Holshouser, Extension Soybean Specialist  
 Agribusiness: Participating Seed Representatives  
**Previous Crop:** Peanuts  
**Soil Type:** Mattopani Sandy Loam  
**Tillage:** No -Till  
**Planting Equipment:** Kinze 2600 no till - row planter  
**Planting Date:** May 22, 2008  
**Row Spacing:** 15 in.  
**Seeding Rate:** 130,000 seed/A  
**Crop Protection:** Herbicides: Pre- Glyphos @ 1 qt/A + Prowl @ 1pt/A  
 Post - Glyphos @ 1gt + Synchrony XP @ 0.375 oz/A  
**Harvest Date:** November 25, 2008  
**Harvest Equipment:** VCE Plot Combine

Brand	Variety	% Moisture	Yield (bu/A)
Hubner	H 454NRR	16.6	54.1
Hubner	H 484NRR	15.0	45.9
Asgrow	AG4801	16.7	58.7
Asgrow	AG4903	15.1	58.7
Deltapine	DP 4888 RR/S	16.8	54.1
Deltapine	DP 4919 RR/S	16.0	55.4
S. States	RT 4777N	16.7	65.9
S. States	RT 4996N	16.4	60.9
Progeny	P 4606RR	16.1	71.8
Progeny	P 4706RR	16.9	67.2
Vigoro	V44N6RR	15.8	71.4
Vigoro	V47N8RR	17.2	59.7
Pioneer	94M80	16.4	54.1
Pioneer	94Y70	17.8	57.7
T.A. Seed	TS3989RS	16.7	51.2
T.A. Seed	TS4299RS	18.0	46.6
USG	7495nRS	16.1	59.9
USG	74A45	15.9	60.8
<b>Test Average</b>		<b>16.5</b>	<b>58.3</b>

**Discussion:** This 2008 Ag Expo Tour Variety Comparison received 6 in. of irrigation water and 1.5 in of rainfall. Note: In 2007 this field was planted in Peanut with strip tillage. Use this with other variety information to select high-yielding varieties in 2008.

## 2008 CHARLES CITY GROUP 5 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Evelynton Farms, Archer & Tim Ruffin  
 Extension: Paul Davis, New Kent & Charles City Counties  
 William Townsend, VA Tech Summer Intern  
 Agribusiness: Various Seed Companies  
**Previous Crop:** Soybeans  
**Soil Type:** Roanoke and New Flat, silt loams  
**Tillage:** No-Till  
**Test/Plot Size:** 20' x 1000'  
**Planting Equipment:** 10' Great Plains No-Till Drill  
**Planting Date:** May 30, 2008  
**Row Spacing:** 7.5 inches  
**Seeding Rate:** 150,000 seeds/acre  
**Crop Protection:** Herbicides: Roundup @ 1.5 pts/A on 5/20/08  
 Roundup @ 1.5 pts/A on 6/20/08  
 Insecticides: None  
 Fungicides: None  
**Harvest Date:** November 10, 2008  
**Harvest Equipment:** John Deere 9560

Brand	Variety	Moisture	Yield
		(%)	(bu/A)
Pioneer	95Y70	13.3	41
Deltapine	DP 5915RR	13.8	40
USG	Allen	13.4	38
Pioneer	95M82	13.5	38
Deltapine	DP 5634RR	13.0	37
Vigoro	V54N8RS	13.3	34
Vigoro	V51N7RS	13.6	34
S. States	RT 5160N	13.6	33
Asgrow	AG5301	13.8	32
Hubner	H 571RR	13.7	31
Asgrow	AG5605	13.5	30
S. States	RT 5450N	13.7	30
USG	7553nRS	13.3	28
Hubner	H 502NRR	13.9	23
<b>Test Average</b>		<b>13.5</b>	<b>33.5</b>

**Discussion:** This area of Charles City received less than 5 inches of rainfall from June 1 – September 1, then another 5 inches in September. These late season rains greatly increased yields in the MG5 soybeans. The MG4 soybeans, planted right beside the MG5 soybeans, only yielded an average 18.7 bu/A while the MG5 soybeans averaged 33.5 bu/A with Pioneer 95Y70 and Delta Pine 5915 going over 40 bu/A. This season was a good reminder not to order and plant all of one Maturity Group soybean, but spread out your risk/growing season.

## 2008 MIDDLESEX GROUP 5 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Chuck Hunt and Charles Rich  
 Extension: David Moore, Middlesex  
 Will Townsend, Summer Intern  
 Agribusiness: Participating Companies  
**Previous Crop:** Wheat  
**Soil Type:** Kempsville Sandy Loam  
**Tillage:** No-Till  
**Test/Plot Size:** 25' Wide X 625' Long  
**Planting Equipment:** John Deere 1560 Drill  
**Planting Date:** June 26, 2008  
**Row Spacing:** 7.5 inches  
**Seeding Rate:** 200,000 seed/A  
**Crop Protection:** Herbicides: Glyphosate; 1 Qt./A at 3 WAP  
 Insecticides: Mustang Max; 3.5 oz./A  
**Harvest Date:** November 24, 2008  
**Harvest Equipment:** John Deere 9650; 25' Header

Brand	Variety	Moisture	Yield
		(%)	(bu/A)
Hubner	H 502NRR	11.4	37
Hubner	H 571RR	11.9	40
USG	7553nRS	10.6	47
USG	Allen	11.2	41
Pioneer	95Y70	12.8	34
Pioneer	95M82	12.0	33
Vigoro	V51N7RS	11.3	44
Vigoro	V54N8RS	11.8	40
S. States	RT 5450N	11.7	38
S. States	RT 5160N	11.1	45
Deltapine	DP 5915RR	11.8	38
Deltapine	DP 5634RR	12.3	36
Asgrow	AG5301	11.7	43
Asgrow	AG5605	11.6	47
<b>Test Average</b>		<b>11.7</b>	<b>40.2</b>

**Discussion:** Double crop soybeans in our area yielded well overall. Some early planted full season soybeans in the area were hurt by lack of rainfall. The area received much needed rain for most double crop soybeans. Use this with other variety information to select high-yielding varieties in 2009.

