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LEXINGTON, KY 40546

Tobacco Newsletter

AGRICULTURE & NATURAL RESOURCES

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RIDOMIL GOLD IS NOW APPROVED FOR USE IN TOBACCO TRANSPLANT WATER

Kenny Seebold, Extension Plant Pathologist and Chris Ammerman, ANR Agent, Grant Co. Cooperative Extension Service

The Kentucky Department of Agriculture granted a Special Local Need, or 24(c), label to Syngenta Crop Protection on March 21, 2011 ***that allows the application of Ridomil Gold SL in the field at rates of 4 to 8 fl oz/A to burley and dark tobacco in setter (transplant) water***. This represents a major departure from what the manufacturer and University of Kentucky Extension has recommended to producers going back to when Ridomil was first introduced in the 1980's. What follows is the story of how we got to this point, and how we can use this new control tactic to help manage black shank on tobacco.

Ridomil Gold, along with related products such as Ultra Flourish and MetaStar, has long been an important part of our recommended strategy for managing black shank on burley and dark tobacco. Application placement is critical for successful suppression of disease, dictating soil-directed treatments followed by incorporation to ensure good uptake and protection of tobacco. We also know that, in general, best disease control is achieved if Ridomil is applied before planting and that supplemental applications are sometimes required to provide season-long suppression of black shank. Good disease control comes at a cost, though. Ridomil is priced between $85 and $110 per acre based on treatment with 1 pt.

Over the years, many have wondered if it would be possible to add Ridomil to the setter barrel and apply the fungicide in transplant water; many have probably 'experimented' with this off-label method. With this application methodology, the fungicide would be applied directly into the root zone to give early protection against black shank, and could potentially reduce the amount of Ridomil applied per acre. This method would be simpler to perform than the traditional broadcast spray followed by a pass through the field to incorporate the fungicide. Thus the transplant water method of applying Ridomil could possibly reduce chemical cost and also the expenses of fuel and time.

So why haven't we been able to apply Ridomil in transplant water? There are several reasons, but the biggest has been the risk of plant injury. Earlier formulations of Ridomil (Ridomil 2EC and Ridomil Gold EC) contained high levels of solvents that could cause severe phytotoxicity or even death of tobacco seedlings, making a transplant-water application risky when rates high enough to provide control of black shank were used. Following the release of Ridomil Gold SL, a water-soluble formulation of mefenoxam (the active ingredient in Ridomil Gold), the perception among university and industry scientists about using Ridomil in tobacco transplant water began to change.

The move to a new formulation was thought to reduce the phytotoxicity threat and several universities, including the University of Kentucky, began trials to evaluate the setter-barrel applications of Ridomil for suppression of black shank. Results from these trials show clearly that Ridomil Gold SL is safe to tobacco when applied in setter water and provides early-season protection against black shank, so long as the fungicide is applied correctly. We knew from anecdotal evidence that growers already using Ridomil in their setter water were adding anywhere from a capful to as much as 4 fl oz to treat an acre, with the average rate being somewhere around 2 fl oz/A. Our research has shown that 4 fl oz/A is at the low end of efficacy

against black shank, and that a rate of 8 fl oz/A gives more consistent suppression of disease. The degree of control seen with setter water applications of Ridomil Gold is affected by disease pressure and variety.

Work done in Grant County from 2008 to 2010 has shown that 8 fl oz/A of Ridomil Gold applied in setter water is as effective in suppressing black shank as 1 pt/A applied broadcast to soil before planting on KT 204, KT 206, and KT 209, varieties with high (7-level or above) race 0 and race 1 resistance. However, the setter water treatment did not perform as well as broadcast-applied Ridomil on varieties like KY 14 x L8, TN 90, or KTH 2901, which have 4-level or lower resistance to either race 0 or race 1 black shank. We also noted that the setter-water treatment at 8 fl oz/A was similar to 1 pt/A applied as a broadcast spray in years when disease pressure was low, but was outperformed slightly in terms of yield by the broadcast treatment when disease pressure was higher, even on a variety with relatively high resistance to black shank, KT 204.

