



Agronomy Notes

Capital Region

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Capital Region Extension Agronomy Team

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Public Comment Requested

(through November 5, 2004).

Proposed changes to PA water quality regulations will affect important sectors of the agricultural economy, rural communities and water resources. Request two new Penn State Cooperative Extension publications to learn more.

-Shaping New PA Nutrient Management Act Regulations: A Guide to the Proposal and Comment Process

-Make Your Voice Heard: Commenting on Proposed Water Pollution Regulations for CAFOs and Other Agricultural Operations

Fall Planning for No-Tilling Next Spring

If you have been no tilling for some time, here are some considerations that may improve your no till system.

1. During fall harvest operations of corn and soybeans, be sure to spread the residue evenly across the field. If a custom operator is selected, be sure his rear spreader is engaged and working properly. Planters are able to compensate for variable depths across the field but by simply spreading the residue evenly over the field the planter will maintain a more uniform depth and result in even stand emergence.
2. Consider a Phoenix or Phillips rotary hoe to level fields where manure or bedded pack are applied to even out the surface residue and ensure even emergence. At the fast rates of speed these implements offer, it takes little time to get over fields.
3. Several fields I visited this season after planting exhibited pH induced deficiencies. Although the overall plow depth pH was optimum, the surface two

inches surrounding the seed was in some cases 4.0 or below. Be sure to gather 2 inch as well as 6 inch depth soil samples. You might find, as Dr. Beegle recommends, that lime applications yearly in these scenarios to offset nitrogen induced pH problems will correct the problem.

4. Check for slugs this fall. Dr. Ron Hammond at The Ohio State University discusses the how to of assessing slug populations this fall. Slug sampling can be done this fall by placing about 10 one-square-foot boards or roofing shingles on the ground throughout the field. Cups of beer (Hammond says Michelob works best) can be placed in the soil underneath the boards to attract slugs. If beer is used, the shingles should be checked the following morning. If only the boards are used, we would recommend sampling underneath the boards after a few days. Sampling would be most beneficial during warmer nights without frost, and is best done a few times during the fall.
5. Remove weeds and eliminate planting issues, as well as eliminate cutworm egg laying sites. Many herbicide programs are offered for fall application that will keep fields without a cover crop clean of weeds. It's a great idea to put oats or other crops in to take the place of weeds. In addition, when the cutworm moths migrate to the north in April to find egg laying sites, such as chickweed, you will have eliminated the chance for them to get a foot hold in that field.
6. Finally, why not calibrate the spray monitor, overhaul/calibrate the planter, and service equipment this fall before winter sets in? Calibration will ensure that when planting time comes, all will be in order to take advantage of the spring planting window.

Del Voight, CCA
Integrated Pest Management

PA Crop Insurance News

Reminder on filing notice of damage or loss: The policy requires notice within 72 hours of discovery of damage, before destruction of crop and within 15 days after the earlier of harvest completion (by crop by farm unit) or 12/10 (end of insurance period) for corn and soybeans. The purpose is to give a loss adjuster the opportunity to help you document the yield and quality to support your claim. Remember too, that if you insure

with the popular CRC (Crop Revenue Coverage) you may be eligible for a loss payment with a near normal yield, if fall CBOT prices decline significantly from early prices. For example, if the CBOT harvest price declines by a greater percentage (compared to the \$2.83/bu. spring corn base price) than your insurance deductible (i.e. 75% level of coverage = 25% deductible) a loss payment may be due. **IF IN DOUBT – FILE NOTICE OF DAMAGE!**

Wheat and barley planting deadline dates extended:

The final planting dates have been extended 5 days. The new dates are 10/20 for barley and 10/31 for wheat in southeast PA (counties of Adams, Berks, Bucks, Chester, Columbia, Cumberland, Dauphin, Franklin, Lancaster,

Lebanon, Lehigh, Montgomery, Northampton, Northumberland, Perry, Schuylkill, and York). For the remainder of PA the new dates are 10/10 for barley and 10/20 for wheat. **The late planting provision** of the policy automatically covers acreage planted up to 10 days after the above dates. However, the insurance guarantee on such acreage is reduced 1% per day for each day that planting is delayed after the above dates. **If you have late planted acreage, keep records by date of each seeding date and provide this information when reporting your acreage (to FSA and crop insurance agent).** Reporting only the last planting date for all acreage could reduce the protection on all acreage.

