



Agronomy Notes

Capital Region

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Capital Region Extension Agronomy Team

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Inside This Issue

- Small Grain Variety Test Reports
- Crop Insurance Update
- Estimating Corn Grain Yields
- Round Bale Tying
- Financial Farming
- Alfalfa Fertilization
- Calendar of Events

Small Grains Variety Test Reports

Check the results of our latest variety tests this month on the Penn State Crop Management web page. <http://cropsoil.psu.edu/extension/extension.cfm> Look for the Small Grains Management link under Extension Programs. These are usually available in PDF, sortable tables or Excel document format.

If you want to check out other tests from surrounding states, go the bottom of the page and link to: <http://smallgrains.psu.edu/smallgrainslinks.cfm>

Crop Insurance Update

Double-Check Acreage Report Summary: After you receive your "Summary of Protection" or "Schedule of Insurance" compare it to your completed acreage form to make sure that your reported information was interpreted and transferred correctly. Contact your insurance agent immediately to get any discrepancies corrected immediately, otherwise it could adversely affect your premium bill or claim payment.

Soybean Rust: Make sure that you follow the recommendation of the Extension Service on scouting, and control measures. Keep a good written record on what you knew, when you knew it, Extension Service recommendations and your actions to minimize yield

losses. For more information contact the USDA web site www.usda.gov/soybeanrust.

CRC Popular with Producers in 2005:

Pennsylvania corn producers continue to be strong supporters and benefit from the crop insurance program. This was demonstrated by their purchase of 7,245 policies (47% of PA total for all crops). The most popular insurance plan was Crop Revenue Coverage (CRC) with 3,833 policies (50% of total), 55% of the policies are at the 70-85% levels of coverage, with the largest number at the 70% level.

2006 Enrollment/Policy Change Deadlines: The deadlines are just around the corner to enroll or change existing policies for fall seeded barley and wheat as well as forage production crop insurance protection. **Barley and wheat** can be insured on yield guarantee basis at from 50% - 85% of the actual production history for your farm. Loss payments for yields that are less than the guarantee are paid at up to \$1.85/bu. for barley and \$2.80/bu. for wheat. Poor quality production, below the standards specified in the insurance contract, is accounted for by reducing the number of produced bushels to count in calculation of an insurance loss claim. Wheat can also be insured by the Crop Revenue Coverage (CRC) plan, which provides a combination of yield and price protection. The price elections used to calculate the revenue protection are the higher of the daily closing prices on the CBOT between 8/15-9/14/05 or 7/15-8/15/06. Production is valued at the average daily closing prices for the latter period. The CRC protection provides revenue protection. This the second year that the CRC plan is available in PA. It is very popular with corn and soybean producers too.

The risk in producing these crops is significant as insurance data for last 5 years (2000-2004) shows that about 4,500 barley and wheat policies were purchased by PA producers. These policies provided \$17 million of protection and paid \$1.6 million in crop loss payments or about \$5 in loss payments for each \$1 of farmer paid premium. Ironically, a significant amount of the loss payments were because of poor quality due to bad weather. While the number of policies have doubled, many more producers would have benefited if they would have had this protection.

Forage producers statewide have access to forage production protection. Many have several different plans available to consider. The production coverage (APH) has a **9/30/05 enrollment policy change deadline** and can be used to protect alfalfa or mixtures containing at least 25% alfalfa. This guarantee production plan based on 50% – 75% of the growers actual production history. Yield losses, below the insurance guarantee, are paid at a rate of \$162/ton.

Report crop damage immediately upon discovery. More details on reporting crop damage and coverage on barley, wheat and forages are available from authorized crop insurance agents.



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Estimating Corn Grain Yields

As the season progresses, an estimate of corn grain yield may be helpful in making a decision whether or not to make additional pre-harvest sales agreements.

Several pre-harvest yield prediction methods exist but the **Yield Component Method** is probably the most popular because it can be used well ahead of harvest; as early as the milk stage of kernel development. It is based on the premise that one can estimate grain yield from estimates of the yield components that constitute grain yield. These yield components include

1. number of ears per acre
2. number of kernel rows per ear
3. number of kernels per row
4. weight per kernel.

The first three yield components can be measured in the field.

