Penn State EXTENSION
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Agronomy Notes

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Capital Region Extension Agronomy Team

grow BETTER CROPS AND PROFITABILITY

PENNSTATE

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Inside This Issue

Short Season Forage Crops

How things change so rapidly. Throughout May, many forage producers commented about how the weather had provided ideal conditions for harvest of outstanding forages. Atypically, the rain-free May enabled timely harvest without the risk of rain damage or harvest delay.

Unfortunately, this rain-free period also set the stage for a significantly short forage crop and has resulted in the drought conditions we are experiencing at this time (6-11-07). Perhaps an article on drought and forages will result in a complete turn around by the time this newsletter is mailed.

The question facing many forage producers is what to do now to address the potential for shortages of forages. One alternative, nearing the end of the possibility for incorporation by early July, would be the sorghum sudangrass hybrids. Typically, these warm season annual forages are planted starting in mid-May. By early July, a significant yield reduction compared to planting in May would occur but with adequate moisture and nutrients, 2 cuttings could be attainable.

Another forage alternative would be the use of summer seedings of oats for fall harvest. In recent drought years, many dairymen have sown oats into barley and wheat stubble. Other livestock producers have no-tilled oats into old hay fields or pastures for emergency forage production.

Spring oats can be planted any time this summer if soil moisture is sufficient for germination and development. Many growers will use bin-run feed oats after they complete a germination check to test for seed viability. Seeding rate is 3 bu/acre.

Soil fertility is critical for optimum forage production. Applying 60 pounds of nitrogen is recommended. Many dairy and livestock producers will apply pit manures to fields prior to planting.

To minimize the loss of existing soil moisture levels, no till is preferred over conventional tillage. Staggered plantings will spread out harvest and reduce the risk of unfavorable growing and harvest weather. Oats need about 90 days to reach harvest so many areas can sow until mid-August. Harvest is targeted for the soft dough stage of the crop. Yields can approach 2.5 to 3 tons of dry matter per acre. Hay making of oats will be out of the question; however, silage harvest, baleage or grazing can be used. Oats tolerate fall frosts but will freeze out over the winter.

Brassicas, turnips, kale and rape are other crops to consider in a grazing situation and are considered high yielding, high quality and fast growing grazing crops. They are 85 to 95% digestible and can be an excellent source of crude protein. These crops need 90 days to reach maturity. Brassicas are very small seeded and extremely slow to develop in the seedling stage. This requires strict attention to seeding depth (shallow, ½ inch) and excellent pre-establishment weed control. Apply 75 pounds of nitrogen at planting to ensure optimum development.

Another forage crop to consider would be annual ryegrass. This cool season grass establishes very rapidly and produces highly palatable and digestible forage. Planted in late summer, August – September, annual ryegrass will provide fall grazing and then a high yielding forage grass early next spring. Apply 50 to 75 pounds of nitrogen at planting and then additional topdressing next spring at green up.

Take time now to inventory your forage supplies. Make adjustments to your feeding program now to stretch limited supplies and consider using these forage alternatives to meet your forage needs.

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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 because 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, particularly if there is rainy weather. About 2,100 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 during harvest) and ask to talk to a crop loss adjuster to determine how to proceed to obtain maximum policy benefits.

Forage Seeding Protection Available Statewide for 2008

Forage seeding protection is available in 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 as much as $71 to $193 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 7/31/07. **See a crop insurance agent for details before the 7/31 enrollment/ contract change deadline.**

PA Premium Discount on 2007 Bills and Protection Summaries

The PA premium discount will be noticeable on your 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! CRC policies account for 62% of corn and soybean buy-up crop insurance policies in PA. **Producers with CRC already know their minimum gross revenue per acre!**

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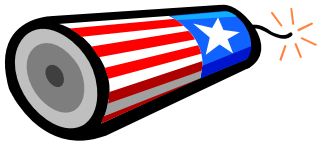

Spray a Fungicide on Soybeans?

Over the last several years, you may have heard about spraying fungicides on soybeans to enhance yield, even in the absence of soybean rust. To gain a better understanding, on-farm trials were conducted by Penn State in 2005 and 2006 to evaluate the effectiveness, yield and grain quality response of foliar fungicides applied to soybeans.