## 2008 CHESAPEAKE GROUP 5 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Arnold and Jason Dawley  
 Extension: Watson Lawrence, VCE Chesapeake  
 Agribusiness: Participating Companies  
**Previous Crop:** Corn  
**Soil Type:** Tetotum Loam  
**Tillage:** Disk plus disk & cultipacker  
**Planting Equipment:** John Deere 11-row planter  
**Planting Date:** June 5, 2008  
**Row Spacing:** 18 inches  
**Seeding Rate:** 180,000 seed/A  
**Crop Protection:** Herbicides: 1 qt. Roundup + .3 ounces Resource/A  
 Insecticides: 2 ounces Warrior Tracer/A  
 2 ounces Baythroid/A  
**Harvest Date:** October 30, 2008  
**Harvest Equipment:** Case IH 2166

Brand	Variety	Moisture	TW	Yield
		(%)	lbs.	(bu/A)
Hubner	H 502NRR	14.2	56	49.6
Hubner	H 571RR	15.4	58	49.0
USG	7553nRS	15.7	56	45.0
USG	Allen	13.6	55	53.7
Pioneer	95Y70	14.1	54	53.7
Pioneer	95M82	13.5	57	51.5
Vigoro	V51N7RS	14.2	57	51.3
Vigoro	V54N8RS	14.2	57	42.7
S. States	RT 5450N	13.2	58	53.1
S. States	RT 5160N	13.4	57	51.4
Deltapine	DP 5915RR	14.3	56	50.6
Deltapine	DP 5634RR	13.6	56	47.9
Asgrow	AG5301	14.2	56	47.0
Asgrow	AG5605	12.8	55	54.3
<b>Test Average</b>		<b>14.0</b>	<b>56.3</b>	<b>50.1</b>

**Discussion:** Corn earworm pressure required two sprays this year. Yields were very good considering the dry weather at planting and during pod fill. These and other officially tested varieties should be considered when selecting high-yielding varieties for 2009.

## 2008 GREENSVILLE COUNTY GROUP 5 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Sandy Grove Farms  
 Extension: Cyndi Estienne, Greenville County  
 Wes Alexander, Southampton County  
 Agribusiness: Participating seed companies  
**Previous Crop:** Tobacco  
**Soil Type:** Emporia loamy fine sand  
**Tillage:** No-Till  
**Test/Plot Size:** 25 feet by 445 feet  
**Planting Equipment:** Kinze 3600  
**Planting Date:** June 4, 2008  
**Row Spacing:** 15 inches  
**Seeding Rate:** 140,000 seed/A  
**Crop Protection:** Herbicides: Roundup Original Max @ 22 oz/A 2 times  
**Harvest Date:** December 9, 2008  
**Harvest Equipment:** John Deere 9650STS, 925F head

Brand	Variety	Moisture	Yield	Adj. Yield <sup>1</sup>
		(%)	(bu/A)	(bu/A)
Pioneer	95M82 (Check)	14.6	40.23	43.3
Hubner	H 502NRR	14.5	26.94	29.5
Hubner	H 571RR	14.5	31.04	34.5
S. States	RT 5160N	14.5	18.60	21.0
S. States	RT 5450N	14.6	21.65	24.9
Pioneer	95M82 (Check)	14.4	37.11	43.3
Vigoro	V54N8RS	14.4	27.22	29.9
Vigoro	V51N7RS	14.4	36.47	37.8
Deltapine	DP 5634RR	14.2	42.73	41.9
Deltapine	DP 5915RR	14.0	45.41	42.3
Pioneer	95Y70	13.9	51.73	45.8
Pioneer	95M82 (Check)	13.9	51.28	43.3
Asgrow	AG5605	13.7	44.92	39.0
Asgrow	AG5301	13.8	44.37	39.5
USG	Allen	13.7	48.16	44.1
USG	7553nRS	13.7	42.21	39.8
Pioneer	95M82 (Check)	13.7	44.67	43.3
<b>Test Average</b>			<b>38.50</b>	<b>37.8</b>

**Discussion:** Plot yields were measured with a weigh wagon. Moisture (Farmex, multi-grain moisture tester) and test weight (Berckes grain test weight scale) were also determined. This summer started out hot and dry, but finished up with adequate moisture. The Vigoro varieties were harvested in narrower plot widths to avoid heavily compacted areas traveled during production of the previous tobacco crop. This one year one location data can be utilized in concert with other variety information to select high-yielding varieties in 2009.

## 2008 SOUTHAMPTON COUNTY GROUP 5 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Paul Drewry  
 Extension: Wes Alexander, Southampton County  
 Cyndi Estienne, Greenville County  
 Agribusiness: Participating seed companies  
**Previous Crop:** Cotton-2007; cotton-2006  
**Soil Type:** Emporia fine sandy loam  
**Tillage:** No-Till  
**Test/Plot Size:** 26' X 600'  
**Planting Equipment:** Marliss 12' No-Till Drill  
**Planting Date:** June 4, 2008  
**Row Spacing:** 15 inches  
**Seeding Rate:** 180,000 seed/A  
**Crop Protection:** Herbicides: 1.5 oz/a + 1 qt/a Roundup, Burndown  
 1 qt/a Roundup, Post treatment  
 Insecticides: 3 oz/a Baythroid, August 22  
 Fungicides: None  
**Harvest Date:** December 3, 2008  
**Harvest Equipment:** John Deere 4400

