

Agronomy Notes

Edited by Jeff Graybill & Tina Gross

Capital Region Extension Agronomy Team



Inside This Issue

- Summer Seedings of Alfalfa
- Tillage Erosion-An Unpleasant Surprise
- Crop Insurance Tips
- Cover Crops-Not Just for Cover Anymore

Summer Seedings of Alfalfa

Now is the time to begin planning for summer seedings of alfalfa. Many producers actually favor summer seedings over “traditional” spring seedings. The most common reasons are less weed and insect pressure and the opportunity to make establishment steps when soil conditions are more favorable.

Frequently referred to as a fall seeding, most successful seedings of alfalfa at this time are actually mid to late summer seedings done in early to mid August. Seeding into small grain stubble is the most common establishment practice. However, some late summer seedings are actually reseedings into unsuccessful spring establishments.

Ideally, summer seedings should have 8 to 10 weeks of growth prior to the date of the first killing frost in your area. Seeding too late does not allow the seedling plants to develop adequate root carbohydrates for winter survival. Later seedings can also result in small root systems that may tend to increase the risk of winter injury from heaving before next spring.

Soil moisture conditions at establishment are critical. It is not sensible to plant a seeding if adequate moisture is not available to ensure germination and development of small roots. Base your establishment decisions on existing soil moisture conditions and short term weather forecasts. Because of warmer soil temperatures with adequate soil moisture levels, seeds will germinate and develop much faster than spring seedings.

Summer Seeding Preparation

As soon as possible after small grain harvest, take soil tests to accurately determine recommendations for soil fertility corrections. Correcting soil pH levels and providing adequate levels of phosphorous and potassium are best made prior to establishment. Control of existing weeds prior to establishment is also important. If perennial weeds such as quack grass, hemp dogbane, pokeweed or burdock are present, be certain to apply adequate amount of carrier and herbicides to get optimum control.

No till establishment in summer seedings is preferred if proper seeding equipment is available due to the advantage of soil moisture levels. If tillage will be used to prepare a seedbed, be certain to consider the “fluffiness” of the seedbed. A loose seedbed in summer seedings can significantly reduce germination and establishment. In most, with tilled ground, the use of a cultipacker before and after seeding will be beneficial. Consider what affect tillage will have on existing soil moisture levels prior to seeding. Seed at 12 to 15 pounds/acre and at a depth of 1/4 to 3/8 inch.

Post establishment weed control challenges will need to be monitored. Summer annual weeds will not become well established. However, winter annual weeds such as chickweed, purple deadnettle and many others germinate in September and October and can present significant problems if not controlled. In small grain stubble fields, volunteer small grains can present another weed control issue. There are many options for weed control available. Treat this year, when weeds are small. Controls next spring will be less affective.

Do not harvest late summer stands this fall. Waiting will maximize root reserves, resulting in improved winter survival and rapid plant development next spring. Next spring, manage the stand as you would your other established stands.

Take the time now to start planning for your summer seedings. Review existing weed and soil fertility conditions. Watch soil moisture levels and weather patterns. Like any good Boy Scout – Be Prepared!

Paul H. Craig, CCA
Dauphin County



BETTER CROPS AND PROFITABILITY

grow

PENN STATE



an **OUTREACH**
program of
the College of
Agricultural
Sciences

Capital Region Extension
Agronomy Team
1451 Peters Mountain Road
Dauphin PA 17018
717-921-8803

July 2006

Tillage Erosion: An Unpleasant Surprise (Adapted from Penn State Field Crop News: Vol. 06:04, 2006)

By Dr. Sjoerd Duiker

Until recently, we considered water erosion to be the big threat to sustainable crop production in Pennsylvania. Now there is new information to suggest we had it wrong all this time. Researchers are telling us that tillage erosion is much more important in complex landscapes like ours. Tillage erosion is soil displacement within fields by tillage tools. It is now suggested that tillage erosion is the reason for our clay knobs and rock outcroppings, not water erosion. Tillage erosion moves soil from the top of the field downward, exposing subsoil. After many years the entire top layer of soil is moved downhill, accumulating at the bottom. Tillage erosion also moves topsoil off of knobs and high areas exposing subsoil clays and thinning the soil.

No soil leaves the field due to tillage erosion, but the effects on productivity and increased yield variability can be huge. Exposed subsoil has unfavorable properties for crop growth (50% yield reduction is not uncommon on clay knobs), but still takes the same amount of inputs such as fertilizer, herbicides, etc. Because crop growth is poor, the soil is not protected from erosion, and weeds have a greater chance to become a problem in these areas. Water erosion tends to move more soil at the toe of slopes. So in practice, tillage erosion delivers soil to the lower parts of the slope where it is susceptible to water erosion.

