



Agronomy Notes

Capital Region

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Capital Region Extension Agronomy Team

Mark Goodson, Editor

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March 17 Penn State Soybean Rust Satellite Downlink

Although most producers and crop advisors are aware of the potential of soybean rust, questions still remain regarding the potential of the problem for this year: the details on controlling the disease, and how we will know if it's in our fields. To address these concerns, some Penn State Cooperative Extension offices around the state will be downlinking a videoconference on soybean rust on March 17th at 7 to 9 pm. Dr. Erick DeWolf for the Department of Plant Pathology will host the workshop along with several other top soybean rust researchers, including some just back from "the front lines" in South America, where soybean rust is a serious issue.

The meeting will feature an update on the status of soybean rust in the Southern states, presentation of monitoring networks and disease forecasts at state and national levels, as well as detailed information about fungicides and application technology.

The workshop will be available by satellite down-link at county offices throughout PA

including: Beaver; Clinton; Cumberland; Erie; Franklin; Huntingdon; Indiana; Lancaster; Lawrence; Mercer; Schuylkill; Tioga; Westmoreland; and York. Space is limited so please contact the county office to preregister. In Lebanon County, a tape of the workshop will be rebroadcast on March 18th 1-3pm.

For information on downlinking this program contact Lori Yearick at Information and Communication Technologies in Penn State's College of Agricultural Sciences at 814-865-6309.

PA Crop Insurance News

Additional Crop Insurance Premium Discounts: PA producers have the benefit of additional crop insurance premium discounts. PA Ag Secretary Dennis Wolff announced in early February that for 2005, the PA Premium Assistance Program, applicable to all buy-up policies, will provide a net producer premium discount of about 10% (slightly less @ 80% and 85% coverage levels). Because of the change in the state law, all of the PA funds apply to Buy-Up premiums, starting with spring crops (crops with enrollment deadlines after 11/30/04). USDA also announced an additional crop insurance premium subsidy (premium discount) for most 2005 spring planted crops with an enrollment deadline 3/15. It provides from 5% to 15% additional discount of net premium, depending on the level of coverage that you buy. The discount schedule is 5% at 50/100 & 55% levels, 10% for 60% & 65% levels and 15% at 70% or higher levels. Its estimated that a grower at 70% level of coverage can get a 25% discount off of the net premium quoted before the two discounts were announced. These discounts are intended to make the higher levels of coverage more affordable, for an increased number of producers, so that they can enjoy higher protection to better manage their production risk exposures.

Crop Loss Payments: The PA 2004 losses paid to producers passed the \$11.4 million mark in late February, which is more than the producer paid premium...in a year of generally record yields. These losses were due primarily to excessive moisture and hail damage.

Producers with the higher levels of coverage (70-85%) are the most satisfied with the program's performance. Over the past 5 years estimates show that PA producers received \$127 million in loss payments in exchange for \$31 million in net premium cost (a \$4 to \$1 ratio).

Finalizing Insurance Plans for 2005 – March 15

Deadline: Production risks will be present...and soybean rust may be a new one. Some suggestions follow:

1. Crop insurance policies only cover un-avoidable losses. Therefore to receive maximum benefits, producers must follow recommended good production practices, of PSU and your county extension office. These include aggressive crop scouting for identification and timely application of prevention or control measures. If you have a production problem, keep good written records of when the problem was identified and your efforts to minimize or control it. File notice of damage with your crop insurance agent (and obtain copy of such notice for your records) when the problem becomes serious enough that it may cause a payable loss.
2. As you think about finalizing your crop insurance plan, first decide your focus. If you are a commercial grain producer wanting, to forward price grain or need bushels for animal feed, CRC usually works best. If you focus on return of variable production costs the lower costing MPCIAAPH yield coverage may be your best choice. In any event, remember that the higher levels of coverage usually perform best!
3. Review your crop insurance options and finalize them with your agent before 3/15. Ask for a printed quote of your final choice including the estimated premium cost (reliable CRC estimates will not be available until after the Feb. average CBOT prices are announced). Also determine if the quote includes all discounts (if not get an estimate of them).
4. Also, remember that the 3/15 deadline applies to enrollment, making policy changes and paying outstanding crop insurance bills to avoid policy(s) terminating for non-payment (which could impact some other USDA program payments).

Contact a crop insurance agent for details before the March 15 deadline! Ask whether the 2005 quote reflects both of the premium discounts!