Since final weight per kernel cannot be measured until the grain is mature and at harvest moisture, an average value for kernel weight, expressed as 90,000 kernels per 56 lb bushel, is used as a factor in the yield estimation equation. Crop uniformity greatly influences the accuracy of any yield estimation technique. The less uniform the field, the greater the number of samples that should be taken to estimate yield for the field.

At each estimation site, measure off a length of row equal to 1/1000th acre. For 30-inch (2.5 feet) rows, this equals 17.4 feet.

1. Count and record the number of ears on the plants in the 1/1000th acre of row that you deem to be harvestable.
2. For every fifth ear in the sample row, record the number of complete kernel rows per ear and average number of kernels per row. Then multiply each ear's row number by its number of kernels per row to calculate the total number of kernels for each ear.
3. Calculate the average number of kernels per ear by summing the values for all the sampled ears and dividing by the number of ears.

4. Estimate the yield for each site by multiplying the ear number by the average number of kernels per ear, then dividing that result by 90. The value of '90' represents the average number of kernels (90,000) in a bushel of corn.

Example: 28 ears (1/1000 acre) X 480 (ave. kernels per ear) divided by 90 = 149 bu/ac.

You can try to improve the yield estimation for unusual grain fill conditions by adjusting the estimation formula. Use a lower value (e.g., 80) if grain fill conditions have been excellent (larger kernels, fewer per bushel) or a larger value (e.g., 100) if grain fill conditions have been stressful (smaller kernels, more per bushel).

Recognize that the yield component method for estimating corn grain yield is probably only accurate within plus or minus 30 bushels of the actual yield.

This article was adapted from Estimating Corn Grain Yield Prior to Harvest by Dr. Bob Nielsen, Purdue University

John Rowehl, CCA
Grain Crops

Round Bale Tying

Recently I received my summer issue of *The Forage Leader*. This is a publication of the American Forage and Grasslands Council (AFGC). For those of you not familiar with this organization I can tell you that they are one of the leading sources of the latest information related to all aspects of forage production. The AFGC has a membership of forage producers, industry representatives and educators. It is education and research oriented. Within most states there are state councils. Here in Pennsylvania, the PFGC is involved in many forage related activities including Ag Progress Days Hay Show; Annual Summer Picnic, Seven Stars; PA Forage Conference, Grantville; informational sections in Lancaster Farming and support of research and demonstrations with Penn State and local forage producers.

Back to the round bales. The magazine reports that Dr. Kevin Shiners, an agricultural engineer at The University of Wisconsin, studied the economic benefits of three types of binding for dry round bales. These included sisal twine, plastic twine, and net wrap. Dr. Shiners considered fixed and variable costs for baling, labor and storage losses.

In the study, net wrap, because it was faster, resulted in 30% more acres baled per hour. In addition, net wrapping dry matter losses in storage were lowest at 7%. Sisal twine losses during storage were 20% and plastic twine losses were 11% in this study. The author noted that net wrapped bales had a better appearance that could affect marketing. It was also noted that net wrapping adds to the cost of the baler and that net wrap costs \$1.00 to \$1.50 more per bale than twine.

Sisal twines have the advantage that they do not need to be removed from the bale when fed. This will affect labor and time during feeding. However this twine held bale shape the least and resulted in higher dry matter losses and market value based on appearance.

Shiners notes that plastic twine must be removed by hand at feeding but that it holds bale shape well which leads to less storage losses. He also notes that plugging of shafts and bearings frequently results from small loose pieces of plastic twine.

Net wrap must be removed prior to feeding. This, plus extra costs, were two hold-backs on net wrapping. This study concluded with the following. "If a producer were to spend 5 minutes per bale removing and disposing of net wrap from 680 bales, it would require 57 additional hours of labor yearly. But the improvement in his net return over sisal twine was the equivalent of paying that labor \$50/hour."

Great information that is very applicable here in PA. There is a lot more to find out about forages. The Pennsylvania Forage and Grasslands Council is a great place to start. Pick up a membership brochure at the Hay Show at Ag Progress Days or contact me and I can supply you with the information, (717) 921-8803 or phc8@psu.edu. Membership in PFGC provides you with automatic membership in AFGC and you will get the publication call *The Forage Leader*.

