

Virginia Cooperative Extension



FARM NOTES

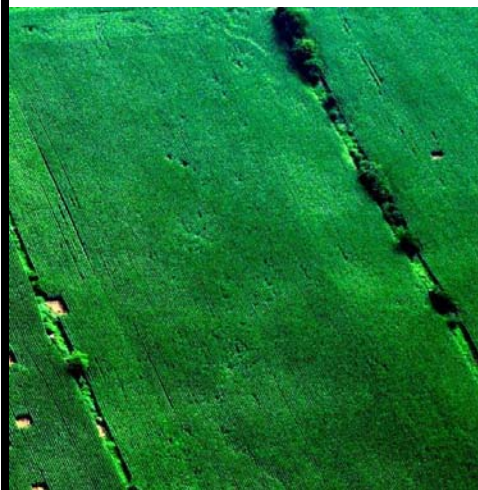
January 2013

Meeting to Review Cornfield Aerial Imagery and Cornstalk Nitrate Test Results

February 20, 2013 (Wednesday)
6:30 p.m.

Denny's, 250 Conicville Boulevard, Mount Jackson

Please Register by Calling 540-459-6140
\$5 Registration at the Door



292 Soil Nitrate Samples
from 40 Farms

Aerial Images on 80
Cornfields

178 Cornstalk Nitrate
Samples from 33 Farms



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Virginia No-Till Alliance

2013 Winter Conferences February 12 – 15, 2013

Farmers interested in getting into no-till crop production or expanding their knowledge of no-till don't want to miss this year's line-up of speakers from all over the United States. We'll discuss how soil health is improved through no-till, and take a look at hot topics such as vertical tillage, dealing with slugs, cover crops, and more!

February 12, 2013

Rockingham County Fairgrounds; 4808 South Valley Pike, Harrisonburg, VA

February 13, 2013

Olde Dominion Agricultural Complex; 19783 US Hwy 29 South, Chatham, VA

February 14, 2013

Keystone Tractor Works, 880 West Roslyn Road, Colonial Heights, VA

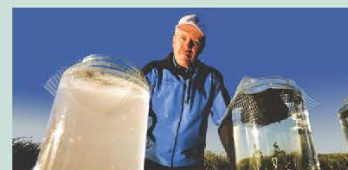
February 15, 2013

University Hall at University of Mary Washington; 121 University Blvd; Fredericksburg, VA



Featuring:

- Jay Fuhrer, District Conservationist, Natural Resources Conservation Service, Bismark, N.D.



Jay Fuhrer

- DeAnn Presley, Assistant Professor, Environmental Soil Science and Management, Kansas State University



DeAnn Presley

- Joanne Whalen, Extension IPM Specialist, College of Agriculture & Natural Resources, University of Delaware



Joanne Whalen

- David Wolfskill, Berks County, Pa.
- Scott Hagood, Professor Emeritus, Plant Pathology, Physiology, and Weed Science, Virginia Tech

Plus:

- Virginia Cooperative Extension Crop Specialists — Wade Thomason, David Reed, Mark Reiter, and Bobby Clark
- Local farmers and agriculture consultants
- Trade show
- Certified Crop Adviser/Nutrient Management Planner certification credits

For more information and to register, visit www.VirginiaNotill.com.

\$10 fee for each meeting except Chatham (free of charge)

This event is brought to you by: VANTAGE — The Virginia No-Till Alliance with support from Virginia Cooperative Extension and Natural Resources Conservation Service, and many others!

Virginia Cooperative Extension



www.ext.vt.edu

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Cornstalk Nitrate Test Results for 2012

In 2012, we collected 178 Stalk Nitrate samples from 80 different fields in Shenandoah and Page County. Aerial images were taken of these fields on August 3, 2012 (all of the fields had tassled but none had reached 1/4 milk line). We used the images to “guide” the location of the stalk nitrate samples. In most of the fields we tried to take one sample from a darker and lighter green area in hopes of seeing areas that were either sufficient and deficient or sufficient and excessive. The black stars in the two pictures show samples collected in a field in this manner. For information on these techniques, see the following publications:

<http://www.extension.iastate.edu/Publications/PM1584.pdf>

<http://isafarmnet.com/onfarmupdate/may08update.pdf>

Picture #1 (top)

The samples collected in the dark and light areas were 3,260 ppm and 149 ppm Nitrate-N respectively.

Picture #2 (lower)

The samples collected in the dark and light areas were 2,858 and 217 ppm Nitrate-N respectively.