Brand	Variety	Moisture	Yield	Adj. Yield <sup>1</sup>
		(%)	(bu/A)	(bu/A)
USG	7582nRR (Check)	16.0	39.36	44.5
Hubner	H 502NRR	16.4	33.72	38.3
Hubner	H 571RR	16.3	37.97	43.4
USG	7553nRS	15.7	41.67	47.9
USG	Allen	15.3	44.86	51.9
USG	7582nRR (Check)	15.2	38.29	44.5
Vigoro	V54N8RS	15.1	41.60	46.0
Vigoro	V51N7RS	15.0	50.56	53.3
Deltapine	DP 5915RR	14.9	47.53	47.9
Deltapine	DP 5634RR	15.1	43.14	41.6
USG	7582nRR (Check)	15.2	48.08	44.5
Asgrow	AG5605	14.8	43.66	39.7
Asgrow	AG5301	14.9	43.88	39.2
S. States	RT 5450N	15.1	42.42	37.3
S. States	RT 5160N	15.1	45.69	39.5
USG	7582nRR (Check)	15.1	52.32	44.5
Pioneer	95Y70	14.9	48.62	41.4
Pioneer	95M82	14.7	46.72	39.7
<b>Test Average</b>			<b>43.9</b>	<b>43.6</b>

**Discussion:** Fifteen varieties of soybeans were planted full-season, no-till with a Marlist drill equipped for installing tram lines. The plots with tram lines were harvested in such a manner as no tram lines were included which resulted in excellent harvest data. The thirteen feet combine head matched well with the 13 feet drill. Severe numbers of various worms warranted a 3 oz/a Baythroid insecticide spray in late August. At harvest, soybean plants were in good standing position. Plots harvested were weighed using a weigh wagon calibrated by the known weight of the weighing agent. Moisture was determined using a Farmex multi-grain moisture tester and test weights were determined using a Seedburo hand type tester. The field was relatively weed free and less than 1% foreign material was estimated in the harvested beans. This one year, one location test in combination with other Virginia Tech soybean variety tests will be useful in making planting decisions for 2009.



## 2008 SURRY COUNTY GROUP 5 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: John M. Brock  
 Extension: Glenn Slade, VCE-Surry  
 Agribusiness: Participating Companies  
**Previous Crop:** Wheat  
**Soil Type:** Pamunkey Fine Sandy Loam  
**Tillage:** No-Till  
**Test/Plot Size:** 746' X 48'  
**Planting Equipment:** John Deere 1580 Grain Drill  
**Planting Date:** July 3, 2008  
**Row Spacing:** 7.5 inches  
**Seeding Rate:** 170,000 seed/A  
**Crop Protection:** Herbicides: 1 Qt. Glyphos at planting  
 1 Qt. Glyphos (8-10-08)  
**Harvest Date:** December 9, 2008  
**Harvest Equipment:** John Deere 9600

Brand	Variety	Moisture	Yield
		(%)	(bu/A)
USG	7553nRS	10.9	25.3
USG	Allen	11.2	18.3
Pioneer	95Y70	11.3	29.9
Pioneer	95M82	10.9	24.9
Vigoro	V51N7RS	11.6	14.4
Vigoro	V54N8RS	11.2	23.5
S. States	RT 5450N	11.3	25.5
S. States	RT 5160N	11.2	17.1
Deltapine	DP 5915RR	11.1	28.1
Deltapine	DP 5634RR	11.2	23.7
Asgrow	AG5301	11.5	16.9
Asgrow	AG5605	11.1	19.1
<b>Test Average</b>		<b>11.2</b>	<b>22.2</b>

### Discussion:

Variety plot was planted the last of wheat harvest and experienced dry weather during most of the growing season. Use this and other Virginia Tech soybean variety information when selecting high-yielding varieties for 2009.

## 2008 VIRGINIA STATE UNIVERSITY GROUP 5 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Virginia State University  
 Cooperators: Glenn F. Chappell, II – VSU  
 Rudy Grammer – Randolph Farm Manager  
**Previous Crop:** Corn  
**Soil Type:** Tetotum – fine sandy loam  
**Tillage:** Conventional tillage and ripped under the row  
**Test/Plot Size:** 10 feet x 1125 feet  
**Planting Equipment:** JD MaxEmerge  
**Planting Date:** June 1, 2008  
**Row Spacing:** 30 inches  
**Seeding Rate:** 120,000 seed/A  
**Fertilization:** 5-10-30 @ 250 lb/A  
**Crop Protection:** Herbicides: Buccaneer @ 1.5qt/A  
 First Rate 0.3 oz/A  
**Harvest Date:** November 11, 2008  
**Harvest Equipment:** John Deere 9660

Brand	Variety	Moisture (%)	Yield (bu/A)	Adj. Yield <sup>1</sup> (bu/A)
Pioneer	94M80 (Check)	15.0	30.4	30.0
Deltapine	DP 5915 RR/S	14.8	41.1	40.6
Deltapine	DP 5634 RR/S	15.2	48.1	47.6
Asgrow	AG5605	15.0	38.5	38.2
Asgrow	AG5301	14.4	41.6	41.3
Vigoro	V54N8RS	14.9	37.2	37.0
Vigoro	V51N7RS	14.7	40.5	40.4
S. States	RT 5160	14.5	38.4	38.4
S. States	RT 5450	14.8	38.9	38.9
Hubner	H 571RR	15.2	35.9	36.0
Hubner	H 502RR	15.2	29.2	29.3
USG	Allen	14.4	37.2	37.5
USG	7553nRS	14.4	33.7	34.0
Pioneer	95Y70	13.9	40.9	41.4
Pioneer	95M82	14.3	37.2	37.7
Pioneer	94M80 (Check)	13.9	29.5	30.0
<b>Test Average</b>			<b>37.4</b>	<b>37.4</b>

**Discussion:** The production season was characterized by extremely dry conditions for most of the season. Late rains benefited the group 5 soybean varieties. Use this with other variety information to select high-yielding varieties in 2008.