**Gene Gantz
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Frost Seeding Small Seeded Forages

Around late winter, the subject of frost seeding forages into existing pastures or older thinning hay fields usually is bantered about. It depends who is doing the talking but advocates for and against frost seeding are often quick to speak up. Here are what a few forage producers have mentioned during crop meetings this winter: "I have always been pleased with my frost seedings! If not for one extremely dry spring I think I would have a 100%

success rate." Another individual had the exact opposite feeling. "Just a waste of time and seed, never seem to get nothing but weeds! And my forage stands get thinner the next year." What's a producer to believe?

To be successful with frost seeding, there are certain agronomic principles that need to be followed. The first is why is the existing stand decreasing. Is it over-grazing; poor fertility or low soil pH; insects; diseases or just a poor stand since establishment? Unless these factors are corrected, a new seeding will not prove successful.

Frost seeding is the process of placing seeds on a frozen soil surface and allowing environmental conditions to freeze and thaw the soil to provide seed to soil contact to initiate germination. Seedling roots are very easily desiccated and have trouble penetrating hard, low fertility soils. A pre-frost seeding, lime application is important. Additions of phosphorous and potassium fertilizers may be needed.

Equally important is management of the existing stand prior to seeding. A more open stand that was fall grazed or harvested is more desirable than a thick unharvested stand. The seed needs to get down to the soil surface. Stands that are grazed or harvested late in the fall will regrow more slowly in the spring. This enables seedlings to become established better.

Traditionally, legumes such as red clover and white clover are over-seeded. Grasses, with lighter seeds, are thought to result in less success. By removing existing vegetation in the fall, grass seeds can be deposited on the soil surface.

Seed can be applied using a cyclone seeder, an ATV mounted seeder or a fertilizer spreader. Some frost seeders will follow seeding with a cultipacker. Many have successfully used old conventional grain drills to sow seed under the right soil conditions, ¼ to ½ inch deep. Many like seeding onto a thin layer of snow (<3 inches). Snow helps the applicator see where they passed. Since seed doesn't always distribute equally, many successful frost seeders apply seed in 2 directions.

Seeding rates vary but the notion that only a fraction of the seed is needed at frost seeding since existing stand is there is contrasted by the thinking that extra seed compensates for poor seed coverage and no expense of labor and conventional establishment. Commonly used seeding rates are Orchardgrass – 4-6#/acre; Perennial Ryegrass – 8-10 #, Red Clover – 6-10#, Ladino clover – 2-5#. Too thick of a clover stand may cause bloating concerns.

There is still time to complete your frost seeding this year. The cost is significantly less than conventional seeding and by following agronomic principles you may meet the national success average of 65 to 70%.

**Paul H. Craig, CCA
Forages**

Dauphin County

Testing DON Accurately

If you've been frustrated with your wheat crop the last couple of years, you aren't alone. Weather conditions that favored the infection and development of head scab occurred and resulted in a lot of poor quality grain and low yields. This disease not only prevents some kernels from developing or causes shriveled grain with low test weight but it can also produce a mycotoxin on the grain known as vomitoxin. The technical name for this is deoxynivalenol, called DON for short. When levels of DON in the grain get too high, it can be docked because it no longer meets standards for flour but could be used to some degree in feed where it is of less value. Or it might be rejected completely because the amount is even too high to be safe for feed. The FDA advisory levels are as follows:

Intended Use	DON ppm
For bran, flour, and germ intended for human consumption	1
For grain and grain by-products destined for ruminating beef and feedlot cattle older than four months and for chickens with the added recommendation that these ingredients not exceed 50% of the diet of cattle or chickens	10
For grains and grain by-products destined for swine, and all others animals with the added recommendation that these ingredients not exceed 20% of the diet for swine and 40% of the diet for other animals	5

DON can be measured with various tests. Several different laboratory tests can be done but more recently enzyme linked immunosorbant assay tests, referred to as ELISA tests have been developed and are more commonly used in the grain handling channels because they are relatively inexpensive and quick.

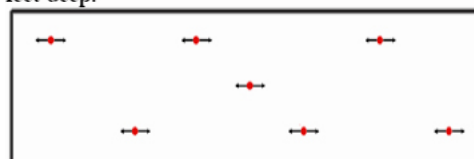
I have heard frustration expressed among farmers who have had loads docked or rejected and understandably so. Questions arise about the validity of test results when a load is rejected at mill and accepted at another. The validity of the test is questioned and disgruntled statements are made about the integrity of those at the purchasing end. While I cannot provide any insight of the latter, I think explaining some facts about detection levels, sampling methods and testing may answer some questions.