This newly-approved application method will not completely replace the standard, higher-rate method, based on our results. Setter-water treatments with Ridomil will be best suited to growers using sound management practices (sanitation and crop rotation) along with one of the newer resistant varieties, and who are looking for additional protection from black shank. In these cases, it will be possible to get adequate control of disease and also reduce fungicide costs by approximately $70/A. Where disease pressure is high, particularly if limited crop rotation is being practiced, or where varieties with little or no resistance are being planted in fields at risk to black shank, broadcast-applied Ridomil at 1 pt/A would be a more effective treatment.

To get the best results from Ridomil Gold SL when applying in transplant water, follow these guidelines:

1. Use good management practices and plant a variety with moderate to high resistance to race 0 and race 1 black shank.
2. Use only Ridomil Gold SL in setter water. Ridomil Gold EC and Ridomil 2EC contain high levels of solvents and can injure or kill tobacco seedlings. Likewise, avoid generic versions of mefenoxam or metalaxyl. ***Only Ridomil Gold SL is covered by the new Special Local Need Label***.
3. Add 4 to 8 fl oz/A of Ridomil Gold SL to no less than 200 gal/A of transplant water to avoid injury to tobacco. Use the high rate in areas with a greater risk of black shank.
4. Make 1-2 supplemental, soil-directed applications at 1 pt/A if needed to provide control of disease.
5. Do not apply Ridomil Gold SL to stressed or weak seedlings, or during hot, dry conditions to avoid serious plant injury.
6. Mix thoroughly before transplanting. Using a separate tank to pre-mix Ridomil Gold SL will help ensure thorough mixing, and also help prevent problems with other pesticides or fertilizers that may be added to the setter water. This will also help ensure a consistent concentration of Ridomil Gold SL during transplanting, resulting in less injury potential and better control of disease.

New Farm Vehicle Licensing Option Available

Kentuckians who use a farm license plate on their vehicles now have a choice to make. New legislation passed earlier this year allows for three weight classifications for Kentucky vehicles using farm plates. Kentucky legislators took action after numerous producers received citations in Illinois. The weight limit for a vehicle with farm plates in Illinois is 26,000 pounds. Illinois has always had a reciprocal agreement with KY, but they failed to renew that late last year.

For vehicles that won't be exceeding the 26,000 gross vehicle weight rating (GVWR), the fix is pretty simple. A trip to the county court clerk is all that's needed to request an amended receipt. Vehicles that will be hauling loads exceeding the 26,000 GVWR should be licensed using one of the upper classes (and should probably stay out of Illinois). Call or stop by the county clerk's office for more information.

Sawdust Available

All dark-fired tobacco producers know that they must have a steady, consistent supply of sawdust and slabs to cure their crop. Within the last two years, supplies of both have been extremely tight. It's been rumored that the New Page plant in Wickliffe hasn't been buying these waste wood products within the last 6 months or so. This has "loosened" the supply, but I'm sure there are still a few producers out there that need some dust.

I've been contacted by a couple of sawmills in Illinois that have consistent supplies of dust available. The biggest drawback is that they are several miles away. One company, Land of Lincoln Lumber, is in Raleigh IL and owner Jim Caudill says he probably has 50 loads of dust on the ground right now. He also has a walking floor and can deliver. Call Jim at 618-268-4000. Wenzil Lumber Co is in Junction IL and also has dust available. Owner Stacy Wenzil can be contacted at 618-269-3286. They also have a source for delivery.

Quadris SLN Approved For Transplants

KY tobacco producers have an active 24c (special local need) label that permits the use of Quadris on tobacco in greenhouses and float beds, aimed for target spot control. The label permits one application on the plants before they go to the field, and the rate is 0.14 fl oz / 1000 sq. ft. of bed. This is the equivalent of 4 ml (about a teaspoon) of Quadris per gallon of spray mix. Since we have only one application permitted by the label, the best strategy would be to apply the Quadris at around 4-5 weeks after seeding (around the 1st or second clipping) as a preventive for target spot, or when disease first occurs. Any further treatments will require the use of Dithane. This label's approval is good news, and it won't expire until the end of 2012, so we are good for 2011 and 2012.

