



# Agronomy Notes

## Capital Region

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Capital Region Extension Agronomy Team

Mark Goodson, Editor



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## Tuning Up Your Mower-Conditioner

Advances in forage harvesting equipment have greatly assisted the rapid cutting and conditioning of the crop. Operating speed and width of cut are the foundation of high productivity. The introduction of disk-cutting bars has significantly increased the operating speed compared to sickle bar type mowers.

One issue of operating disk mowers is the fact that care must be taken to ensure that the cutting angle does not result in cutting injury to alfalfa crowns. The fact that this type of machine can easily handle higher harvest volume results in very limited hesitation or plugging when scalping is occurring. Recall from last month's article that cutting height can significantly affect forage grass production. Recommendation- cut alfalfa just above the crown height and grasses at 4 inches to ensure rapid regrowth.

Another factor ag engineers note is that disk mower knives must be regularly checked for dullness and wear. Disk mowers will cut even when knives are extremely dull, resulting in a "ragged" cut. Agronomists point out

that this raggedness often leads to plant health problems later in the production cycle.

### Conditioning

On the outer layer of plant leaves and stems is a "waxy" layer that prevents internal plant moisture from being removed from the plant during the growing process. The plant has stomates on the leaf surface that regulate this process when the plant is growing. Upon harvest, this "waxy" layer works to limit the rapid dry down of the crop. Mowers have incorporated conditioning systems to crack, split or scratch this layer.

One type of conditioning system uses intermeshing rolls to bend and crush plant stems. With all machines, the proper set up of these rolls is critical for optimum performance. The gap or clearance between intermeshing rolls is important. Too great of a clearance and the stems pass through without any crushing. Too small and leaves will be removed, in addition to excessive roller wear and plugging.

Roll clearance for effective alfalfa conditioning needs to be set and maintained at 0.060 (1/16) to 0.090 (1/32) inches to achieve effective conditioning. Check your operating manual for additional references and the procedure to make this adjustment.

The following procedure can be used to measure your roll clearance gap. First, ensure safety by shutting off your tractor engine and disconnecting the PTO. Next, lower the cutting platform to ensure the rolls are at operating conditions.

### Procedure:

1. Cut 3 pieces of aluminum foil 18 inches in length.
2. Form three separate rolls by wrapping a foil strip around a rod or dowel that is 3/8<sup>th</sup> inch in diameter. Then slide the roll off the rod taking care not to crush the foil roll.
3. Place one foil roll in the center and the two other rolls about one foot from each end of the conditioning rolls. Place the foil rolls perpendicular to the roll.

4. Make sure cutting platform is lowered and turn the conditioning rolls over by hand until the foil rolls come completely through.
5. The rolls will crush the foil and minimum roll clearance can be determined with a caliper. Take several measurements along each foil roll and determine an average. Take the measurement where the smallest clearance occurs.

Harvesting highest quality forages depends on many factors. Ensure that you have taken all steps to limit manageable conditions that could negatively affect your harvest and then hope Mother Nature cooperates.

Reference: Kevin J. Shinnars, Professor of Agricultural Engineering, University of Wisconsin

**Paul H. Craig, CCA  
Forages**

## Slug Update

Slug population densities were moderate to heavy in many fields in the fall of 2003, suggesting that spring populations will be high. While sampling for slug eggs last week, many fields were found with numerous eggs. In a few fields, eggs were found in every location of the field we checked, while in other fields, we found very few eggs. Corn and soybean growers who have had problems with slugs in the past should scout their fields. Over the next few weeks, they should check numerous spots in their fields. Slug eggs are usually laid in batches of 3-5 and are found just at or slightly below the soil surface. Growers should move crop residue aside in an area about a foot square, and scrape the soil with a small knife or other instrument. The eggs will be round, slightly smaller than a BB, and usually clear to slightly opaque (see picture at <http://entomology.osu.edu/ag/slugegg.htm> ).



**Figure 1: Cluster of 3 slug eggs at center of photo**

Although we do not have thresholds as to what represents an economic problem, finding eggs in the majority of locations suggests a potential problem and a field that needs to be monitored closely. However, not

finding any eggs is not a reason to forget that field. All no-till fields should still be monitored this spring for slug injury. However, egg sampling and knowing which fields have a higher damage potential will aid you in managing your slugs this spring.

The majority of eggs will hatch sometime in the first three weeks of May. It's juveniles from that hatch that have the greatest damage potential. Anything you can do to help your corn and beans outgrow the slugs will be helpful. Follow these rules in fields where slugs might be a problem. 1. Plant early. 2. Get corn out of the ground fast. 3. Scout seedlings. Row cleaners (to help the soil warm) and starter fertilizer (to boost early growth) come to mind. When scouting damaged crops, look at the trifoliolate of soybean and the new leaf in the whorl to determine extent of injury.

Five to eight slugs per corn plant is enough to take the plant out quickly. Deadline M-P (mini-pellets) manufactured by Amvac is labeled to control slugs at 10 lbs. per acre. Ron Hammond of Ohio State notes that he has never seen a well-timed and well-applied slug bait treatment fail. The key to a well applied, timely application is to distribute the baits evenly, four to five pieces per square foot. This requires a spinner spreader mounted on the back of a 4-wheeler or something similar. You can expect control of slugs 24 to 48 hours after application

This article was prepared with input from Bruce Easley and Ron Hammond of Ohio State.

**Mark Goodson, CCA  
Soils**

## Spring Tips to Maximize Crop Insurance Benefits

Update:

- PA leads the Northeast with new sales; increase of 859 additional policies.
- 2004 preliminary policy counts @ 16,147, up from 15,288 in 2003 (7,005 in 1999).
- Largest 2004 increase is in CRC policies; +703 new policies.
- 2003 crop loss payments have passed \$27.2 million.