The comparison made was Quadris versus no Quadris. If there was significant soybean aphid pressure in the field, Quadris plus Warrior was compared to Warrior applied alone. Warrior is an insecticide labeled for soybean aphid control. Penn State Extension specialists coordinated the test with several local Extension educators who worked directly with the farmers interested in trying this in their own fields.

Full field scale soybean plots were sprayed at the R3/ R4 growth (early to full pod) stage using grower or custom applicator equipment. Studies were located in York (1 site), Cumberland (1 site), Lancaster (1 site), Lebanon (3 sites) and Centre (2 sites) counties in 2005 and at all of the sites except one in Lebanon Co. in 2006. Soybeans were harvested with the growers combine equipped with yield monitors or using portable scales. The yields reported were determined from the area of the plots not damaged by the sprayer tires.

In 2005, the average yield increase due to Quadris application was 3.5 bu/A with a range of -0.1 to +7 bu/A with more response in the southern PA counties than in Centre Co. Foliar disease pressure at most locations was low, but Quadris did tend to provide some control. There was no effect on height, protein or oil but there was a slight increase in seed size.

Based on 2005 prices (about $5/bu) a grower would need a yield increase of at least 4 bu/A to pay for fungicide and application costs (about $20/A). In our studies, four of the eight sites met this threshold. The data is consistent with other research across the US.

In 2006, the average yield increase due to Quadris was 4.1 bu/A with a range of -.5 to +17.3 bu/A. The high response in Quarryville (Lancaster Co) accounted for the higher overall average difference. The field was in the second year of no-till and had high disease pressure (frogeye leafspot). Disease pressure was much lower where Quadris was used. (Other fungicides (Headline, Folicur, Laredo, and propiconazole) were also tested at this site with similar results.) Again, there was no effect on crude protein or oil content at any site but there was an increase in seed size.

Soybean prices during the 2006 harvest season were similar to 2005 (about $5/bu). At this price, only one site out of five (Quarryville) gave a positive return on investment. Prices in early 2007 are significantly higher ($7/bu), so only 3 bu/A yield increase would be necessary. However, at this price only the one site would have provided a positive return.

Both 2005 and 2006 tended to have dry weather in August, the most important month for pod filling in the soybean growing season. Presumably, soybeans would be impacted by foliar diseases during this period. There may have been more instances of positive economic benefit if there had been more precipitation in July and August, when foliar disease would be expected to be more prevalent.

As mentioned above, one factor not addressed is the effect of running plants down with the sprayer tires. At the York Co. location in both years, we harvested soybeans from the area of the sprayer wheel tracks and found a loss of approximately 2-3 bu/A from within a 20-foot combine pass. Since a 60-foot spray boom was used at this location, actual field losses would be diluted to approximately 1 bu/A (2-3%) caused by damage from the sprayer wheels.

Studies in Indiana (Shawn Conley, Purdue University) have shown as much as 5-6 bu/A yield loss in the wheel tracks compared to no wheel tracks in drilled soybeans. This translates to yield losses of 1% (120-foot spray boom) to 7% (30-foot spray boom) across the entire field.

If you would like to have a complete report of this test, please contact me.

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2007 PA Soybean Yield Contest

Do you think you are a top soybean manager in your county? Enter the contests and find out! It's enjoyable, quick and painless! It also allows you to pass some of your tips on to other producers.

Contact your local Extension Office for an entry form or visit **http://cornandsoybeans.psu.edu/**
Entries are due August 31st.