**Paul H. Craig, CCA
Forages**

Financial Farming Section 125 Plans - Easy as 123

Here's a silly question: How would you like to earn an extra 8-10% profit on your farm without working any harder or buying more machinery? Of course you would, because you look to take advantage of every opportunity to lower expenses or increase farm productivity. A Section 125 cafeteria employee benefit plan can offer one of these opportunities to reduce taxes and increase farm productivity for farmers with employees.

Created by Congress in 1978 and named for its IRS tax code section, a Section 125 plan is an employee benefit plan enabling the farm employer to offer a customized set of employee benefits that can be paid by the employer or the employee (or a combination of both).

The term "cafeteria" suggests the farm employer can offer a "menu" of benefits for the farm employees. The IRS requires that at least two benefits must be offered in the 125 plan, but the employer does *not* have to contribute dollars to the plan on the employees' behalf. By making certain eligible benefits available for purchase by the employees through payroll deduction, the employee's compensation used to purchase the benefits become pre-tax (income and payroll tax). If the employer does choose to pay for some of the benefit cost, the contributions would be deductible and exempt from payroll taxes as well.

The most common benefits offered in Section 125 plans are insurances: Health (including Health Savings Accounts), dental, vision, accident, disability and group

life. A 401(k) plan is the only type of retirement plan that can be offered. In most cases, the farm owner cannot participate in the 125 plan, but family members who are paid employees are eligible to participate.

Now consider some of the tax benefits of implementing a 125 plan. The employer's share of Social Security/Medicare payroll taxes is 7.65% of the employee's wages. The same percentage tax is withheld from the employee's paycheck, for a combined 15.3% FICA tax on every dollar of earned wages. Your employee, by purchasing benefits on a pre-tax (income and payroll) basis through a 125 plan, could save between 17% and 43% of the premium cost depending on their individual tax situation.

Traditionally, a primary farm employee benefit has been health insurance. With the cost of health insurance exploding, many employers can no longer afford to offer this benefit. However, even if the employer doesn't pay any of the premium cost, by offering the employees access to health insurance coverage through a 125 plan, the employee could pay the premiums on a pre-tax basis and the tax savings may reduce their out-of-pocket cost significantly.

A Section 125 plan could be a simple and cost-effective tool to help improve your farm's bottom line and your employee relations as well. If you are interested in learning more about 125 plans, call your tax professional or contact me to discuss your personal situation.

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ALFALFA Established Stand Fertilization Management

High levels of phosphorus and potassium must be maintained in the soil for high crop yields and long-lived alfalfa stands. Determine lime and fertilizer needs by soil test. High alfalfa yields can reduce plant nutrient levels in soil rapidly. **Thus, for top production and stand persistence, annual soil testing is recommended.**

When a soil test indicates the need for fertilizer, topdress after first and/or last cutting. Split applications, one-half in the fall and one-half after the first cutting, may result in more efficient use of fertilizer, especially potash. Recent research suggests that, based on nutrient removal, a 0-1-4 ratio of N-P₂O₅-K₂O is best when high yields are anticipated. If the soil test shows 1 part per million (ppm) or less of boron (B), or if plant tissue has 25 ppm or less B, then topdress with a fertilizer containing at least 2 pounds of B per acre.

It is essential that soil test P and K levels never fall below the optimum range at any time within the forage rotation. Avoid low K syndrome in crop following alfalfa in rotation.

Calendar of State-Wide Events

- **Penn State's Ag Progress Days**, August 16-18, Russell Larson Research and Education Center at Rock Springs
- **Commercial Agronomic Pesticide Applicators and Manure Haulers School**, September 8, 9:30 to 3:30, Register by August 15, Southeast Research and Extension Center in Landisville, Contact Del Voight (717) 270-4391 or Rob Meinen (814) 865-2987
- **Field Diagnostic Clinics**, September 13 and 15, Agronomy Farm, Russell Larson Research and Education Center at Rock Springs
- **PA-DEP No-Till Systems Training**, October 4 – 6, Agronomy Farm, Russell Larson Research and Education Center at Rock Springs Agronomy Farm, Contact Sjoerd Duiker, 814-863-7637 for more information.
- **Keystone Crop & Soils School** (formerly CCA School) October 26 & 27, Holiday Inn, Grantville
- **Keystone Farm Show**, January 10 – 12, 2006, York Expo Center, York
- **Corn, Soybean & Mid Atlantic No-Till Conference**, January 27, 2006, Holiday Inn, New Cumberland

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