



Agronomy Notes

Capital Region

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Capital Region Extension Agronomy Team

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Pest Watch

Alfalfa Weevils

These small green worms will begin feeding toward the end of April. Stands that were left tall last fall should be scouted first, or these offer the most habitat for overwintering stages. Also, scout alfalfa fields on south facing slopes, as they warm earliest. If damage is noted, determine the number of weevils per crown. If more than two per crown, treatment may pay. Refer to threshold tables detailing cost of treatment and cost of crop in the Agronomy Guide. Many products are labeled and will control weevils. Refer to the Agronomy Guide for specifics.

Timothy Mites

Mites will begin feeding heavily by the end of April. Growers with older stands of timothy should scout now and determine treatment. Plan applications of Sevin XLR; 3 pints per acre no later than three weeks after green up are recommended. There is no current threshold. However, if the plant appears drought stricken or otherwise slow growing and if the mite is identified in the field, treatment may be necessary.

Black Cutworm

Moths are migrating north at this time and will follow stream corridors to our area. Once here, they will seek fields with chickweed or other winter annuals to lay eggs. If growers burn down these fields and wait 10-14 days, the larvae will die and no treatment is necessary. However if burn-down is not utilized then a seed treatment, either pyrethroid or in-row insecticide, should be used if planting into weedy fields. Curative treatments may be used if 3-7% (1-2 plants per 17.5 feet of row in 30" rows) of plants are cut and the larvae are less than 1.5 inches in length.

Seed Corn Maggots

Fields that receive manure and are planted into corn or soybeans should be treated with a seed treatment to prevent the infestation of maggots. The adult flies are now laying eggs in manured or green manured fields and can potentially reduce corn or soybean stands by 50%. There are no thresholds and if fields received manure/green or are high in organic matter, a seed treatment is recommended, for rescue treatments are not available.

Powdery Mildew

Wheat stands should be scouted for the presence of powdery mildew and other diseases. If present now monitor the fields and treat if the disease progresses within the top three leaves of the flag leaf.

Calibrate that Sprayer!

Oregon County Educator Research found 86% of sprayers in two counties were in need of adjustment. The most common problem was worn nozzles. One grower lost an estimated \$40,000 from the bottom line due to faulty spray application. Are your sprayer's nozzles worn? Check it out. If you need assistance call Del Voight at 717-821-0699.

Del Voight, CCA
Integrated Pest Management
Lebanon County

Deadline Near for Updating Production Yield Data

The foundation for your protection in most crop insurance plans is your annual yield history. It is critical that yields for each insurance unit are reported to your agent before the deadline. The deadline date for yield updating on

most spring crops is April 29, 2004 (45 days after the March 15 sales closing date).

If you will be farming additional farms in 2004, or will be growing insured crops on farms that do NOT have a yield history data base already established for the crop, or will be using the database of another person sharing in the crop, its recommended that you provide the required yield records to your agent to establish a historical data base for each of these units for 2004.

2003 crop year statistics to date are reflected in the following table:

<i>Pennsylvania Crop Insurance Performance Scorecard</i>	
No. Policies	15,311
Amount of Protection	\$257,174,942
Acres Insured	1,138,186
Total Premium	\$31,891,628
Producers Premium	\$6,681,651
Loss Payments	\$25,388,590
Producers Benefit per Dollar Premium	\$3.80

This was a record in most categories. The loss payments were second only to the \$64 million paid in 2002.

**Gene Gantz, RMA/USDA
(717) 497-6398**

Forage Crop Cutting Height

When a crop is harvested frequently, such as alfalfa, forage grasses or sorghum sudangrasses, the plant depends on carbohydrate reserves (sugars and starches) to support the plant until sufficient leaf area develops to produce carbohydrates to replenish storage amounts.

Think of a manufacturing plant with a warehouse and outlet center. When manufacturing exceeds sales, then excess is stored in the warehouse. When a sale occurs and store supplies are depleted then warehouse supplies are used to meet customer needs. Like a factory owner, a forage producer needs to manage his/her forage stands to maintain plant carbohydrate storage reserves.

Abundant plant reserves allow rapid initiation of new growth. The quicker new growth starts, the sooner the next harvest can occur. Height of cut or grazing can greatly affect regrowth speed.

Knowing where the plant stores its carbohydrates is important. Alfalfa and birdsfoot trefoil store reserves in the tap root. Most clovers have a stem, actually called a stolon that lies on top of the soil surface. This is where clovers store their stockpiles. When harvesting these crops there is no advantage in leaving any stubble, other than to avoid injuring the crowns when mowing.