Bean Leaf Beetle – Emerging Pest

Bean leaf beetles have been recognized as a potential pest of soybeans for some time and we have seen increasing populations in southeastern PA for the past several years. With the mild winter, we may see increased levels of overwintering beetles. Feeding on emerged soybeans should be visible soon. The beetles can cause defoliation and stand reduction, which can impact yields. In some cases, the beetle can also transmit the bean pod mottle mosaic virus, which can also cause yield loss and cause green stems in mature soybeans at harvest

Identification

Bean leaf beetles are typically yellow and can usually be distinguished by four quadrangular, black marks on their wing covers. However, they are frequently without markings on the wing covers and range from red to yellow. The most reliable character is a small, black triangle between the "neck" and wing covers. This marking is always present and distinguishes the bean leaf beetle from other beetles in soybeans. For detailed pictures visit:
http://www.ent.iastate.edu/imagegal/coleoptera/beanlb/beanleafbeetle_composite.html

The bean leaf beetle can be confused with some other spotted beetles found in soybean, such as the twelve-spotted lady beetle, the multicolored Asian lady beetle and the spotted cucumber beetle. For detailed pictures visit: http://www.ipm.iastate.edu/ipm/icm/2002/5-20-2002/ladybean.html

Life Cycle

Bean leaf beetle adults overwinter in PA. Survival is greatly effected by below freezing temperatures. In an Iowa State University study, beetle mortality ranged from 41 to 95% depending on the severity of the winter. They determined winter severity is best predicted by an index of degree days below a base temperature of 32F from October 1 to April 15. No data is available for PA, but it is likely the index would be low following this past winter and overwintering populations should be high.

The beetle has two generations per year in PA. The second-generation beetles, which emerged from the soil to feed on pods last fall, spend the winter in hibernation, then attack seedling soybeans in the spring.

The females of this generation lay eggs in the soil that develop into first-generation beetles that emerge in late June and July. These adult populations usually peak in the late vegetative or the early reproductive soybean stages, whereas the second-generation adults peak during the pod-fill stage. The feeding by first-generation beetles on soybean leaves seldom results in economic yield losses, but the second-generation feeding on pods in late summer can be very significant.

Scouting Considerations

The earliest planted and germinated soybeans will be the most attractive to overwintering beetles. For this reason, those fields must be priority. In Iowa State research, bean leaf beetle populations often begin to appear in early to mid May, peak in late May and then decline in mid-June.

Penn State recommendations are to treat if 20% of the plants are cut and the stand has gaps of 1 foot or more; **or** if at least 1 seedling per foot of row is destroyed. The Iowa State economic threshold for VC (cotyledon stage) stage soybean with a $5/bushel soybean cost and a $10 per acre treatment cost would be four beetles per plant or 30.4 per foot of row. At V1 and V2 the thresholds increase to 6.2 and 9.8 beetles/plant. Populations this large are rarely seen.

If bean pod mottle virus symptoms have been observed, lower threshold levels and more aggressive treatment may be warranted. This article from Iowa State describes management recommendations for bean pottle virus: http://www.ipm.iastate.edu/ipm/icm/2002/5-6-2002/blbearlyman.html
Bean leaf beetle populations can also be reduced with Cruiser seed treatment, which is now labeled on soybeans. I have confirmed bean mottle virus in Lebanon Co. and suspect wider spread throughout the region.

Management

If above threshold levels of bean leaf beetles are observed, consider treating using the following guide.
PSU Agronomy Guide insecticide recommendations for control of bean leaf beetles in soybeans:

Insecticide	Amount/Acre	Harvest Interval (Days)
Ambush 2EC*	3.2-6.4 ounces	60
Asana XL*	5.8-9.6 ounces	21
Dimethoate*	1.5 pints	5
Lorsban 4E*	1-2 pints	28
Mustang*	3.0-4.3 ounces	21
Penncap-M*	2-3 pints	20
Pounce 3.2EC*	2-4 ounces	60
Sevin	formulas vary	0
Fury	3-4.3 ounces	21
Baythroid 2E	1.6-2.8 ounces	45
Larvin	18-30 ounces	28
Neemix 4.5	See label	12
Warrior/ ProAxis	1.92-3.2 ounces	45

*Note: If a seed treatment containing Nicotinoid compounds (Cruzer, Poncho, Gaucho) are utilized, these products are providing control in research plots of the overwintering populations.

Summary

Be on the lookout for the first generation of beetles in fields that emerged in the spring and had signs of leaf feeding. If levels are above threshold, consider control options. Also watch for symptoms of bean pod mottle mosaic virus, which mimics dicamba drift injury.

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