

Agronomy Notes

Capital Region Extension Agronomy Team

Mark Goodson, Editor



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Avoid Costly Planting Mistakes

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 is best for deep tillage.

It's not when you start planting that counts but when you finish. For best yields over the long run, your goal should be to complete corn planting by the end of the first week 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.

Is your planter adjusted to operate level? Instructors at planter clinics often point out that one of the common problems they see that affect the performance of a planter is that it is either tipped up or down in relation to the ground level. This affects the relative depth of cutting coulters, seed openers and closing wheels, as well as the trajectory of the seed as it is dropped from the metering unit. Take it out to the field, step back for a look and make an adjustment to the hitch or planter tongue if necessary.

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.

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.

Row Width	Seeds/ft of row
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
Cumberland County**

BETTER CROPS AND PROFITABILITY

PENNSTATE



an **OUTREACH**
program of
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April 2006

Hay or “Haylage” in a Day

The following summarizes some extremely interesting work on producing highest quality forages, as reported by a fellow Extension Educator from New York, Tom Kilcer. For the past few years, Tom has been investigating management of forage crops swath width to maximize the harvest of the highest quality forages. Tom points out that profitability in the dairy industry hinges on both quantity and quality of forages fed.

Investigators note that the quality of the forage that reaches the cow’s mouth is dependant on three factors: when harvest begins, length of harvest and how much quality is lost during harvest. Tom’s work on swath management shows that quality lost during harvest is affected by HOW you harvest hay crop silage.

Tom began by comparing the Net Energy of Lactation (NEL) of a forage crop in the field (0.65 to 0.75 NEL) to fermented samples with NEL of 0.47 to 0.57 NEL. The dairyman’s question should be: Where did this energy go?

The answer is that the energy is lost during the drying process. The longer it takes forage to dry to the ideal moisture content for chopping, the longer the forage is respiring in the field. During respiration, the cut plant continues to use plant sugars contained in the plant cells. Respiration of these cells continues until the plant is fermented as a haylage crop or dried sufficiently as a hay crop. In addition to energy losses, dry matter losses can be significant. How producers manage their hay swath can greatly affect the time of haylage harvest. Producers in Tom’s area of NY and in our region of PA are beginning to use wide swath management to more rapidly shorten the time from cutting to harvest to minimize this period.

The drying rate of hay crops is most influenced by sunlight, which increases the swath temperature and reduces humidity. A full width swath increases the drying surface by 2.8 times. Tom’s trials have shown that moisture reductions from 85% to 60% can be reached in as little as 5 to 7 hours, hence the term Haylage in a Day. The bottom line is that the forage produced with minimal respiration results in higher nutrient content of the forage. Tom’s work found forages with 300 pounds of more milk potential for every ton of dry matter produced.

A dense pile of haylage does not dry. The rate of water loss is dependant on the amount of forage that intercepts sunlight. The greater the forage surface exposed to sunlight, the greater the drying rate than for either conditioning, mixing or turning the mown swath.

Clearly the management of a forage swath can have a huge impact on the rate of drying. Open your hay harvesting equipment to get maximum sunlight interception to get Haylage in a Day.

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

Spring Crop Scouting

Scouting is a process that requires the crop producer to physically view fields to determine the need for action. Proper timing of scouting is critical for pest control before harm is done to the crop. Here are some key thoughts to consider for spring pests.

Alfalfa

Alfalfa scouting efforts should focus on both weed and insect pests. Although weevils have not been a problem in recent years, their activity should still be monitored. Fall applied pre-emergent weed control with Velpar, Sinbar, Sencor, Pursuit or Gramoxone should be assessed now for control to determine the need for additional treatment. Raptor provides a nice solution to many weed scenarios in straight alfalfa. Scouting is critical for new seedlings. A well timed application three to four weeks after seeding can eliminate many weed complications this season.

Timothy

Timothy mites are active right now. Hopefully, you have already been out scouting for them and have determined if treatment is necessary. If you observed a droughty appearance, it is most likely caused by the mite. We were caught last year by spraying too late for this pest. Treatments should occur three weeks after green up, which is about the middle of April in most of the region. A factsheet is available from your county Extension office on what to look for and how to properly control the pest.

Small Grains

Diseases from a cool wet spring can severely impact small grain yields. Dr. Erick Dewolf identified the presence of rust in the fall, which may have overwintered and be present this spring. As small grains move into GS 5, it is imperative that growers determine the presence and movement of disease up the plants leaf system from ground to top to determine the need to spray. Refer to the Agronomy Guide for specifics on how to properly determine the need to treat for these diseases.

Cover Crops

Cover crops grown to hold soil and provide residue to aid in weed control for early planting should be burned down with a spray sooner rather than later. In many cases, especially with rye, waiting too long can interfere with proper planter operation and stands. Scout fields now to determine the best time to spray. Also, watch for cutworm moths that typically migrate in mid April. If you suspect an infestation, treat by burning down and waiting two weeks. The larvae will die due to lack of food source and a pest problem can be avoided in that field.

Corn

Be sure to pick up the right seed for the right field and match it to the complexity of the pest. I expect this year to be especially confusing due to different rates of seed treatments, Bt events and other hybrid delivered technologies.

**Del Voight
Lebanon County**

CROP INSURANCE NEWS

Deadline Near for Updating 2005 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, 2006 (45 days after the March 15 sales closing date).