2004 Score Board: Producer Participation in crop insurance sets a new record. The 16,200 crop insurance policies providing \$281 million of protection are the foundation of the risk management plans of an increasing number of PA producers. The premiums for the protection in PA are more affordable because of the additional \$2 million of premium cost share by the Commonwealth of Pa and the additional \$2 million of federal premium cost share (over and above the standard federal cost share). Both of these additional benefits are automatically credited to your premium bill. Gene Gantz, RMA\USDA 717-497-6398

PA Crop Insurance Performance							
Year	Total Crop Policies	Protection In Force (\$)	Acres Insured	Total Premium (\$)	Producer Premium (\$)	Losses Paid to Producers (\$)	Loss Pmts. per \$ of Producer Prem.
04 Est.	16,202	281,112,164	1,168,210	32,657,790	10,660,091	Incomplete	Incomplete
03	15,288	258,164,042	1,142,968	32,020,531	7,003,514	27,318,583	3.37
02	13,985	222,088,649	1,119,972	19,010,537	5,732,528	63,761,423	11.12
94	3,079	25,777,064	201,253	2,305,893	1,641,359	1,453,872	0.89
94-03 Total		1,269,143,101	7,401,472	106,697,730	31,990,640	162,585,528	5.08

Note: Producer premiums reflects about \$ 8.0 million of PA crop Ins. Grants during 2000-04.
Source: USDA\RMA 2002-03 data as of 4/12/04; **04 as of 8/30/04**; other data as of 3/21/03. Est of 8/30



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Fall Weed Control in Forages

Most forage producers experienced quite a challenge getting good hay made this year. At Ag Progress Days many hay producers commented on their inability to harvest first cutting until the second crop had gotten close to 2 feet tall. They noted that a lot of the first crop had decomposed and had fallen below the second crop. It made for some great tonnage but not great quality. Hay brokers foresee another season of tight supplies for top quality forage across the region. Straw production was also short this year.

One specific image that I have is of all of the “dock” species of weeds that appeared in many grass stands in late May. Almost as if appearing overnight, grass stands were suddenly sprouting up with 4 foot tall shoots from curly dock, broadleaf dock and even burdock. Unfortunately those shoots developed into hundreds of seeds that were able to mature due to the delay in timely forage harvest. The abundant rainfall this summer has

enabled many of these seeds to germinate and develop into small plants that will suddenly appear next spring.

Fall applications of herbicides can be made to manage these and many other broadleaf weeds. If applied prior to hard frosts, optimum weed control of most perennial weeds can be outstanding. In the fall the plant is directing plant reserve production back down into the roots and other plant parts. In the spring, all plant growth is directed from the reserves “up” into new growth. In many cases fall applications, at lower rates, can be more effective than spring treatments.

Several herbicides are labeled for broadleaf weed control in grass forages and pastures. The most commonly used products include; 2,4-D; Banvel/Clarity; a combination of 2,4-D and Banvel or Clarity; Ally/Cimarron; Crossbow; Overdrive and Stinger. There are specific rate recommendations and harvest/grazing restrictions for each product. The 2004 Agronomy Guide can serve as an

excellent reference source. Most products should not be applied to grass stands less than 6 months old or 4 to 5 inches tall.

In pure established alfalfa stands, fall weed control is usually delayed until the alfalfa becomes dormant. Many products should not be used on alfalfa-grass mixed stands. Control of most established broadleaf weeds will vary by product(s). Refer to the Agronomy Guide for the best recommendation.

Following effective control of weeds, the forage stand must be managed to maintain a dense healthy stand through proper management. This includes proper fertility, cutting management and insect control. Understanding what factors lead to the successful establishment and development of the weeds is important to maintaining a profitable forage stand. At some point, weed control will not provide sufficient return on investment and crop rotation might be the best alternative.

Take the time now to look at your forage stands. Early October can provide an ideal time to apply products and get outstanding weed control. The results will show next May.

**Paul H. Craig, CCA
Forages**

Wheat Planting Test Results

Last fall we began a field test at the Landisville research farm in which we compared three different tillage systems for wheat that was planted in both corn and soybean stubble residue. The tillage done was no-till, double disk and chisel/disk. The corn stalks were mowed before any tillage or planting was done. Because of the wet fall, the test was planted on November 4. In the spring, we added a comparison of nitrogen topdress rates of 40, 60, 80 and 80 split (40+40) lbs N/ac. All treatments were replicated four times. In the spring prior to topdressing, we compared the stands by counting the number of plants in 3 feet of row several times in each treatment. We found that the plant population was not significantly different between the double disk or chisel disk in either corn or soybean residue but we did find a significantly lower population in the no-till treatments in both fields. The stands were comparable in both residue types.

The plots were harvested with a plot combine on July 21. Because of the way we added the nitrogen rates to the trial after the plots were established, statistical analysis of this factor is not possible. Also, statistical comparison of the results in corn vs. soybean stubble is not possible because technically they were in separate fields. However, the results do show some TRENDS that are useful. These results are NOT backed up by statistics.

