



KENTUCKY PEST NEWS

ENTOMOLOGY • PLANT PATHOLOGY • WEED SCIENCE

On line at - <http://www.uky.edu/Agriculture/kpn/kpnhome.htm>

Number 914

April 30, 2001

TOBACCO

- Impregnation of tobacco herbicides on dry bulk fertilizers
- Variegated cutworms in tobacco float beds

CORN

- More cutworm reports
- Identification and postemergence control of broadleaf signalgrass in corn

SOYBEANS

- Soybean sudden death syndrome (sds) as related to planting date

FRUIT CROPS

- Fruit disease observations and management
- Plum curculio

SHADE TREES & ORNAMENTALS

- Eastern tent caterpillar

LAWN & TURF

- Summertime spray programs for putting greens

DIAGNOSTIC LAB - HIGHLIGHTS INSECT TRAP COUNTS

TOBACCO

IMPREGNATION OF TOBACCO HERBICIDES ON DRY BULK FERTILIZERS by J. D. Green

One method of applying some tobacco herbicides is by use of impregnation onto dry fertilizer blends. Impregnation of herbicides allow applicators to make one trip across the field. However, adequate weed control and crop safety from over application is dependent on 1) uniform spraying of the herbicide onto the fertilizer blend and 2) an even application of the dry fertilizer blend to the field. Prowl has been the most frequently applied tobacco herbicide using impregnation on fertilizers. Recently, Spartan 4F received an EPA label amendment that also allows field applications by impregnation on bulk fertilizers.

Previous field studies have shown that spreading of dry fertilizers often result in rate variations both across and along the spreader swath of the fertilizer

material. This variation can obviously alter the herbicide distribution. Reduced weed control may occur in some areas of the field due to under application; whereas, the potential for crop injury increases due to over application in other areas.

Based on the distribution of fertilizer blends that could vary from 90 to 115% of the desired fertilizer application rate, uniformly impregnated Prowl 3.3EC (pendimethalin) herbicide applied at a target rate of 3.6 pt/A (1.5 lb ai/A) would vary between 3.25 pt (1.3 lb ai/A) to 4 pt/A (1.7 lb ai/A). This application variation of Prowl may not be enough to significantly alter the level of weed control observed in the field. On the other hand, impregnated Spartan 4F (sulfentrazone) applied at a target rate of 12 fl.oz/A (0.375 lb ai/A) would vary between 10 fl.oz/A (0.34 lb ai/A) to 14 fl oz/A (0.43 lb ai/A). Slight variation in Spartan rates could be enough to result in variable weed control and/or the increase potential for crop injury due to over application in some areas of the field. Therefore, extreme care should be followed in the fertilizer blending, mixing, and application when using dry



bulk fertilizers to apply low rate dependent herbicides.

Always consult the herbicide label for proper application with dry bulk fertilizers. Additional information on applying dry bulk fertilizers can be found in a UK newsletter article titled "Using Solid, Bulk Blended Mixed-Grade Fertilizers" in *Agronomy Notes* Vol 12, No. 4 (1991).

VARIEGATED CUTWORMS IN TOBACCO FLOAT BEDS

By Lee Townsend

Small (3/4" long) variegated cutworms were found feeding on tobacco seedlings in float trays in a Rockcastle county greenhouse late last week. The damage was confined to trays along the outside walls and resulted from eggs laid by moths that had been able to enter the house. This insect is a potential problem in all float systems and can be very damaging.

Orthene is the insecticide to use in the float system. There can be both 75SP and 97 S available so check the label for mixing instructions.

Female variegated cutworm moths lay over 2000 eggs during their short life span, usually in clusters of 60 or more on stems or leaves of low-growing plants. The larvae feed for 3 to 4 weeks before wandering away to pupate. Often the large (about 2" long) caterpillars are found floating in the water under trays.

CORN

MORE CUTWORM REPORTS

by Ric Bessin

Last week, we received more reports of cutworms, this time from no-till corn in western Tennessee. Here's the quote from Dr. Russ Patrick, UT Extension Entomologist, "*Cutworms are ravaging our corn in no till plantings. We have had at least several thousand acres infested with them this April. Levels of over 50% in some fields have been reported. I have seen myself most of the damage in those fields. This is the worst season I have seen with these little pests.*" I have also heard of similar reports from Alabama. So the message for Kentucky corn producers is - watch your corn very carefully over the next few weeks.

Considerable damage can be done over a short period of time, particularly during the cool weather as corn is growing more slowly and cutworms continue to feed on small seedlings. Preventive controls may be all the control that is needed in some situations, but with excessive cutworm infestations, preventive controls may not be sufficient. Significant damage can still occur in treated fields if cutworm populations are excessive. Fields should be scouted, even if they have had a preventive treatment.