## 2008 DINWIDDIE GROUP 5 SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Billy Bain  
 Extension: Mike Parrish, Dinwiddie & David Holshouser – Virginia Tech  
 Soybean Specialist  
 Agribusiness: Participating Seed Representatives  
**Previous Crop:** Peanuts  
**Soil Type:** Mattopani Sandy Loam  
**Tillage:** No -Till  
**Planting Equipment:** Kinze 2600 no till - row planter  
**Planting Date:** May 22, 2008  
**Row Spacing:** 15 in.  
**Seeding Rate:** 130,000 seed/A  
**Crop Protection:** Herbicides: Pre- Glyfos @ 1 qt/A + Prowl @ 1pt/A  
 Post - Glyfos @ 1gt + Synchrony XP @ 0.375 oz/A  
**Harvest Date:** November 25, 2008  
**Harvest Equipment:** VCE Plot Combine

Brand	Variety	% Moisture	Yield (bu/A)
Asgrow	AG5605	15.4	49.8
Asgrow	AG5301	15.4	58.7
Deltapine	DP 5634RR	15.0	55.5
Deltapine	DP 5915RR	15.0	52.0
S. States	RT 5160N	15.1	56.3
S. States	RT 5450N	15.5	59.4
Progeny	P 5706RR	15.2	49.6
Vigoro	V54N8RS	15.4	57.7
Vigoro	V51N7RS	14.7	58.3
Pioneer	95M82	14.8	57.5
Pioneer	95Y70	16.7	61.4
USG	Allen	15.9	49.5
USG	7553nRS	14.7	50.8
Hubner	H 571RR	15.5	61.1
Hubner	H 502NRR	16.9	51.7
<b>Test Average</b>		<b>15.3</b>	<b>55.3</b>

**Discussion:** This 2008 Ag Expo Tour Variety Comparison received 6 in. of irrigation water and 1.5 in of rainfall. Note: In 2007 this field was planted in Peanut with strip tillage. Use this with other variety information to select high-yielding varieties in 2008.

## 2008 NORTHUMBERLAND/LANCASTER RR/STS SOYBEAN VARIETY COMPARISONS

**Cooperators:** Producer: Dan and Craig Brann  
 Extension: Matt Lewis, Northumberland & Lancaster  
 Agribusiness: Participating Seed Companies  
**Previous Crop:** Wheat  
**Soil Type:** Sassafras fine sandy loam  
**Tillage:** No-till  
**Test/Plot Size:** 8 acres  
**Planting Equipment:** Great Plains 15-foot No-Till Drill  
**Planting Date:** June 26, 2008  
**Row Spacing:** 7.5 inches  
**Variety:** Check – Pioneer 94M50  
**Seeding Rate:** 67lbs seed/A  
**Fertilization:** none  
**Crop Protection:** Herbicides: Roundup Powermax @ 26 oz w/ AMS, Post  
 Insecticides: Warrior @ 2oz, Aug 20  
**Harvest Date:** October 31, 2008  
**Harvest Equipment:** John Deere 9650

Brand	Variety	Seeds/lb	Canopy 8/18 (%)	Moisture (%)	Yield (bu/A)	Adj. Yield <sup>1</sup> (bu/A)
Asgrow	AG4903	3190	90	12.7	53	55.0
Pioneer	94M50 (Check)	2700	60	12.4	40	41.5
Asgrow	AG4605	2890	80	12.2	46	47.0
Deltapine	DP 4888RR/S	2900	100	12.5	49	49.4
S. States	RT 4808N	3100	100	12.6	52	51.6
S. States	RT 4996N	2689	95	13.9	53	51.9
Pioneer	94M50 (Check)	2700	75	13.3	43	41.5
<b>Test Average</b>					<b>48</b>	<b>48.3</b>

**Discussion:** Because of their weed control program in wheat and soybeans, Craig & Dan are keenly interested in the performance of STS soybean varieties. This plot was located adjacent to a group IV variety plot. The RR/STS beans averaged the same yield as the RR-only soybeans: 49 bu/acre. The check variety used is not an STS soybean variety. Visual ratings of canopy coverage were taken on Aug 18. The data above suggest percent canopy was related to final yield. Use this with other variety information to select high-yielding varieties in 2009.

## 2008 NEW KENT SOYBEAN POPULATION STUDY

**Cooperators:** Producer: Evelynton Farms, Archer & Tim Ruffin  
Extension: Paul Davis, New Kent & Charles City Counties  
William Townsend, VA Tech Summer Intern  
Agribusiness: None

**Previous Crop:** Soybeans

**Soil Type:** Roanoke and New Flat, silt loams

**Tillage:** No-Till

**Test/Plot Size:** 20' x 1000' x 3 reps

**Planting Equipment:** 10' Great Plains No-Till Drill

**Planting Date:** May 30, 2008

**Row Spacing:** 7.5 inches

**Variety:** Delta Pine 4888

**Seeding Rate:** See below

**Crop Protection:** Herbicides: Roundup @ 1.5 pts/A on 5/20/08  
Roundup @ 1.5 pts/A on 6/20/08  
Insecticides: None  
Fungicides: None

**Harvest Date:** November 10, 2008

**Harvest Equipment:** John Deere 9560

Treatment	Rep 1	Rep 2	Rep 3	Avg. Yield
	(bu/A)	(bu/A)	(bu/A)	(bu/A)
70,000	26	25	26	25.7
100,000	32	28	29	29.7
175,000	31	26	28	28.3
215,000	34	30	28	30.7
LSD (0.10)				0

**Discussion:** With Roundup Ready Soybean seed costing between \$35 - \$60 per 50 lb bag in 2009, we wanted to see if we could cut back on the seeding rate on full season soybeans without reducing yields. We found that under extreme drought conditions 70,000 was not enough seed/acre, yields were reduced due to late season grass pressure. Previous years under good growing conditions 70,000 seed/acre yield equal to 120,000+ seed/acre. This year the 100,000 up to 215,00 seed/acre was not significantly different. Based on three years of seeding rate studies in Charles City, we are comfortable in recommending 100,000 seed/acre in full season narrow row soybeans. Please compare this study with other similar plant population studies in your area. Planting 100,000 seed/acre vs. 180,000 seed/acre in 2009 will save you \$20 - \$30 per acre.