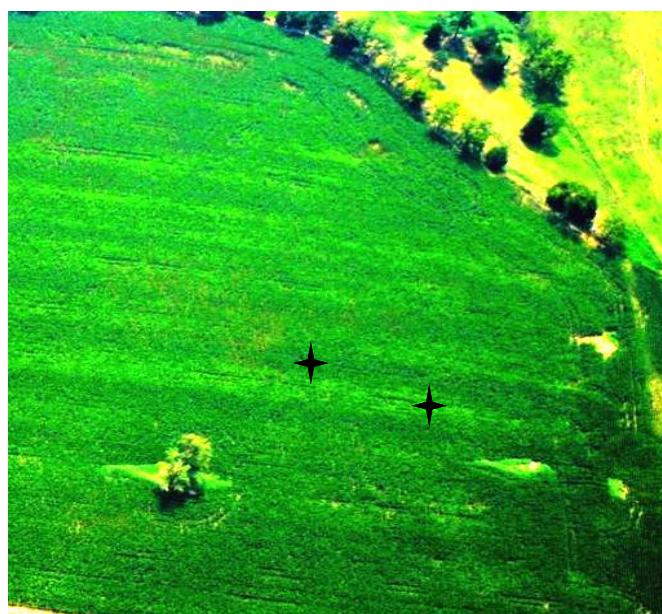


Table #1 summarizes these results. Twenty-nine and 11% of the samples were in the deficient and marginal range respectively. This does not mean that 40% of the fields were under fertilized. As described in the protocol we tried to find areas where we were suspect the farmer either did not apply manure or sidedress nitrogen.

My interpretation of this data is that overall farmers represented by the 2012 samples are not applying too much nitrogen to their corn crop.

Nitrate-N Concentration	2012
0 - 250 PPM (Deficient)	29%
250 – 700 PPM (Marginal)	11%
700 - 2,000 PPM (Sufficient)	21%
2,000 - 3,000 PPM (Marginal Excessive)	8%
3,000 + PPM (Excessive)	31%
Total Number of Samples	178
Number of Farms	33
Median Concentration ppm	1,301

Upcoming Meetings

February 1 - **Virginia Beef Industry and State Dairymen's Convention**

February 5 - **Soybean Marketing Discussion Group**, Denny's, Mount Jackson

February 12 - **Virginia No-Till Alliance Annual Meeting**, Rockingham County Fairgrounds

February 13 - **Follow-up Meeting on Stockpiled Fescue Demonstration at Jay Hafner Farm**, Edinburg.
Call 540-459-6140 or 540-465-2424 Ext. 3 for more information.

February 19 and 20 - **Virginia Corn and Soybean Conference**, Williamsburg Woodlands Conference Center,
<http://www.viriniagrains.com/annualconference/>

February 20 - **Meeting to Review Aerial Imagery and Cornstalk Nitrate Test Results**, Denny's,
Mount Jackson

May 16 - **Small Grains Field Day**, Eastern Shore AREC, Painter, VA

Excerpts' From: Evaluating the Effectiveness of Vertical Tillage in Managing Slug Populations in No-till Corn Systems - First Year, 2011

Ms. Joanne Whalen, Extension IPM Specialist University of Delaware

Mr. Bill Cissel, Extension IPM Associate University of Delaware

This study was conducted to identify and document the conditions associated with vertical tillage that help reduce slug populations and/or the damage caused by slugs in no-till corn systems. In addition, we wanted to document the impact of vertical tillage on overall soil health and identify potential water quality benefits of using vertical tillage in no-till corn systems. This is a start toward developing a process to document the impact of vertical tillage.

Demonstration plots were established by three growers in a total of four fields comparing no-till and vertical till. Each of the demonstration plots were arranged in paired plots of vertical-tilled and no-tilled strips. Six paired strips were established at location one and three paired strips at locations 2, 3 and 4. An AerWay strip was also established at location 2. Prior to performing the tillage treatments, each demonstration plot was sampled using shingle traps to establish a baseline for slug densities. Once the tillage treatments were established, treatment effects on soil health were observed including soil compaction, percent cover, bulk density and infiltration rate. Immediately after planting, shingle traps were placed in each of the demonstration plots to monitor slug densities. Once the plants emerged, stand counts were taken and the plants were evaluated for slug feeding damage. Harvest data was collected in two of the four locations.

Post-Planting Data

Once the demonstration plots had been planted, three shingle traps were placed in each paired strip to determine slug population densities and tillage treatment effects (Table 2). Stand counts were taken by counting the total number of corn plants in 17'5" of linear row in five random locations per plot. The percent of damage plants was determined by counting the number of plants out of ten consecutive plants exhibiting leaf feeding damage in five random locations per plot. A corn plant injury rating was assigned for each plant based on a scale from 0-4 and averaged for each location. *Corn Plant Injury Rating Scale*: 0 = no damage, 1 = only 1 leaf showing damage (less than 25% defoliation), 2 = all leaves showing moderate damage (25-30% defoliation), 3 = all leaves consumed except one remaining intact (greater than 75% defoliation), 4 = seedling completely cut off at the ground level.