The threshold levels, as expressed in parts per million of DON for various uses, are advisory levels, not regulatory levels. A buyer at any point in the marketing chain can be more or less stringent on what they will accept.

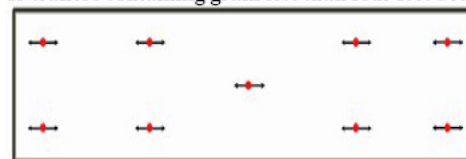
There can be some error in the test depending on the technician performing the test. Based on a USDA study, estimates of variability (standard deviation) within a single lab can be as low as 0.07 at 1ppm and 0.24 at 5 ppm (barley). Differences in results between labs for the same ground sample are several times larger; 0.32 at 1ppm and 0.97 for 5ppm (wheat). Differences can be even greater if technicians are poorly trained, lab facilities are inadequate or if kit components are improperly stored.

But the greatest source of variability is in the sampling of the load. Adequate sampling is CRITICAL. A study at Michigan State showed that when only two probes of a load are taken, vomitoxin levels can be as much as 3.8 ppm different from the actual level of vomitoxin in that load. At least five probes of a truckload are recommended and more is better. The sampling pattern shown is recommended.

Seven probe pattern for flat-bottom trucks or trailers containing grain more than four feet deep.



Nine probe pattern for flat-bottom trucks or trailers containing grain less than four feet deep.



Extensive sampling is more critical for a load right out of the field than one that has had some mixing from being handled before. The sample from probing should be sieved or otherwise cleaned of foreign matter, mixed and then carefully divided to bring the sample size down to the size that will be ground up for analysis.

So I conclude with a question. How are your trucks or wagons being sampled?

**John Rowehl, CCA
Grain Crops
Cumberland County**

Pre-planting Soil Fertility Considerations

Before planting crops this spring, take some time to review field records and correct fertility levels to optimal levels. Some points to consider include:

- Soil pH levels – Any corn field with a pH of less than 6.2 has the potential for lower yields and poorer weed control. The optimum level for soybeans is 6.5. Alfalfa requires 6.8. Correct low pH levels before planting with adequate levels of liming materials. Penn State recommends ground calcitic, or high cal,

limestone to correct soil pH. If the soil test indicates a lime requirement and magnesium is below optimum, dolomitic, or high mag, lime is recommended. DO IT BEFORE PLANTING. IT PAYS!

- Check phosphorus (P) and potassium (K) levels – review your most recent soil test reports. Many producers had high yields in 2004. Higher than normal yields remove higher than normal amounts of P + K from the soil. It's possible soil nutrient levels have fallen below the optimum range for crop production. Don't let last season's bountiful harvest be the reason for nutrient deficiencies this summer. Don't be penny-wise and pound foolish; soil test and apply the recommended P+ K.
- What about starter – Generally, corn starter fertilizer pays for itself seven out of ten years. When soil test levels of P + K are optimum, it doesn't take a lot of starter material to get the desired effect of helping corn grow through colder soils. Remember, no-till fields will warm up more slowly due to the reflective residue mulch on the soil surface. Penn State recommends using a starter on no-till ground. Deciding whether to use a starter on conventional grounds depends on planting date and what kind of year you think it's going to be. Fields planted earlier than the optimum planting date are likely to benefit most from starter.

- Nitrogen – Study after study show that nitrogen applied closest to the time of crop uptake is most efficiently utilized. Put around a third of the crops required N down at planting and apply the remainder when the corn is around 10" to 12". Insurance applications of N really aren't necessary when the N is applied at the right time. Use the savings to buy real crop insurance. Penn State recommends 1.0 to 1.1 lbs. of N per bushel of expected yield.
- Count your manure and crop history credits – When rotating from an 4 year-old alfalfa stand, credit your nitrogen budget 40 lbs. of N. If you are rotating from soybeans, credit your N budget 1 lb. of N for each bushel of soybean yield. For manure credits, at the very least, use book values to determine N contributions for manure applied. Beware that these "book" values are only an average and actual nutrient content can vary 100% higher or lower than book value. For best results, have a manure sample analyzed. Fields with a manure history of 4 or more years out of the last 10 will have nitrogen available from these previous applications. See Table 1.2-14 in the 2005 Agronomy Guide for more details.

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