## 2008 EVALUATION OF LATE SEASON SPRAYER TIRE TRACKS ON SOYBEAN YIELD

**Cooperators:** Producer: Hundley Brothers  
Extension: Keith Balderson, Essex

**Previous Crop:** Wheat  
**Soil Type:** Slagle fine sandy loam  
**Tillage:** No-till  
**Test/Plot Size:** approximately .8 acre per plot  
**Planting Equipment:** John Deere 15' no-till drill  
**Planting Date:** late June 2008  
**Row Spacing:** 7.5  
**Variety:** Pioneer 94M80  
**Seeding Rate:** 200,000 plants per acre  
**Crop Protection:** Herbicides: Glyphosate at 1 qt. per acre post-emergence  
Insecticides: Karate at 1 oz. per acre on August 31, 2008  
**Harvest Date:** November 19, 2008  
**Harvest Equipment:** Case IH 2388 with 30 foot header

Treatment	Rep 1	Rep 2	Rep 3	Rep 4	Avg. Yield
	(bu/A)	(bu/A)	(bu/A)	(bu/A)	(bu/A)
Tracks	55.5	56.6	54.9	53.8	55.2
No Tracks	56.8	58.3	56.1	55.6	56.7
LSD (0.10)					

**Discussion:** The purpose of this plot was to evaluate yield loss due to late season sprayer tracks (corn earworm treatment) in soybeans. A pull-type spray rig was used in this plot with a tractor with narrow tires, and the tracks were very visible at harvest. Yield loss was 1.5 bushels per acre, but the actual yield loss would be half that (3/4 bushel per care) since the sprayer width was 60 feet and the harvest width was 30 feet. With soybeans at \$9.00 per bushel the loss would be \$6.75 per acre in this test. Growers should evaluate their individual situation when making late season spray decisions. Factors to consider are soybean yield potential sprayer width, tire size, soybean price, and the availability of aerial applicators. Some producers are also now using tramlines in soybeans.

## 2008 MIDDLESEX COUNTY LATE SEASON SPRAYER TRACK EVALUATION

**Cooperators:** Producer: Jason Benton  
 Extension: David Moore, VCE-Middlesex  
 Agribusiness: Southern States-Gloucester Service  
**Previous Crop:** Wheat  
**Soil Type:** Suffolk Fine Sandy Loam  
**Tillage:** No-Till into wheat stubble  
**Test/Plot Size:** 20' wide X 1170' long  
**Planting Equipment:** Great Plains 1500NT  
**Planting Date:** June 27, 2008  
**Row Spacing:** 7.5 inches  
**Variety:** Pioneer 95M50  
**Seeding Rate:** 210,000 seeds/A  
**Crop Protection:** Herbicides: Glyphosate: 1.5 pints @ 3WAP  
 Insecticides: Warrior @ 3 oz/A August 25, 2008  
**Harvest Date:** December 4, 2008  
**Harvest Equipment:** AGCO Gleaner R62

<b>Treatment</b>	<b>Rep</b>	<b>Moisture</b> (%)	<b>Yield</b> (bu/A)
Tracks	1	14.2	37.6
No Tracks	1	14.0	40.2
Tracks	2	13.4	34.1
No Tracks	2	13.7	33.9
Tracks	3	14.0	30.7
No Tracks	3	13.9	37.8
<b><u>Averages</u></b>			
Tracks		13.9	34.1
No Tracks		13.9	37.3
LSD (0.10)		0	0

**Discussion:** In this plot, looking at effect of late season spray tracks on yields, we find that yields vary 3.2 bushels between areas where sprayer tracks were versus where there were no tracks. To be fair though, the boom of the sprayer is at least 60 feet and spray tracks were not in every pass. The combine harvested 20 feet at a pass, so actually the difference should at least be cut by 50% which would make it more along the line of a 1.6 bushel (\$14.40) difference. Growers should evaluate their individual situation when making late season spray decisions. Factors to consider are soybean yield potential sprayer width, tire size, soybean price, and the availability of aerial applicators. Some producers are also now using tramlines in soybeans.

## 2008 WEED CONTROL PLOT IN ORGANIC SOYBEANS

**Cooperators:** Producer: Todd Henley  
 Extension: Keith Balderson, Essex  
 NRCS: Chris Lawrence, State Agronomist  
**Previous Crop:** Corn  
**Soil Type:** Tetotum sandy loam  
**Tillage:** Conventional Seed Bed  
**Test/Plot Size:** .338 to .387 acres per plot  
**Planting Equipment:** 6 row John Deere conservation planter  
**Planting Date:** June 5, 2008  
**Row Spacing:** 30 inches  
**Variety:** Teejay  
**Seeding Rate:** 11 seeds per row foot  
**Crop Protection:** 1 rotary hoeing and 2 cultivations for weed control  
**Harvest Date:** November 24, 2008  
**Harvest Equipment:** John Deere 9500 with a 22 foot header

Treatment	Rep 1	Rep 2	Rep 3	Avg. Yield	Adj. Yield
	(bu/A)	(bu/A)	(bu/A)	(bu/A)	bu/A
Unweeded	25.8	22.8	23.9	24.2	22.8
Weeded	31.5	31.1	31.7	31.4	31.4
LSD (0.10)					

### Discussion:

Mr. Henley has been producing organic soybeans for several years. Weed pressure has been a major limitation to soybean yields and harvest and handling efficiency. The weeded plots were hand weeded on July 17<sup>th</sup> and 18<sup>th</sup>. Redroot pigweed was the predominant species in the field, and there were some jimson weeds present. At harvest, the weeded plots were mostly weed free with only a few escapes. Weed pressure in the un-weeded plots was moderate to heavy. See the picture below taken soon after the weeding was done. A composite sample from the weeded and un-weeded plots was taken to a local elevator for foreign matter determination. The weeded plots were rated at less than 1% foreign material (no dockage), while the un-weeded plots were rated at 6.7% foreign material. Most grain elevators deduct foreign material in excess of 1% from the weight so we deducted 5.7% in the adjusted yield column for the un-weeded plot. We got a very good yield response to weeding in the plot. In an organic system, controlling weeds in this plot probably increased gross income by about \$150 per acre. Weeding took about 21 man hours per acre so the practice would have not increased net income without an inexpensive labor source. In July, we found out that this field has very high levels of soybean cyst nematodes (SCN) which undoubtedly lowered yields. It is very possible that the yield differences between the un-weeded and weeded treatments would have been greater in the absence of cyst. This area also experienced some drought stress during the growing season.