- Wheat grown in soybean stubble yielded about 10 bu/a better than in corn stubble regardless of tillage or N rate.
- In corn stubble, wheat fertilized with 60 lb N performed as well as wheat fertilized with 80 lb N or

a split application of 40 + 40 lb N/a. A split application didn't have much effect.

- In corn stubble, tilled (chisel-disc or disc 2X) plots performed slightly better than the no till.
- In soybean stubble, wheat fertilized with 80 lb N/a (one shot) consistently yielded less than wheat fertilized with 60 lb N or with 40 + 40 split application. There was some lodging in the field, but it was not consistent within the treatments.
- Yield was not different among tillage treatments in soybean stubble.

A study done between 1997 and 2002 in Illinois tested some of the same things we did. Some of their results were:

- Wheat planted after soybeans yielded more (5 bu/ac) than after corn. They attributed this to disease (head scab) and the corn residue reducing wheat growth through shading and tying up nutrients.
- There was no difference in yield between wheat planted in soybean stubble with or without tillage.
- In corn stubble, wheat planted in tilled ground out yielded wheat planted with no-tillage by a little more than 5 bu/ac. They believe the lower yields with the same factors associated with corn residue as stated above. Any questions?

**John Rowehl, CCA
Dave Johnson, PhD**

No-Till and Soil pH

Surface applications of N fertilizers and manure to corn and small grains significantly lower the pH in the 0-2 inch depth of the soil. It's not uncommon for the surface pH to drop down to 5.1. In continuous no-till systems, this kind of low pH can have a yield robbing affect on crops that follow in rotation. Lower surface pH has been shown to decrease nutrient availability as well as reduce herbicide effectiveness.

The Penn State Agronomy Guide advises to measure the surface pH of the soil with a reliable field pH kit. Collect several cores at less than 2 inches deep from the no-till area and mix thoroughly in a clean bucket. Remove a sample to pH measurement. Simple colorimetric pH kits, such as the Cornell pH Test Kit for Lime Level, are usually the most satisfactory for field use. If the surface pH is less than 6.2, take a standard soil sample for laboratory analysis. Apply the recommended lime as early as possible before planting. If the standard sample does not indicate the need for limestone and the surface pH is below 6.2, apply 2,000 lb/A of calcium carbonate equivalent. This amount should be adequate to neutralize the acidity created by surface applied nitrogen.

Cornell pH Test Kits for Lime Level pH 5.0-7.2 is available from WWW.CSS.Cornell.edu/soiltest/ or by writing to CNAL; 804 Bradfield Hall; Ithaca, NY 14853. The cost is about \$15.00 and the kit includes enough material for many, many pH tests.

Time to Apply Aglime

Spend your first fertilizer dollars on recommended aglime. Despite the fact that low soil pH robs yields from the farmers pocket, correcting low soil pH is often overlooked in the rush to get everything done. Fall is the best time to apply aglime because the soil takes several months to react and adjust to the application of carbonates to lower pH.

Never cut corners by skipping recommended aglime applications. Soil pH affects the solubility of all plant food minerals in the soil. This means that even though your soil report may indicate optimum amounts of P and K, the soil won't release them when they are needed by the crop if the pH is out of whack.

Pay Attention to Calcium Carbonate Equivalent (CCE)

When you receive your limestone recommendation on the soil report, you need to make a liming material conversion to determine the correct amount of aglime you need to apply. Limestone materials vary in purity and carbonate content. The soil test recommendation, however, is for a material that is equivalent to 100% calcium carbonate. If all liming materials were in the pure calcium carbonate form, this conversion would not be necessary. But if the liming material is only 85% pure, the calcium carbonate equivalent would be 85. Aglime is seldom pure because it formed in ocean bottoms and collected clay and silt sediments.

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Check the CCE of the lime material you will apply and use the lime material conversion chart included in your soil report and found in the Agronomy Guide to determine the actual amount of your liming material that is necessary to meet the limestone recommendation on the soil report. For example, if the soil report recommends 4,000 lbs/A of limestone and your limestone has CCE = 85, then 4,700 lbs. of limestone are required to meet the liming requirement recommended on your soil report.

Soil pH: Keep it up!

Recent Penn State studies indicate that in no till fields, it may take up to 9 years to bring the pH of the top 6" to desired levels. Once at the desired level, it is easy to maintain with no incorporation, provided that soils are limed regularly according recent soil test report recommendations.

**Mark Goodson, CCA
Soils**

Where trade names appear, no discrimination is intended, and no endorsement by Penn State Cooperative Extension is implied. Although every attempt is made to produce information that is complete, timely, and accurate, the pesticide user bears the responsibility of consulting the pesticide label and adhering to those directions.

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