(continued on page 5)

Discussion of Post Planting Data

The tillage treatments did not appear to have any significant affect on stand counts in any of the demonstration plots (Table 2). There does appear to be a trend suggesting that there is a slight increase in the percentage of damaged plants and the severity of damage in the no-tilled plots compared to the vertical tilled plots. A slight increase in the number of slugs per shingle trap in the no-tilled plots compared to the vertical tilled plots was also noted. This suggests that vertical tillage may be an effective cultural control strategy when managing slugs in corn. More information is needed to document when benefits are likely to occur.

Yield data were very limited and were not analyzed statistically. Observed differences were very minor.

Soybean Marketing Discussion Group

**February 5, 2013
6:30 p.m.**

**Denny's
250 Conicville Boulevard
Mount Jackson**

**Please register by calling
540-459-6140**

Table 2. Comparison of slug numbers per shingle, injury ratings, and percent damaged plants for multiple sampling dates at four locations in Delaware in 2011.

Sample Date	Tillage	Stand 1/1000/Acre	Injury Rating	% Damaged Plants	# Slugs/Shingles
Location 1					
May 6	NT	28.33	--	0.93	0.23
	VT	28.00	--	0.80	0.03
May 16	NT	--	0.70	1.57	0.20
	VT	--	0.57	1.77	0.03
May 24	NT	--	0.33	0.70	1.80
	VT	--	0.27	0.60	1.23
Location 2					
May 18	NT	25.53	0.53	1.07	0.89
	VT	25.00	0.33	0.47	0.89
	Aerway	24.8	0.8	0.8	--
June 3	NT	--	0.77	1.8	0.56
	VT	--	0.3	0.53	0
	Aerway	--	0.40	0.60	--
Location 3					
May 9	NT	26.20	1.50	6.73	1.78
	VT	24.65	1.43	4.47	0.22
May 16	NT	27.53	1.33	4.07	1.22
	VT	28.27	0.67	1.73	0.22
May 24	NT	--	0.73	3.40	0.00
	VT	--	1.10	4.67	0.00
June 3	NT	--	0.07	0.07	0.00
	VT	--	0.07	0.27	0.00
Location 4					
May 9	NT	--	--	--	1.33
	VT	--	--	--	0.44
May 16	NT	26.53	1.93	7.60	0.78
	VT	26.93	1.67	6.33	0.00
May 24	NT	--	1.54	7.17	0.39
	VT	--	1.37	6.07	0.22
June 3	NT	--	0.67	2.42	0.39
	VT	--	0.47	1.13	0.00

Shenandoah County Office 600 North Main Street, Suite 100, Woodstock, Virginia 22664-1855

Sign Up for Cost Share for Soil Nitrate Testing Program Recommended

I recommend that all Northern Shenandoah Valley corn farmers enroll in the State Cost Share Program for Soil Nitrate Testing for the 2013 crop season. For the past several years, I have had grant funds to offset some of the cost of the laboratory procedure for analyzing soil nitrate samples. In 2012, Inboden Environmental charged \$13.50 per sample. The state cost share program will pay up to \$8 per sample. If additional nitrogen is needed, the cost share program will pay 75% of the application charge up to a maximum of \$6 per acre for sidedress N application. There is also cost share available through EQIP (which is a Federal Cost Share Program administered by NRCS). Farmers must have a nutrient management plan to be eligible.

I believe that soil nitrate testing is very profitable for farmers. Over the past seven years we have collected 1,700 soil nitrate samples on over 30,000 acres of corn in the Northern Valley. Farmers reduced nitrogen applications by an average of 162 pounds per sample collected (or 9 pounds per acre sampled). This reduction does not include nitrogen applied to fields that needed sidedress Nitrogen.

The deadline for sign-up for the State Cost Share Program is April 1, 2013. Sign up today!

Educational Meeting Sponsorship: An Integral Component of Extension Education

The following agribusinesses are providing financial support for multiple Northern Shenandoah Valley educational meetings this year. Their support is appreciated!

AMVAC	Monsanto / DeKalb
BASF	Page Cooperative Farm Bureau
Bayer CropScience	Pioneer Seed
CFC Farm & Home Center	Rockingham Cooperative Farm Bureau
Dow AgroSciences LLC	Southern States - Luray
Dupont	Southern States - Winchester
Helena Chemical Company	Syngenta
Hubner Seed	Valley Fertilizer & Chemical Company
James River Equipment	Wightman Insurance Agency
Mathias Brothers	Winchester Equipment Company
MidAtlantic Farm Credit	

Robert A. Clark
Senior Extension Agent
Agriculture and Natural Resources
Certified Professional Agronomist



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If you are a person with a disability and desire any assistive devices, services, or other accommodations to participate in these activities, please contact Robert A. Clark, Senior Extension Agent, Agriculture and Natural Resources, at the Shenandoah County Office of Virginia Cooperative Extension at 540/459-6140 during business hours of 8:00 a.m. and 5:00 p.m. to discuss accommodations five days prior to the event.

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