## 2008 SOYBEAN CYST NEMATODE RESISTANT VARIETY COMPARISON UNDER IRRIGATION

**Cooperators:** Producer: Cloverfield Enterprises  
 Extension: Keith Balderson, Essex  
 Agribusiness: Glenn Rountree and Ginny Barnes, Pioneer Hi-Bred  
**Previous Crop:** Barley: 2007-08; Corn 2007  
**Soil Type:** Molena loamy sand  
**Fertilization:** 30 lbs. per acre phosphate and 90 lbs. per acre potash on the barley crop  
**Tillage:** No-till  
**Test/Plot Size:** 850 ft. x 30 ft. (.585 A)  
**Planting Equipment:** John Deere Air Planter  
**Planting Date:** June 12, 2008  
**Row Spacing:** 15 inches  
**Variety:** Pioneer 95M50 vs. Pioneer 95M60  
**Seeding Rate:** 140,000 seeds per acre  
**Crop Protection:** Herbicides: 1 qt. glyphosate per acre post emergence  
 Insecticides: .75 pint/A Lannate in Late August  
 3 oz./A Mustang Max in early September  
**Harvest Date:** November 24, 2008  
**Harvest Equipment:** John Deere 9860 with a 35 foot header

Treatment	Rep 1	Rep 2	Rep 3	Rep 4	Avg. Yield
	(bu/A)	(bu/A)	(bu/A)	(bu/A)	(bu/A)
Pioneer 95M60	41.8	48.7	48.7	48.9	47.0
Pioneer 95M50	33.1	41.9	37.7	37.7	37.6
LSD (0.10)					

### Discussion:

This is the second year in a row that we have conducted this experiment on this farm to continue learning about soybean cyst nematode (SCN) management. This experiment was planted in a field with a long history of high soybean cyst nematode (SCN) levels. A nematode assay from a soil sample taken on July 7, 2008 revealed 5050 SCN juveniles and 58 cysts from the 95M60 plots and 2460 SCN juveniles and 62 cysts from the 95M50 plots in 500 cc of soil (about 1 pt.) A few years ago, the Nematode Assay Lab at Virginia Tech determined that SCN race 1 is present on this farm. Last year, the lab identified the race as 4. Pioneer 95M50 is resistant to SCN race 3, while Pioneer 95M60 is resistant to races 1, 2, 3, 5, and 14. No information is known about either variety's resistance to race 4, but we can assume that Pioneer 95M60 has more resistance to race 4 than Pioneer 95M50 given the results of this plot. Pioneer 95M60 performed well in this field, and the Pioneer 95M50 performed better in the plot than it did last year. It grew much better than it did in the experiment last year. Visual differences in the growth of the varieties was very evident in only one replication this year, but yield differences were still almost 10 bushels per acre compared to almost 20 bushels per acre in 2007.



## 2008 VIRGINIA SOYBEAN NEMATODE SURVEY

**Cooperators:** Principal Investigators: David Moore, Jon Eisenback, Pat Phipps, & David Holshouser  
VCE Agents: Keith Balderson, Watson Lawrence, Cal Schieman, Paul Davis, Cindy Estienne, Wes Alexander, Scott Reiter, Mike Parrish, Matt Lewis, Sam Johnson, Kelvin Wells, Glenn Slade, Rex Cotton, Mac Saphir, Nathan O'Berry, Rose Bradshaw  
Agribusiness: Field Services-Southern States, Crop Production Services and Coastal Agrobusiness, Paul Bodenstein-AgSystems, Other Consultants

Funded through a grant from the Virginia Soybean Board, a second nematode survey was conducted during the growing season of 2008. The purpose of the survey was to determine the type and amounts of nematodes present in fields either showing reduced growth or suspected of having nematodes. Repeating the survey in 2008, similar to the one conducted in 2007, would give us information on most fields considering that producers are in a normal rotation and would have soybeans in all fields at least once in two years. Due to new varieties, trends toward continuous no-till, decrease in winter annual crops in cropping rotations, planting soybeans with single gene resistance for cysts, and conversion from in-furrow insecticides to seed treatments for pest problems, we felt that nematode types and numbers may have changed since the last survey conducted more than 20 years ago.

ANR Agents and consulting agribusiness from soybean producing areas in the state were invited to participate with a goal of 100 samples for corn and 100 samples for soybeans. (Corn results will be printed in a separate publication) Fields were identified by the agent, the producer or consulting agribusiness during the growing season. Samples were then taken to nematode lab for analysis at Virginia Tech (see chart for results below).

Over 150 samples were taken from the soybean growing areas of Virginia in 2008. Fifty (50%) percent of the samples were rated with a C (nematodes are a problem; control options advisable). Approximately thirty (30%) percent of the samples were rated with B (possible nematode problem). So from the 2008 survey, we find that nearly 80% of the samples cite populations of nematodes to be a problem. This does not mean that 80% of the fields in Virginia's soybean producing area have nematodes, since these fields were identified with an initial problem before samples were taken and was not considered a totally random survey. We do, however, believe that nematodes are a major pest to many soybean producers and are robbing them of yield and profit.

Most common nematodes found in samples were Soybean Cyst (SCN), Stunt, Lesion, Stubby Root, Root Knot (RKN), Spiral, Lance and Ring. Nematode populations vary according to cropping systems and tillage practices. (See listing of population ranges that are used in making A,B or C determination)

Traditional SCN resistance is available in current varieties for Race 3 & 14. Resistance is also available in a few varieties for RKN. Following the 2007 survey, all samples with SCN were race typed. We do know that races exist other than Race 3&14. We know that Races 1 & 4 are present in field in Essex and Chesapeake and have found that typical resistant varieties do not yield well in those fields. There is still confusion as to why these Races continue to change. Further study will be done to evaluate control measures available for nematode control/suppression and to possibly do a random nematode survey of soybean fields in Virginia. We appreciate the continued support of the Virginia Soybean Board.