The unpleasant surprise is that many practices that have been promoted to control water erosion do nothing to control tillage erosion. For example, it is suggested that chisel plows cause as much tillage erosion as moldboard plows. Field cultivators can also move substantial amounts of soil. Narrow contour strips, often promoted on steep slopes to control water erosion, are still susceptible to tillage erosion. At the top of each strip topsoil is slowly slipping away, exposing subsoil, while at the bottom of each strip, soil slowly accumulates.

What can be done to limit tillage erosion? The best solution is to eliminate tillage. On most of our Pennsylvania soils, tillage does not result in a yield benefit. So why do it? With the use of continuous no-till systems, tillage erosion can be completely eliminated. If farmers do still need to till the soil, they should eliminate all unnecessary tillage trips, reduce speed, and set the tillage tool to the shallowest depth possible. Plowing on the contour and turning the soil uphill causes the least erosion.

However, this becomes basically impossible if slopes exceed 17%. Other steps to take include running the tillage tool at constant depth and speed. The final solution for tillage fans is to transport topsoil from the depositional areas to cover over those clay knobs and rock outcroppings which have been exposed over time. In all, it seems that this “Unpleasant Surprise” is another important reason to park the plow.

Jeffrey Graybill, CCA
Lancaster County

Crop Insurance Tips

Acreage Reporting DEADLINE

Participating producers are required to file acreage reports with **both** their crop insurance agent (by 7/15 for most spring crops) and at the county FSA office. If there are differences between the two reports, a written explanation is required. Accurate reporting is necessary of the planted and prevented planting acreage for each farm. For late-planted acreage, report the planting completion date by field as it impacts the amount of your protection. Most disappointments at the time of loss claims result from reporting errors. Retain a copy of the signed acreage report for your records.

Crop Damage Reporting Requirements (if a loss is anticipated):

The insurance policies require that **written notice be given to your crop insurance agent** (by crop by unit (farm)):

- Within 72 hours of discovery of damage or loss,
- 15 days before harvest begins, and
- Within 15 days after harvesting is completed but not later than 10/31 for small grains.
- **Don't destroy evidence of damage until a loss adjuster evaluates it!**

Damaged Small Grain

There are risks of weather caused diseases\toxins in small grain. About 2,500 small grain crop insurance policies are in effect in PA and provide some protection against poor grain quality. If your insured grain may have quality damage, contact your crop insurance agent before you begin to harvest (or immediately upon discovery) and ask to talk to a crop loss adjuster to determine how to proceed to obtain maximum policy benefits. If your insured grain has poor quality, the insurance company may require that **two tests** be determined by the Federal Grain Inspection Service (FGIS/USDA) laboratory, a **U.S. grade** and **toxin identification/amount** (i.e. vomitoxin PPM). Be that **both tests are requested** in communications with FGIS.

Forage Seeding Protection Available State-wide for 2007: Forage seeding protection has been expanded to all PA counties except Philadelphia. This policy provides protection of a good stand. On acreage with a poor stand caused by bad weather, payments can range from \$71 to \$192 per acre, depending on your coverage choice at time of enrollment. Premiums generally range from about \$5 to \$12 per acre. Coverage is available for seedings where at least 50% of the seed (by weight) is alfalfa, clover, birdsfoot trefoil or other locally recognized forage legume species. The fall seeding deadline is 8/31/05. **See a crop insurance agent for details before the 7/31 enrollment/contract change deadline.**

Don't destroy evidence of damage until a loss adjuster evaluates it!

PA Premium Discount on 2006 Bills and Protection Summaries: You'll notice the PA premium discount on your 2006 statements. This is the Commonwealth's way of helping to make the higher better performing coverages more affordable...to help you better manage your risk exposures. It's another benefit of farming in PA!



**Gene Gantz
RMA/USDA
717-497-6398**

Cover Crops - Not Just for Cover Anymore

Although cover crops can certainly serve the purpose of protecting the soil from erosion, there are many other roles they can play in enhancing soil productivity and crop production. Depending on the type of cover crop used, other benefits could be added organic matter, added nitrogen to the soil, scavenging excess nitrogen, maintaining or improving soil structure, remediation of soil compaction, reducing surface evaporation and enhancing soil life.

As many successful no-till farmers have shown from experience, cover crops are not necessarily required for no-till systems to work but there are also many successful no-till farmers that utilize cover crops and believe they improve the productivity of their fields.

Cover crop cost share programs are available but first you must determine your goals and then consider which crops(s) will best meet your objectives. Management, from planting to burndown, can be different as well; windows of seeding opportunity, potential pest complications, herbicide selection and timing, seed cost, seeding equipment, soil preparation and residue management. Primary considerations include:

Non-Legumes- (cereal rye, wheat, barley, spring oats, annual ryegrass, sorghum-sudangrass hybrids) In general, these plants scavenge leftover nitrogen from the main season crop or manure application but release it only when they break down in the soil. These can be seeded later than legumes to provide ground cover. Root growth helps loosen topsoil. Seed is readily available, although a supply of rye seed should be secured before fall. With winter grains, you need to be alert to the possibility of damage from cut-worm or army worm. Sorghum-sudan can alleviate compaction deeper in the soil and add large amounts of organic matter but its window of opportunity is limited to the warm season.