Grasses do not have stolons or tap roots. Instead, grasses store their reserves in the lowest portion of the tillers, typically the lower 4 inches in tall grasses (orchardgrass) and 2 inches in the shorter cool season species like

bluegrass and ryegrass. In sorghum sudangrasses, this storage area might be the lower 6 to 8 inches. By continuing to harvest grass species too short, the crop will be weakened and regrowth will be slower. Frequently as a result of depleted carbohydrate reserves, the root system will be affected too. Then during dry spells, these plants become more susceptible to drought injury and possibly death.

Sorghum-Sudangrass Cutting Height Study

Last summer, at the Landisville Research Station in Lancaster County, a cutting height experiment was conducted. Two varieties of sorghum-sudangrasses were grown, Mega Green and Summer Queen (a BMR type). Each variety was planted and managed the same. Each variety was cut at a height of 2 inches and 6 inches. Three harvests were made and 50 pounds of nitrogen was applied after harvest.

Total yields ranged from 13,300 pounds (6.6 tons) to 18,327 pounds (9.2 tons) of dry matter per acre. In addition, there was a significant affect on yield caused by height of cut.

Variety	Harvest Height	Total Dry Matter Yield
Mega Green	2 inches	6.6 tons/acre
Mega Green	6 inches	9.2 tons/acre
Summer Queen	2 inches	7.8 tons/acre
Summer Queen	6 inches	8.8 tons/acre

lsd = .9 tons/acre

Take home message: Managing sorghum sudangrass hybrids by mowing at a higher height will produce more forage dry matter.

The same principle of cutting height would apply to other grass type plants. This year as you get ready for first cut, consider your mowing height. Try a few rounds with your mower at different heights to make some visual observations. Remember to manage these stands for long term production and not one harvest.

**Paul H. Craig, CCA
Forages
Dauphin County**

Avoid The Sins of Planting That Will Haunt You All Season

Some of the information in the preceding article was originally written in the Ohio C.O.R.N newsletter

Mistakes made during the planting operation are usually irreversible, and can put a "ceiling" on the crop's yield potential before the plants have even emerged.

Perform tillage operations only when necessary and under the proper soil conditions. Shallow compaction created by excessive secondary tillage can reduce crop yields, especially under drought stress conditions. Deep tillage should only be used when a compacted zone has been identified and soil is relatively dry. Late summer and fall are the best times of year for deep tillage.

It's not when you start planting that counts but when you finish. Your goal is to complete corn planting by the 5th - 10th of May. The more acres you grow, the earlier you need to get started in order to be finished by the optimum planting date. Yes, it's nice to get out and get it done but only if the soil conditions are good. Yield reductions resulting from "mudding the seed in" may be much greater than those resulting from a slight planting delay.

Adjust seeding depth according to soil conditions. Plant from 1-1/2 to 2 inches deep to provide for frost protection and adequate root development. In April, when the soil is usually moist and evaporation rate is low, seed should be planted shallower, no deeper than 1-1/2 inches. As the season progresses and evaporation rates increase, deeper planting may be advisable. When soils are warm and dry, corn may be seeded more deeply up to 2 inches. One risk associated with shallow planting depths is the possibility of poor development of the permanent (or secondary) root system. If the crown is at or near the soil surface, some of the permanent roots may not grow under hot, dry conditions (resulting in the "rootless" and "floppy" corn syndromes). Another potential risk is shoot uptake of soil-applied herbicides. Seeding depth should be monitored periodically during the planting operation and adjusted for varying soil conditions. Irregular planting depths contribute to uneven plant emergence, which can reduce yields.

Adjust plant populations on a field-by-field basis according to the yield potential of a field. There is probably more to lose by not having a high enough plant population in a good year than by having a few too many; even in dry years. If you know what your reachable yield goals are, then here are some guidelines for final stand.

Up to 120 bu/ac	22,000
130-160	26,000
170+	30,000

Add another 2-4000 plants per acre when planted for silage. When planting very early, in cold soils, the seeding rate should be 5- 10% higher than normal. Follow seed company recommendations to fine tune the population for specific hybrids.

One extra seed per foot of row means an additional 75,000 seeds per acre when planting in 7" rows

When is the last time you calibrated your drill for soybeans? Did you know that with 7" rows, one extra seed per foot of row means an additional 75,000 seeds per acre? For full season beans, 150-160,000 thousand plants per acre established is plenty. The following table provides the number needed, based on 85% germination and good conditions to get on target. Adjust upward by 10-15% for no-till or other adverse planting conditions.

<u>Row Width</u>	<u>Seeds/ft of Row</u>
7	2.5
10	3.5
14	5
15	5
30	10

Over-planting as a result of not calibrating is a costly mistake you don't need to make.