Deadlines:

Acreage reporting deadlines for early seeded crops:

- GRP Forage Production - 5/15
- Oats - 5/31
- Green peas - 5/31
- Spring Forage Seeding - 6/01
- Early cabbage - 6/05

Other Issues:

Notify your crop insurance agent immediately and ask what you are required to do if:

- You add additional land to your operation on which you will be growing insured crops in 2004.

- You have one or more newly seeded acreage failures and need to replant (you may be eligible for a replant payment).
- You are prevented from planting an insured crop by the final planting date (you may be eligible for a prevented planting payment). Note: Some prevented planting rules have changed for 2004. If faced with prevented planting, double check the new rules before you take action.

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

## **Do You Need To Get Your Wheat Spraying On Track?**

It's May and you are out scouting around your wheat fields looking for signs of disease. You probably see some powdery mildew; we see at least a little bit every year. Right now it doesn't seem to be too bad. But then you come back in a week and the weather has been damp and cool. Now it looks like the disease has gotten worse. Pretty soon the wheat will be at the stage when the flag leaf is beginning to emerge. You need to decide if a fungicide should be applied. "Well, maybe I should spray", you say to yourself. Then the other voice inside says "Do I really want to run my sprayer through this wheat? That's going to leave tracks and there will be green heads when I combine".

Have you found yourself in this situation? There is a way around it, one that many farmers in Virginia have found works for them. They create "tram lines" in their wheat fields as they plant. By leaving sets of rows unplanted in a systematic way to match up with the wheel spacing on their sprayer, they create tracks to drive on whenever they need to spray their field so they don't run over rows of wheat.

Leaving out these rows does not reduce yield. The rows on either side of the gap will take advantage of the space and compensate for the missing row. They do not believe they have yield reduction resulting from the trams there as long as they are spaced no closer than every forty five to fifty feet. The trick then is to have a sprayer set up so that the width of it is a multiple of the width of the grain drill. Then as they plant across the field they create the tram line every so many passes. For example if you had a ten foot drill and a fifty foot sprayer, you would plant two passes, block the rows to make the tram on the third pass and then plant with all the rows for four more passes. On the fifth pass you block the rows to make the tram and so forth on every fifth pass.

How do you set up a drill to block off the rows as needed? Last fall when I went down to Virginia to observe their planting systems, I saw one that worked by electronically controlling clutches on the fluted feed, automatically closing them off when the time came. This cost a couple thousand dollars. But I also saw another setup that consisted of some flat plates welded to a half inch rod that the farmer slide across inside the drill box

by hand as he came to the points in the field where the tram was to be made. So it is possible to get set up to make tram lines fairly simply and inexpensive if you want to try it out. They told me in Virginia that of all the farmers that tried using the tram line system, not one has given up using them.

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Growers I visited said that with tram lines, in conjunction with a no-till system, they can always get across the field when the time is right to make an application of their chemicals or fertilizer, no matter what the soil conditions are. And they make multiple trips across the field depending on what their high yield wheat management techniques call for. With tram lines, they can spray at night if they need to, without any guidance system. As one farmer said in reference to using foam markers, "my tram lines have never frozen up".

This same system could be used for drilled soybeans. The same tracks could be followed in the field so there is controlled wheel traffic, reducing the area of the field compacted. In addition to post-emergence weed control application; there may be additional spray trips for spider mites. In the future, we may see more need to spray soybean aphids or perhaps someday even soybean rust which is predicted to find its way to the U.S.

So how often do you hesitate to spread fertilizer too early because the ground is frozen or you just don't want to run down taller wheat? How many times did you pass up spraying for disease for the later reason? Maybe it is time to catch the tram and get on track. Let me know if you're interested.

**John Rowehl, CCA  
Grain Crops**

## **Protect Your Horses Against West Nile Virus**

Many horses are infected each year in our region by the West Nile virus. About one third of infected horses die. Mules can also get the disease.

The vaccine, West Nile Innovator®, has proven effective in protecting horses and mules. Each year West Nile disease has been showing up earlier in the summer. The first reported horse case here in 2003 was in early July.

Now is the time to vaccinate before spring work gets into full swing. Remember that you only get full protection two weeks *after* the second dose. The vaccine must be administered by a veterinarian.

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## 2004 Capital Calendar

### May

No-till Field Day - May 26, Dick Kreider Farm, Lebanon County. For more info, call 717-270-4391.

### June

Small Grain Field Day - June 8, Landisville, Lancaster County. For more info, call 717-653-4728.

Farm Safety Day Camp - June 19, Georgetown, Lancaster County. For more info, call 717-468-5074.

### July

Amish No-till Field Days - July 1, Whitehorse/Gap, Lancaster County. For more info, call 717-840-7408.

Agronomy Industry Field - Day July 8, Landisville, Lancaster County. For more info, call 717-653-4728.

Amish No-till Field Days - July 9, Peach Bottom, Lancaster County. For more info, call 717 840-7408.

Building Healthy Soil Field Day - July 16, Rodale Institute Lehigh County

Weed Field Day - July 16, Rock Springs, Centre County. For more info, call 814-865-6541.

Crop Diagnostic Clinic - July 21 & 22 Rock Springs, Centre County. For more info, call 814-865-6541.

Greenhouse Growers Field Day - July 28, Landisville, Lancaster County. For more info, call 717-653-4728.

### August

Ag Progress Days - August 17-19, Rock Springs, Centre County. For more info, call 814-865-6541.

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