

## TOBACCO

### **RIDOMIL GOLD IS NOW APPROVED FOR USE IN TOBACCO TRANSPLANT WATER**

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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.