The best strategy, will be to scout fields and use rescue treatments as necessary. This has always been the most cost effective when scouting is done regularly (2 to 3 times per week). The worst strategy will be to do nothing and leave cutworm losses to chance. Judging by what has been observed to our south, this is the year that it may pay to monitor carefully for this corn pest.

IDENTIFICATION AND POSTEMERGENCE CONTROL OF BROADLEAF SIGNALGRASS IN CORN

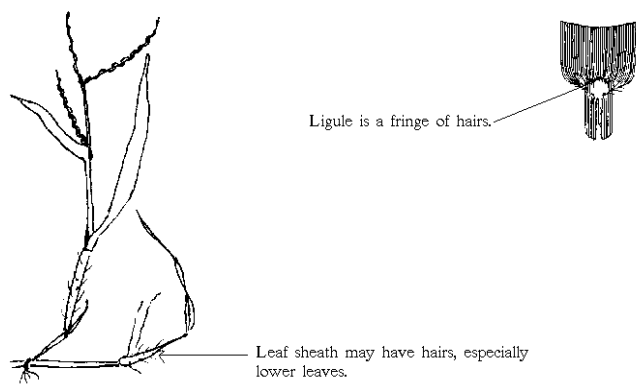
James R. Martin, Extension Weed Scientist

Broadleaf signalgrass is a warm-season annual grass that can reduce corn yield by at least 25%. Growers appear to have more difficulty in managing this weed in corn compared with other row crops. The problems are associated with a number of issues including: 1) inconsistent control from soil-residual herbicides, especially in no-tillage, 2) timeliness of postemergence applications, and 3) antagonism of postemergence herbicide tank-mixes.

Mistakes in identification are often a problem, particularly for producers who have not had any previous experience with broadleaf signalgrass. Broadleaf signalgrass looks similar to crabgrass; however, a close look at the collar region (where the leaf blade attaches to the stem) can help differentiate these two species from one another. The ligule (a tongue-like structure on the inside of the collar) of broadleaf signalgrass is a small ring of hairs compared to a large membrane-like ligule for crabgrass plants. Broadleaf signalgrass has hairs along the leaf margins near the collar, yet there are no hairs on the leaf blade surfaces. Also, the leaf sheath (the portion of the leaf surrounding the stem) of broadleaf signalgrass may have hairs, especially on the lower leaves.

The seedhead of broadleaf signalgrass is made up of 2 to 6 finger-like branches scattered along the upper portion of the stem and develop throughout the summer. Mature plants grow 2 to 3 feet tall and can develop roots along the lower nodes.

Some of the key identifying characteristics of broadleaf signalgrass are illustrated in the below figure.



Postemergence Control: Research has shown that postemergence applications of Accent at 0.67 oz/A can provide approximately 90% control of broadleaf signalgrass. Basis Gold, Celebrity, and Celebrity Plus should provide control similar that achieved with Accent. However, early detection of broadleaf signalgrass and timely application of these products are necessary to obtain best results. Ideally they should be applied before broadleaf signalgrass plants exceed one to two inches in height (about 2- to 4- leaf stage of growth). Also, to achieve maximum control of emerged plants, treatments should be made before broadleaf signalgrass plants have tillered.

Antagonism can occur when these herbicides are tank mixed with other products. Reduced control of broadleaf signalgrass has been reported when Accent is combined with Marksman, Buctril, or 2,4-D. Although the antagonism has not been consistent in all studies, it may be wise to consult product labels before using tank mix combinations for broadleaf signal grass control.

The use of herbicide-resistant corn hybrids also allows several opportunities for managing broadleaf signalgrass. Lightning is registered to control up to 8-inch tall broadleaf signalgrass in Clearfield corn hybrids. Glyphosate products (e.g.

Roundup UltraMAX, Touchdown, or ReadyMaster ATZ) should control 2- to 7- inch tall broadleaf signal grass in Roundup Ready corn.

Post-directed applications of Gramoxone MAX can be an effective and economical method for controlling broadleaf signalgrass in corn. However, very few corn farmers are equipped to do this method of application.

SOYBEANS

SOYBEAN SUDDEN DEATH SYNDROME (SDS) AS RELATED TO PLANTING DATE by Don Hershman

As a result of serious SDS problems in many soybean fields last season, I spent a considerable amount of time during the 2000/2001 winter meetings discussing SDS and risk avoidance for future crops. One of the main points made during each presentation was that many farmers who had fields with serious SDS in 2000, generally set themselves up for the problem by planting too early. Many problem fields, especially those in the Green River counties of Daviess, Henderson, and Union, were planted in late April of last year. Unfortunately, due to the soil and weather conditions this spring, many fields were again planted early. It is my understanding that many soybean fields were, in fact, planted as early as mid-April! The upshot of this is that SDS could be a serious problem during 2001 if weather favors disease development.