John Rowehl, CCA
Grain Crops
Cumberland County

Follow-up to House Bill 1222 Veto Rendell's' 'Comprehensive, Progressive' Solution to Nutrient Management Issues

On March 1, state officials representing DEP, the State Conservation Commission, and the Governor's office met with the "Ag and Community Working Group" (convened by 10,000 Friends of PA) to brief the group on the discussions and decisions following the December 31, 2003 veto by the Governor Rendell of House Bill 1222.

Highlights of the discussion included:

- The Administration is working on a comprehensive plan to address the concerns Governor Rendell had about House Bill 1222. The template being used to guide the agencies in developing the comprehensive plan is in the Governor's veto message. http://www.penweb.org/hb1222_veto.html
- New proposed changes to Pennsylvania's Nutrient Management Act (Act 6) regulations are being finalized. The proposed changes are expected to be published in the *PA Bulletin* within the next 2 months. Publication will begin the 60 - day comment period.
- New proposed state rules for permitting Concentrated Animal Feeding Operations (CAFOs) are being finalized. The proposed changes are expected to be published in the *PA Bulletin* in May 2004. Publication will begin the 60 - day comment period. The proposal will include a new CAFO definition: IN ADDITION to the current Pennsylvania CAFO definition [(1.) Any operation greater than 1,000 Animal Equivalent Units (AEUs); and (2.) Any Concentrated Animal Operation (CAO) with more than 300 AEUs] DEP will be proposing to expand the definition to include any operation meeting the new federal definition of a large CAFO. These new definition involve the use are thresholds that are specific to the individual mature poultry or livestock species.
- Additional legislative proposals may be introduced in order to accomplish the governor's goals for new state policy in this area. Information about the possible focus of these proposals was not provided.
- A plan for public information and participation in the comprehensive plan was not yet under development. There was considerable interest among the Ag and Community Working Group to be part of this process.

Manure Analysis and Manure Application Rates

The main factors that must be considered when determining the amount of manure that can be applied to a field are: the crop nutrient requirement, the manure history of the field, the legume history of the field, any fertilizer that may be applied, the manure nutrient content, and the availability of the manure nutrient.

Often the best and most convenient time to collect a manure sample is when the manure is being removed from the storage and spread. The sample should be representative of the entire material sampled. This may require multiple samples if the consistency of the manure varies significantly within the storage.

- Collect small amounts of manure in a clean bucket from many places within the manure or sample periodically as the storage is emptied. This large composite sample should then be thoroughly mixed and a small subsample sent to the lab for analysis.
- Liquid storages must be agitated before sampling.
- Solid manure samples should include both manure and bedding.
- Fill the sample bottle, obtained at Extension office, leaving ½ inch of air space, label the bottle and fill out the sample information completely and accurately.
- Include a check or money order for the appropriate amount payable to *The Pennsylvania State University*.
- Be sure the sample bottle is securely closed and pack it, the sample information sheet, and your check in the mailer.
- Attach proper postage and mail directly to the lab as rapidly as possible.

The Standard Manure Test 1 of this program provides the minimum analysis needed to develop a nutrient management plan. Test results in this package include total and ammonium nitrogen, total phosphorus, total potassium and percent solids. The cost of Standard Manure Test 1 is \$28. *Standard Manure Test 2* contains all of the analytes in package 1 plus total calcium, magnesium, sulfur copper, zinc, manganese, sodium, iron

and aluminum. Additional analyses are also available. The cost of Standard Manure Test 2 is \$46.

The fact sheet: *Using the Penn State Manure Analysis Report MA-1 (7/02)* can be found at the web site: <http://www.aasl.psu.edu/Agro%20Crops/Manure%20Analysis%20Factsheet%207-02.pdf> This fact sheet describes the information provided on a manure analysis report and provides a Manure Rate Calculation Worksheet for determining application rates of manure.



Mark Goodson, CCA
Soils/Nutrient Management
York County

GPS & Mapping Training

Penn State Cooperative Extension will be offering a training session covering GPS & Mapping. The session will cover the basics of the technology and provide hands-on training in the use of the equipment. Attendees will learn how to map their farms using hand-held computers and GPS units.

The course will be held at the Adams County Agricultural and Natural Resources Center in Gettysburg and begin at 9:00 A.M. and end by 3:30. The course fee is \$25.00 and includes handout materials and morning refreshments, lunch will be on-your-own. For more information or brochure, please contact Lynn Kime, Extension Associate, at 717-334-6271 ext. 313 or by e-mail at lfk4@psu.edu. Class size is limited so please respond early.

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