If you will be farming additional farms in 2006 or will be growing insured crops on farms that you 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, it is recommended that you provide the required yield records to your insurance agent to establish a historical data base for each of these units for 2006.

Since most 2005 yields were pretty good, make sure that you have good written records for each crop unit. Keep in

mind that APH yields are subject to spot check. And if you are selected, you want to make sure that your written records are acceptable to adequately support your good yields. If you have questions on record requirements, contact your crop insurance agent.

Report Crop Damage Promptly

If you suffer winterkill damage on insured winter wheat or barley, be sure to file a report of damage with your insurance agent immediately upon discovery (ask agent for copy of the damage report to the insurance company, for your records). DO NOT destroy the evidence of acreage with winterkill damage until authorized in writing by a loss adjuster.

Gene Gantz
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PA CROP INSURANCE PERFORMANCE - ALL CROPS 1995-2005								
	Total	Protection		Total	Farmer Paid	Losses Paid	Farmer	Benefit per
Year	Crop	In Force	Acres	Premium	Premium	to Producers	Benefit per	\$1 of Total
	Policies	(\$)	Insured	(\$)	After PA Sub.	(\$)	\$1 of Premium	\$Premium
95	10,745	72,142,405	735,058	4,760,689	1,448,607	5,215,273	3.60	1.10
96	8,500	74,754,880	594,729	5,370,601	1,891,539	2,798,147	1.48	0.52
97	7,094	76,761,707	558,883	5,146,381	1,862,749	9,558,588	5.13	1.86
98	6,064	79,456,733	519,681	5,575,329	2,300,937	5,358,217	2.33	0.96
99	7,005	110,996,708	609,052	6,863,407	2,323,363	22,470,052	9.67	3.27
00	11,602	162,210,837	941,218	11,681,648	3,931,058	6,474,594	1.65	0.55
01	11,822	186,790,076	978,658	13,962,714	3,854,986	18,176,779	4.72	1.30
02	13,985	222,088,649	1,119,972	19,010,537	5,732,528	63,841,658	11.14	3.36
03	15,265	258,382,174	1,144,492	32,055,728	7,003,514	27,574,951	3.94	0.86
04	16,195	283,542,432	1,173,731	32,621,875	10,614,562	14,946,336	1.41	0.46
Prelim. 05	15,286	249,845,545	1,117,106	29,843,064	8,709,232	14,634,677	1.68	0.49
2000-04	68,869	1,113,014,168	5,358,071	109,332,502	31,136,648	131,014,318	4.21	1.20
1995-04	108,277	1,527,126,601	8,375,474	137,048,909	40,963,843	176,414,595	4.31	1.29
1981-04		1,769,903,745	10,005,483	155,076,528	54,351,102	201,554,360	3.71	1.30
PA provided about \$12 million to reduce producers premium cost (2000-2005)								
Source: RMA/USDA as of 7/19/05			2005 as of 3/06/06			Estimates for educational purposes		

Capital Region Field Extension Education Lab Offerings

All labs held at the Southeast Research & Extension Center, 1446 Auction Rd, Manheim

Wednesday, April 12 * 10am – Noon
Small Grain Mgmt. / Alfalfa Weed Mgmt.

Wednesday, May 10 * 10am - Noon
*Corn & Soybean Stand Assessments and
Pest Decisions*

Wednesday, June 7 * 10am - Noon
*Post Herbicide Selection / Nitrogen Mgmt /
Forage and Hay Selection*

Wednesday, August 9 * 10am - Noon
*Alfalfa Stand Assessment and Forage Species
Establishment / Seasonal Moisture Status Hybrid Selection*

Registration is required one week prior to class! Cost is \$20/session per person and must accompany registration. For registration form or for more information, call the Lebanon Extension Office at 717-270-4391.

Goodson Leaves Extension

My first day on the job at Penn State Cooperative Extension in York County as a member of the Capital Region Extension Agronomy Team was on July 19, 1999. It was also the same day Pennsylvania's governor declared a state-wide drought emergency. Immediately, my phone started ringing, the e-mails started coming and I got to know a number of producers and professionals in the region while working in my program area of soils and nutrient management. Since then, I've worked at promoting agronomy programs such as no-till and nitrogen management for producers, worm composting kitchen scraps for 4-H and youth, and pasture management for recreational horse owners. I have also co-chaired York County's senior Envirothon soils education program, edited this newsletter and delivered a healthy dose of pesticide education to anybody needing "points."

I expected to be a Penn State Agronomy Educator forever. I have enjoyed applying Extension education methods and found pleasure in working in your fields and selling you

Agronomy Guides. But my passion for no-till has led me in a different direction.

So starting April 2, 2006, I will begin working as an Agronomist in the state office of the USDA Natural Resource Conservation Service (NRCS). The NRCS is very supportive of the transfer of no-till production technology to producers across the Commonwealth. My work over the past few years of promoting no-till activities, helping develop the Pennsylvania No-Till Alliance and other related involvement has made me a good fit as an agronomist for NRCS.

Although I will no longer be housed at the Extension office in York, I will continue to be engaged in agronomy programs in the region and across the state. Hopefully we'll continue to visit with one another at field days, farms shows, winter meetings and conferences for years to come. It's been a pleasure working for you.

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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.

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