To understand why SDS is favored by early planting, you must first be familiar with certain details regarding SDS epidemiology. The organism that causes SDS, *Fusarium solani* f.sp. *glycines*, is a root rot pathogen with great survival capabilities. The disease is initiated when *F. solani* infects soybean roots during the seedling and early vegetative stages. Later, one or more toxins are produced by the fungus which leads to above ground symptoms characteristic of SDS. Root infection by the SDS pathogen, thus, is a requirement for SDS to occur. This is a key point as this now relates back to planting date. Specifically, we need to focus on what soil conditions tend to be when soybean are planted in April. Generally speaking, soils are cool and wet. It just so happens that these same conditions favor infection by the SDS pathogen. As planting is delayed, soils warm

and later planting dates, in particular, are not conducive to infection by *F. solani*. This is why we rarely see SDS in doublecrop soybean.

There are a great many observations and several research projects which support the above link between early planting and SDS. However, there has not been a great deal of work on the specific soil requirements for infection of soybean roots by *F. solani*. One study from Iowa associated great risk of SDS when soybean are planted at soil temperatures of 59F or less. Once soil temperatures reached 68F, the risk of SDS dropped off considerably. Finally, above 77F (i.e., typical soil temperature when doublecrop soybean are planted), the risk of SDS occurring is very low. These temperature/SDS categories generally fall in line with what we experience in Kentucky soybean crops. Of course, root infection by *F. solani* is also moderated and affected by soil moisture levels. Generally, adequate to excess soil moisture favors root infection.

Hopefully farmers will not experience serious SDS problems this summer. Nonetheless, extremely early soybean planting is a very risky venture in Kentucky.

FRUIT CROPS

FRUIT DISEASE OBSERVATIONS AND MANAGEMENT

by John Hartman

Cedar rusts. Although moist weather has been rare during recent weeks, when there is moisture, cedar-apple rust galls and cedar-quince rust cankers on twigs and branches have been producing spores to infect apples. Unless more leaf wetness periods develop in the coming weeks, rust levels on apple and related hosts such as hawthorn may be low this year.

Apple scab. A few lesions on leaves of susceptible apples were observed recently in western areas of the state. These infections were initiated during the first week in April when the apple foliage was just beginning to emerge (green tip). Apples in the western and southern parts of Kentucky may be showing more symptoms than apples grown elsewhere because the emerging foliage would have been farther along at that time, thus posing a greater risk of apple scab infections. If the weather

turns wet, these few primary infections can quickly develop into many secondary infections.

Fire blight. Fire blight symptoms are just beginning to appear statewide. In many trees, the "burned" shoots are not yet visible, but initial wilting of shoots associated with infected clusters is now visible. These shoots will soon die. Infected flower (fruitlet) clusters may show only one fruitlet with a blackened pedicel while the others are still green. Peeling the bark from the woody twig subtending an infected flower/fruit cluster will reveal internal browning and streaking indicating that the bacteria have already moved into the twig. Such twigs will show wilting shoot tips, early symptoms of fire blight.

Blackberry orange rust. Orange rust is appearing on shoots of blackberries statewide. Infected shoots may be stretched and deformed. Bright orange signs of the rust fungus are visible on leaf edges and on leaf undersides. Blackberries in commercial and backyard plantings which show rust symptoms should be removed and destroyed; infected blackberries growing in fencerows and weedy areas nearby should also be removed and destroyed.

Strawberry gray mold fruit rot. If growers intend to manage gray mold fruit rot with fungicides, the best time to make fungicide applications is now, when the strawberries are in bloom. Sprays made nearer to harvest after the fruits have formed or when they begin to ripen are not as effective.

For fruit disease management suggestions, the following publications are available from your County Extension Office:

- Kentucky Commercial Tree Fruit Spray Guide 2001 (ID-92)
- Kentucky Commercial Small Fruit and Grape Spray Guide 2001 (ID-94)
- Disease and Insect Control Programs for Homegrown Fruit in Kentucky Including Organic Alternatives (ID21)

PLUM CURCULIO

by Ric Bessin

Petal fall has arrived and growers are assessing what type of crop they will have in 2001. A late freeze may have reduced crop loads on some varieties in some areas. Now that we have reached petal fall, its time to control for plum curculio. This

insect will become active over the next one to three weeks. I have received a report of some plum curculio damage in Casey county last week.

Currently, we don't have a reliable methods to monitor for this insect. The pyramid-shaped Tedder trap does catch the weevils and a beat sheet will also knock them from limbs. But we still recommend that growers apply a spray for plum curculio at petal fall and 10 to 14 days later at first cover. Using Imidan, Guthion, Danitol, or Avaunt for curculio control will also control early codling moths.

