

Smaller Toolbox For Insect Control In Cotton

Seed Treatment Alone Not Enough

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Dr. B. Rogers Leonard, LSU AgCenter, Extension Entomologist, spoke recently on the topic of insecticide seed treatments in cotton.

Leonard pointed out that although insecticide seed treatments have been around for several years, in 2010 many growers were unable to use aldicarb or Temik an alternative to the seed treatments. "All product that remained in the fields for the past year was existing stocks of Temik. New production had ceased."

Leonard explained this was not totally unexpected. "The US EPA had recently completed a regulatory review of Temik and a decision was made to phase out the uses of this insecticide over the next three to five years through a slow gradation in reducing product availability. However, through decisions by EPA with Bayer Crop Science during the late winter stopped all effective production."

With a lighter toolbox, growers only have insecticide seed treatments as at-planting chemical control strategies to manage insect pests. "We still have the old standby acephate or Orthene. Newer products include formulations of thiamethoxam (Cruiser) and imidacloprid (Gaucho). Although much of the seed will be treated by parent seed companies with proprietary combinations of seed treatments, there are a number of generic formulations of these products that can be put on seed at the dealer level to control insects."

"Another problem cotton growers must deal with is these specific insecticide seed treatments are not as broad spectrum as Temik and do not effectively control nematodes and non-insect pests such as spider mites. Other products have been combined to these insecticides in a seed treatment package to provide some level of nematode management. Components available now would include thiamethoxam plus abamectin (Avicta complete) by Syngenta or imidacloprid plus thiodicarb (Aeris) by Bayer Crop Science," said Leonard.

Leonard added, "most recently, a new Bayer Crop Science product, VoTivo, is being developed that may protect the seedling root system from nematodes as they try to feed. The product is described as forming a living barrier around the root system. This is very new technology, and it's performance has yet to be completely validated in the field. I admit there are a number of test results which indicate positive performance, but it has not yet been looked at under a wide array of field environments."

Clothianidin (Poncho) by Bayer Crop Science is a product typically used in corn, but is being re-evaluated in cotton. "Bayer is trying to utilize it in combination with imidacloprid. Used alone, clothianidin is not as effective as the other products against thrips and aphids, but in combination there may be some benefits of controlling some root feeding insects and some seedling insects on cotton."

In trials with very intense populations of thrips in Northeast Louisiana in 2010 and 2011, Leonard has seen some improvement in the consistency of plant development using combinations of these products. "Basically we saw an improvement in the consistency of plant development based upon increased height, leaf area and plant nodes compared to those plants and plots which did not receive the seed treatment. Unfortunately, most of the seed treatments have a very short residual since they are used at very low rates on the seed compared to much higher rates of the soil insecticides such as Temik that we used. That product has typi-

cally a much longer residual efficacy. The positive results and consistency in performance of insecticide seed treatments are much better today than what we experienced several years ago. Unfortunately, under heavy pressure this



still may not be good enough as a stand-alone treatment."

Leonard talked about a second study involving combinations of insecticide seed treatments combined with foliar sprays on one-three leaf stage seedlings. Initiated by mid-south entomologists and recently expanded across much of the Gulf coast, the project is expected to determine the value of foliar sprays over seed treatments to control thrips, aphids and other seedling insect pests.

The study has two components. One was to examine the diversity of thrips species found on cotton across the cotton belt from Texas to Virginia. "This is important because some species are much more difficult to control with some of these products. In addition, we looked at the performance of various seed treatments, Temik and foliar sprays in combination with these at-planting treatments against thrips. Typically what we're finding is that in the presence of heavy thrips infestations, it is very important to put a very early spray out on our seed treatments in Louisiana to extend the residual activity. If we wait until thrips have caused injury and plants are heavy infested then we are likely to delay maturity and may see significant yield losses in some years."

Leonard advises diligence. "We need to be more diligent in scouting cotton during the seedling stages now that we have to rely on seed treatments and recognize that insecticide application timing is absolutely critical. We can't wait until we want to make co-application with a herbicide treatment. Some farmers want to treat for thrips based upon timing an application of a overtop herbicide to save application costs. This is very understandable, but if they try to time their weed control strategy and insect management tools such as a combination foliar spray, usually you miss one or the other pests." Δ

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