Sample	County	Lesion	RKN	Cyst	SCN race	Stubby root	Stunt	Spiral	Lance	Rec.
D269	Caroline	30	0	0			10	520	10	A
D305	Caroline	90	0	0		0	70	390	20	A
P51	Caroline	50	10	0		0	0	10	20	A
P54	Caroline	80	0	0		0	0	10	20	A
D171	Chesapeake	10	0	0		0	0	0	0	A
D175	Chesapeake	10	0	0		0	10	10	0	A
D404	Gloucester	90	0	0		0	40	410	50	A
D405	Gloucester	40	0	0		20	0	160	10	A
D206	Hanover	40	0	0+10		0	30	550	130	A
D382	Hanover	130	10	0		0	0	40	70	A
D388	Hanover	40	0	0+10		0	70	240	0	A
D389	Hanover	30	0	0		0	30	220	80	A
D390	Hanover	20	0	0		0	20	90	60	A
D422	Hanover	70	10	0		80	20	520	100	A
P58	King & Queen	10	0	0+30		10	40	560	0	A
D371	King and Queen	20	10	0		0	0	740	10	A
D384	King and Queen	0	0	0		20	0	0	0	A
D227	King William	0	0	0		10	290	570	10	A
D245	King William	50	0	0		0	230	380	90	A
D250	King William	0	0	0		0	30	450	10	A
D260	King William	0	0	0		0	10	90	0	A
D265	King William	0	0	0		0	20	10	30	A
D266	King William	0	0	0		0	10	40	0	A
D267	King William	0	0	0		40	170	90	290	A
D414	Middlesex	60	0	0		50	0	150	50	A
D201	Northumberland	60	0	0		0	0	380	0	A
D04	Prince George	30	0	0		0	20	680	0	A
D224	Prince George	80	0	0		0	230	110	0	A
D225	Prince George	0	40	0		30	240	0	20	A
D326	Prince George	60	10	0		30	90	290	0	A
D378	Prince George	10	0	0		0	30	570	0	A
D177	Richmond	0	0	0		0	10	20	0	A
D342	Southampton	0	0	0		30	230	240	80	A
D346	Southampton	30	0	0		10	40	440	0	A
D360	Surry	0	0	0		0	20	0	60	A
D169	Sussex	0	0	0		0	170	190	0	A
D284	Virginia Beach	10	0	0		0	20	330	0	A

Sample	County	Lesion	RKN	Cyst	SCN race	Stubby root	Stunt	Spiral	Lance	Rec.
D204	Caroline	30	60	0		10	40	0	60	B
P55	Essex	110	0	0		0	0	0	0	B
D297	Hanover	10	0	0		60	110	5780	340	B
D381	Hanover	20	50	0		0	0	80	30	B
D387	Hanover	40	0	0+30		10	50	260	130	B
D396	Hanover	10	60	0		0	0	0	0	B
D430	Hanover	0	0	0+40		0	0	0	0	B
D435	Hanover	20	20	0+40		0	0	890	0	B
D436	Hanover	20	30	0+20		10	860	60	0	B
D437	Hanover	0	60	0		0	0	10	0	B
P57	King & Queen	80	140	0		30	320	260	50	B
P61	King & Queen	70	0	0+30		20	30	80	10	B
D372	King and Queen	100	0	0		0	0	480	0	B
D407	King and Queen	40	20	0		230	320	1290	120	B
D416	King and Queen	220	0	0		10	30	400	0	B
D417	King and Queen	10	0	0		40	0	1100	90	B
D418	King and Queen	150	0	0+10		30	0	780	60	B
D229	King William	60	0	0		90	210	30	80	B
D230	King William	210	0	0		20	310	3460	80	B
D231	King William	90	0	0		0	60	1440	170	B
D239	King William	260	0	0		0	150	140	40	B
D240	King William	30	0	0		0	150	1960	10	B
D243	King William	40	40	0		0	420	0	140	B
D244	King William	0	0	0		0	210	2060	0	B
D246	King William	0	0	0		0	330	100	110	B
D247	King William	120	0	0		0	110	0	30	B
D248	King William	170	0	0		90	340	30	160	B
D249	King William	0	0	0		40	20	20	310	B
D251	King William	60	0	0		0	430	2110	0	B
D253	King William	0	0	0+10		0	420	560	0	B
D254	King William	0	0	0		260	310	20	390	B
D256	King William	230	0	0		100	0	30	60	B
D261	King William	20	0	0		0	260	1390	10	B
D262	King William	10	0	0		0	560	1820	10	B
D263	King William	0	0	0		0	150	1070	80	B
D264	King William	20	0	0		20	520	10	410	B
D298	King William	30	20	0		4700	250	130	400	B
D394	King William	120	10	0		0	0	290	50	B

Sample	County	Lesion	RKN	Cyst	SCN race	Stubby root	Stunt	Spiral	Lance	Rec.
D395	King William	60	140	0		20	0	60	10	B
D428	King William	120	130	0		40	290	430	40	B
D429	King William	110	0	0		0	40	290	20	B
D314	Middlesex	170	20	0		10	60	130	100	B
D321	Middlesex	80	40	0		140	470	10	0	B
D413	Middlesex	90	10	0		110	670	750	280	B
D445	Middlesex	0	20	0+50		10	0	160	10	B
D361	Northumberland	100	0	0		0	130	0	210	B
D203	Suffolk	0	60	0		90	40	0	0	B
D316	Suffolk	130	40			0	330	260	0	B
D218	Westmoreland	160	0	0		0	790	530	0	B
D306	Caroline	0	70	1306+21K		0	0	70	140	C
P52	Caroline	0	1390	0		0	0	0	70	C
D172	Chesapeake	0	0	8+580		0	0	350	0	C
D173	Chesapeake	10	0	24+670		0	0	160	0	C
D301	Chesapeake	10	20	28+1270		10	0	880	0	C
D302	Chesapeake	0	0	42+2590		80	10	250	0	C
D303	Chesapeake	210	0	14+940		10	0	530	0	C
D304	Chesapeake	10	0	4+30		0	0	30	30	C
D400	Dinwiddie	60	0	4+90		60	70	30	40	C
D163	Essex	0	240	0		90	90	0	120	C
D164	Essex	20	20	62+2460		20	20	160	10	C
D165	Essex	60	0	58+5050		70	0	150	30	C
P48	Essex	10	80	3+0		0	0	0	0	C
P53	Essex	80	430	0+170		10	0	0	20	C
D205	Hanover	10	160	2+0		0	20	270	470	C
D287	Hanover	0	0	0		30	340	####	510	C
D288	Hanover	80	1840	0		570	80	1820	810	C
D289	Hanover	470	10	0		630	330	2170	240	C
D290	Hanover	620	730	0		630	1990	4490	910	C
D291	Hanover	70	0	0		1080	220	2240	1010	C
D292	Hanover	330	10	0		160	220	720	1080	C
D293	Hanover	0	0	0		370	160	1940	810	C
D294	Hanover	40	850	0		1490	230	1660	1200	C
D295	Hanover	10	20			360	400	370	1050	C
D296	Hanover	20	0	0		1300	60	4840	2570	C
D364	Hanover	220	0	28+120		0	180	180	100	C
D367	Hanover	230	1120	80+670		30	400	0	10	C