Now we can offer our producers a pretty good tool for managing target spot, and there are good indications that we should see some suppression of Sclerotinia collar rot. I'll be sending more details later, but just wanted to let you know where we stand on the Quadris issue.

Controlling Pythium Root Rot in the Float System

By Kenny Seebold

Pythium root rot is the most common disease that we find in tobacco float beds around Kentucky. This disease causes severe losses or delays in transplanting, and it won't be long before it begins to show up on tobacco transplants across the state. The first symptoms of Pythium root rot (PRR) tend to be yellowing and stunting of transplants in a well-defined area or areas of a float bay.

Damping-off, or seedling death, can occur in severe cases. During the outbreak, seedlings wilt and root systems decay to some degree. Roots and sometimes lower stems of plants affected by PRR take on a darkened, necrotic appearance; roots may have a slimy appearance. Infected roots will eventually slough off and some re-growth may be observed; however, new growth likely will become infected. Water temperatures greater than 72 °F favor rapid development and spread of PRR in float systems. Given our recent spell of unusually warm temperatures, some float systems may already be at risk! There are several species of Pythium, a fungus-like organism, that cause root rots on tobacco seedlings.

Pythium species (spp.) require water, abundant in the float system, for reproduction and movement. Initial infections likely result from germination of resting structures (oospores) of Pythium spp., and production of zoosporangia. Swimming spores (zoospores) are liberated from zoosporangia, and find their way to tobacco roots. Zoospores encyst after encountering susceptible tissue and enter the root system to establish an infection. Many cycles of zoospore production and infection are possible after initial infections occur. The most common ways for Pythium spp. to be introduced into float systems are contaminated water, infested soil, or recycled (and contaminated) styrofoam trays.

Pythium spp. are found widely in our soils and surface water, so anything that moves these sources can be a means of contaminating float beds. Pythium

spp. can persist in the tissue of roots that have penetrated styrofoam float trays, providing a source of inoculum when the trays are used the following season. Sanitation is an important part in the management of Pythium root rot in the float system. Never use pond or surface water to fill float beds, since water from these sources is likely contaminated with Pythium and other plant pathogens such as Phytophthora or Fusarium. Make sure that shoes and tools are cleaned before bringing them into a transplant facility.

Terramaster 4EC is labeled for use in float systems and is very effective against PRR when used correctly. Detailed information on this fungicide can be found in the product label, or refer to ID-160 (2011-12 Kentucky-Tennessee Tobacco Production Guide) or PPFS-AG-T-8(2011 Fungicide Guide for Burley and Dark Tobacco). For preventive use, apply 0.7-1 fl oz of product per 100 gallons of float water beginning 2-3 weeks after seeding, or when roots first enter the water. A second treatment of 0.7-1 fl oz per 100 gallons of water can be made 3 weeks after the first, and a final application of 0.8 fl oz can be made two weeks after the second treatment (if needed). Do not apply Terramaster later than 8 weeks after seeding; make sure that the product is mixed thoroughly in float beds to minimize the risk of plant injury.

"Rescue" applications of Terramaster (1.4 fl oz/100 gallons of float water) in systems with active PRR will halt further development of disease and symptomatic seedlings will likely recover. However, the higher rates of Terramaster used in rescue treatments increase the risk of plant injury AND recuperating plants may still harbor Pythium and increase their susceptibility to black shank and Fusarium wilt. For these reasons, preventive use of Terramaster is recommended over curative applications of the product. Before using Terramaster, or any pesticide, refer to the label for specific instructions and safety information. Please note that Terramaster is the only product labeled for controlling Pythium root rot on tobacco seedlings grown in float beds. Other products, such as Banrot or Ridmil Gold SL, are not approved for this use. Quality tobacco transplants are one of the most important parts of a successful growing season. Through careful management it is possible to achieve excellent control of PRR, good transplant quality, and a healthy bottom line!

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