Codling moths are becoming active and may have reached 'biofix' in some orchards. Now is the time that growers need to be trapping for codling moth and checking the traps daily. The day that the fifth moth captured in the trap in the spring is the biofix date.

SHADE TREES AND ORNAMENTALS

EASTERN TENT CATERPILLAR

By Lee Townsend and Ric Bessin

Many eastern tent caterpillars are finishing their feeding and wandering off in search of pupation sites. A check along a fence row set of heavily-infested wild cherry trees turned up what appears to be a virus disease that attacks these caterpillars. Infected larvae tend to hang head down from twigs and branches and have a flaccid appearance. A reddish ooze can be seen on them. This is a good sign in that virus diseases can cause population crashes, especially at outbreak locations.

Many caterpillars at the site were moving away from trees and could be found at the tops of fence posts 200' to 250' from the nearest host tree. It is no surprise that they can be a nuisance far from the trees on which they develop. We can expect them to be on the move for about another 2 weeks.

LAWN & TURF

SUMMERTIME SPRAY PROGRAMS FOR PUTTING GREENS

by Paul Vincelli

The following are spray programs for putting greens that have performed well in University of

Kentucky research trials. All of these programs have been tested at application rates of 2.5 gallons per 1000 sq ft, and without watering in.

Banner MAXX 1 fl oz + Daconil Ultrex 3.7 fl oz (applied biweekly)

An excellent time to use this is in spring up through Memorial Day weekend, and again from around Labor Day and beyond. This treatment can be used through the summer, as well, as the rate of Banner is low enough to not cause undesirable growth regulation under most conditions. However, even this rate will cause excessive growth regulation and algae buildup if the green should develop substantial stress from some other cause. It provides excellent control of dollar spot and anthracnose on creeping bentgrass. It provides moderate control of brown patch. This treatment provides no control of Pythium. Other DMI's can be substituted for Banner MAXX, and other chlorothalonil products are also available.

Signature 80WG 4 oz + Chipco 26GT 4 fl oz (applied biweekly)

This tank-mix provides excellent control of dollar spot and anthracnose and moderately good control of brown patch. Where pressure from brown patch is high, substitute Daconil for Chipco 26GT. It also provides a complete Pythium control program. Studies confirm that such combinations help maintain health through certain summertime stresses.

Heritage 50WG 0.2 oz+ Daconil Ultrex 3.7 fl oz (applied every four weeks)

Signature 80WG 4 oz + Chipco 26GT 4 fl oz (applied every four wk beginning 2 wk after above)

This treatment can be used from spring through autumn, though it is wise to reserve good summertime treatments for June-August and switch to other products during less stressful weather. In studies in Kentucky, this treatment consistently has been among the top in terms of turf quality, and it provides very good to excellent control of dollar spot, anthracnose, brown patch, and Pythium. It attempts to introduce fungicide rotation into the spray program, while minimizing the use of any particular mode of action. Additional Pythium control may be needed on occasion, since under high disease pressure, Heritage often provides no more than 10 days of Pythium control.

Signature 80WG 4 oz + Chipco 26GT 4 fl oz (applied biweekly) + Heritage 50WG 0.4 oz (applied every

four weeks)

Although we have only tested this for one year, this treatment, devised by Dr. Joe Vargas at Michigan State University, can be expected to provide very good to excellent control of dollar spot, anthracnose,

brown patch, and Pythium. The program also provides control of take-all of creeping bentgrass and summer patch on *Poa annua*, for greens where those diseases are concerns. It also takes advantage of the stress protection provided by the Signature tank-mixes. Turf quality was excellent in our 2000 test. I expect this treatment to be acceptable from spring through autumn, though it is wise to reserve these treatments for June-August and switch to other products during less stressful weather. Continued research with this spray program will be conducted this summer.

DIAGNOSTIC LAB HIGHLIGHTS

by Julie Beale and Paul Bachi

Samples in the Diagnostic Laboratory last week included Rhizoctonia root and stem rot on canola; cold injury on wheat; Rhizoctonia damping-off, Pythium root rot, chemical injury, cold injury and freeze damage on tobacco; orange rust blackberry; blossom end rot on tomato; Pythium root rot on geranium; Rhizoctonia stem rot on vinca; dollar spot on bentgrass; black root rot on holly and inkberry; and tip blight on pine.

INSECT TRAP COUNTS

Princeton, April 20-27, 2001

Black Cutworm	0
True Armyworm	24
Corn earworm	7
European corn borer	0

Woodford County

Lesser peachtree borers are flying. See last week's KPN for more information.

NOTE: Trade names are used to simplify the information presented in this newsletter. No endorsement by the Cooperative Extension Service is intended, nor is criticism implied of similar products that are not named.