Winter Annual Legumes- (hairy vetch, crimson clover). These have the potential to provide nitrogen to the following crop, depending on how much growth they attain in the spring before burndown. They need to be seeded early so they are most suited to fields following a small grain crop. Legumes have a low carbon:nitrogen ratio and do not increase long term organic matter as much. That is not to say that they don't enhance soil tilth. Hairy vetch has limited fall growth and often is mixed with a grass. Seed is relatively expensive. Crimson clover is considered marginal for winter hardiness above the Mason-Dixon line but it has worked for some growers in southern Pennsylvania. It matures earlier than hairy vetch and seed cost is reasonable (And it really looks nice in the spring if you let it go into bloom.) 2,4-D should be added to glyphosate for burndown.

As space limits the degree to which I can delve into all these things, I recommend you utilize the Sustainable Agriculture Research and Education (SARE) resource [Growing Cover Crops Profitably](http://www.sare.org/publications/index.htm). It is available free on-line to download or the book can be ordered at www.sare.org/publications/index.htm

**John Rowehl, CCA
Cumberland County**

Cover Cropping on Your PA Farm - Overcoming the Fears

**August 3, 2006 from 9A-3:15P at the
Holiday Inn, Grantville**

Attend this practical meeting for more information on how to plant and utilize cover crops for reduced soil erosion, extra forage production and nitrogen conservation. **\$20 registration fee includes lunch. Registration deadline is 7/24.**

For more information or to register, contact Jamie Ulrich at the PA Conservation Commission at 814-946-4315 Ext 235.

Calendar Dates

July 6th **Whole Farm Strategies to Balance Nitrogen and Minimize Ammonia Emissions**, Scott Kreider Farm, Quarryville. 9:30A–3P. Registration required. Contact Lancaster Co. 717-394-6851.

July 14th **Cedar Meadow Farm Field Day**, Holtwood, PA 9:30A-3:30P. Discussion will include cover crops, no-till techniques and soil health. Sponsored by Steve Groff Family, Rodale Institute & Penn State. Registration is required by contacting Lisa Crytser at lac8@psu.edu or 814- 865-2543.

July 19th **No-till Field Day**, Milton Hershey School, 9A-3P. NM and CCA credits, Regulatory updates, Manure & No-till equipment. Contact Dauphin Co. Conservation Dist. 717-921-8100 before 7/17.

July 21st **Pasture Walk**, Kevin Balmer Farm, 10A-2PM 7476 Elizabethtown Rd., Elizabethtown, PA. 85 cows on 100 acres of rotational pasture. Topics: Grazing alfalfa and other forages, Pasture soils fundamentals. Free Lunch. Call Tim Beck @ Lanc. Co. Ext. 717-394-6851.

August 3rd **Cover Cropping on Your PA Farm - Overcoming the Fears**, Holiday Inn, Grantville 9A-3P. Registration including lunch: \$20.00. Call Jamie Ulrich by 7/24 at 814-946-4315 X 235.

August 9th **Alfalfa Stand Assessment and Forage Species Establishment**, Landisville Research Center, 10A-Noon. \$20 preregistration is required. Call Lebanon Co. Extension 717-270-4391 by 8/2.

August 15-17th **Ag Progress Days**, Rock Springs, PA. Largest agricultural event in the state. Call 814-865-2081 for specific information.

Capital Region Agronomy Team Members

Paul Craig, Forages Dauphin County phc8@psu.edu	Del Voight, IPM Lebanon County dgv1@psu.edu
Jeff Graybill, Agronomy Lancaster County jsg18@psu.edu	Jere Wingert, Agronomy Franklin County jlw261@psu.edu
John Rowehl, Grain Cumberland County jrowehl@psu.edu	<i>Landisville Research and Extension Center</i> Lancaster County Dave Johnson, Director dhj3@psu.edu

***Penn State Cooperative Extension
Offices of the Capital Region***

Adams	(717) 334-6271
Cumberland	(717) 240-6500
Dauphin	(717) 921-8803
Franklin	(717) 263-9226
Fulton	(717) 485-4111
Lancaster	(717) 394-6851
Landisville	(717) 653-4728
Lebanon	(717) 270-4391
Perry	(717) 582-5150
York	(717) 840-7408

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.

This publication is available in alternative media on request.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 328 Boucke Building, University Park, PA 16802-5901, Tel 814-865-4700/V, 814-863-1150/TTY.

Penn State encourages persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodation or have questions about the physical access provided, please contact the host county in advance of your participation or visit.