Sample	County	Lesion	RKN	Cyst	SCN race	Stubby root	Stunt	Spiral	Lance	Rec.
D419	Hanover	100	0	34+930		0	40	80	110	C
D420	Hanover	180	0	17+290		120	370	80	60	C
D421	Hanover	190	510	13+290		0	230	960	210	C
D423	Hanover	120	0	27+880		0	90	60	120	C
D424	Hanover	110	0	11+220		90	240	100	50	C
D425	Hanover	200	820	12+290		0	90	1070	170	C
D426	Hanover	80	150	0+30		0	20	1300	140	C
D427	Hanover	30	0	68+420		0	0	50	60	C
D431	Hanover	40	10	10+130		10	50	20	0	C
D432	Hanover	60	20	0+160		0	40	30	60	C
D433	Hanover	20	0	10+180		40	70	380	0	C
D434	Hanover	60	0	0+70		0	0	650	0	C
D438	Hanover	0	60	10+150		20	0	390	0	C
D439	Hanover	10	0	11+60		10	0	340	0	C
D339	Isle of Wight	0	0	0		190	1880	670	140	C
D340	Isle of Wight	0	0	0		0	1200	10	0	C
P56	King & Queen	40	20	0+120		30	90	210	130	C
P59	King & Queen	10	10	0+100		0	40	720	40	C
P60	King & Queen	70	30	0+60		70	20	240	20	C
P62	King & Queen	60	10	0+60		0	80	1210	30	C
P63	King & Queen	40	10	0+130		10	100	620	30	C
D214	King and Queen	10	90	186+7270		0	150	270	50	C
D401	King and Queen	60	360	47+170		180	90	90	20	C
D402	King and Queen	10	310	117+290		100	50	90	0	C
D406	King and Queen	40	420	4+30		240	510	2350	0	C
D408	King and Queen	20	1920	119+380		50	160	360	10	C
D409	King and Queen	40	1510	144+230		230	370	710	20	C
D410	King and Queen	30	100	90+1160		310	110	400	60	C
D411	King and Queen	60	40	31+990		360	250	1260	340	C
D442	King and Queen	30	100	0+210		10	50	1470	50	C
D228	King William	140	0	6+460		0	370	360	22	C
D232	King William	420	0	0		0	1850	1190	10	C
D233	King William	10	0	0		30	6990	370	60	C
D234	King William	510	0	0		0	220	10	10	C
D235	King William	0	0	2+20		0	0	240	0	C
D236	King William	510	0	0		0	100	340	70	C
D237	King William	820	0	0		0	30	210	0	C
D238	King William	170	0	18+370		0	90	440	0	C

Sample	County	Lesion	RKN	Cyst	SCN race	Stubby root	Stunt	Spiral	Lance	Rec.
D241	King William	110	1070	0		10	20	10	70	C
D242	King William	910	4110	0		0	120	0	60	C
D252	King William	60	0	0		0	1340	1660	120	C
D255	King William	0	0	0		340	2390	20	4600	C
D257	King William	70	0	38+820		0	0	190	0	C
D258	King William	0	340	14+870		70	100	0	180	C
D259	King William	20	0	4+180		0	30	110	130	C
D268	King William	370	0	0		0	0	0	0	C
D299	King William	120	4110	0		160	0	90	150	C
D300	King William	80	6180	0		390	230	10	50	C
D369	King William	0	130	64+380		20	0	0	0	C
D370	King William	180	850	2+20		70	10	50	50	C
D393	King William	340	0	78+0		0	0	90	0	C
D56	Middlesex	200	50	0		920	170	110	680	C
D222	Middlesex	320	0	0+120		80	0	760	0	C
D310	Middlesex	20	350	0		0	0	730	10	C
D311	Middlesex	0	0	6+0		0	120	80	10	C
D444	Middlesex	30	250	0+170		0	30	160	30	C
D446	Middlesex	40	140	12+180		0	10	340	20	C
R84	New Kent	90	0	6+10		30	200	40	40	C
R85	New Kent	120	120	286+250		0	260	0	30	C
R86	New Kent	0	570	0		0	80	30	0	C
D223	Prince George	910	0	0		0	280	20	50	C
D226	Prince George	60	10	2+130		0	780	240	170	C
D322	Prince George	0	0	26+160		0	150	20	10	C
D323	Prince George	10	20	56+770		20	590	120	0	C
D324	Prince George	70	0	218+620		0	130	110	0	C
D325	Prince George	580	550	0		430	790	1390	30	C
D375	Prince George	0	0	21+490		0	0	0	0	C
D376	Prince George	0	0	21+270		0	10	0	20	C
D341	Suffolk	10	0	304+180		0	30	20	0	C
D347	Surry	0	0	6+40		40	0	20	10	C
D348	Surry	0	0	4+20		30	100	0	60	C
D349	Surry	0	20	4+30		20	80	10	40	C
D285	Virginia Beach	10	0	72+1180		10	20	0	80	C
D286	Virginia Beach	0	0	100+2900		0	10	0	130	C

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