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Texas cotton: Seed treatments for multiple pests

Most cotton producers have been effectively using seed treatments for so long it is almost an afterthought, especially for seedling disease. In the absence of Temik from the thrips control tool-bag, several producers have turned to insecticide seed treatments to help manage this early season pest, too. If you are a producer who has no experience with wireworms on cotton seedlings this last decade, count yourself lucky.

That is a pattern, I am sorry to say, is likely to change in the near future as the one time oddity of serious wireworm pressure seems to be expanding into an annual problem for more and more cotton fields over a growing area. Through some hard gained experience, we have learned that this pest can be tackled with some good seed treatments or other planned preventative measures.

So... what is the likelihood that wireworms will develop into a problem on your cotton? The chances are they may have already taken some nickels and dimes out of your pocket.

Manda Anderson, County Agent – IPM in Gaines county, and myself spoke recently on the current wireworm situation, “Problems for us in Gaines county started three or four years ago. We expected the wireworms to be one of those oddities you see from time to time. They pop up, make a major nuisance, and then you never really see them again. I would say though that in 2012, we still had 10 percent to 20 percent of our cotton fields experience at least some stand reduction from wireworms, and some of that was pretty severe.”

Historically, wireworms are a sporadic pest in seedling cotton at best, but history is being written all the time. Wireworms do not like cotton and it is not a preferred host. They will however attack cotton after germination and before emergence as a survival method, often as a last resort to stave off starvation. When we review the literature we find a list of circumstances where wireworms could be a problem for seedling cotton:

- Following a grain, forage, or hay crop.
- In a dry season following a wet year.
- In a field with a heavy cover crop or heavy spring weed pressure.

The damage from wireworms can be two fold. First, is the direct damage from their feed-ing. If the feeding occurs on the cotyledons only the damage is usually minimal. It takes an experienced eye to even spot this type of damage. If the feeding occurs along the tap root it could be substantial causing developmental delays for that plant taking weeks to recover from, and if heavy enough, eventually fatal. If the feeding occurs at the apical meristem (growing point found between the two cotyledons) or the curve just below the cotyledons, it is almost always fatal for that plant.

There is a substantial amount of secondary damage that is normally associated with wireworm feeding on the tap-root of cotton seedlings. The wounds caused by the feeding open gapping wounds allowing seedling diseases to impact young plants at a level I would estimate to be near ten-fold.

Problems with wireworms began locally early in the 2004 growing season. Then, as a crop consultant, identifying problems in, and finding solutions for, roughly 224 area cotton fields was one of my jobs. The wireworms alone demolished nearly 20% of those fields before the crop ever emerged from the soil and reduced the stands of all but a handful. That is a season that fit most of the applicable prerequisites listed in the entomological literature dating back to the 1930's, the last time wireworms were troublesome for cotton in the Hale & Swisher county areas.

Much like Manda in Gaines County, our area entomologist expected the wireworms to subside over the next few years. While the problem has not reached that ‘nightmare’ level again, the problem has never really abated, especially in areas

that commonly rotate with hay and small grains or where fields are subjected to cattle grazing periodically. In the past few years, wireworms have been troublesome mostly for cotton fields that experienced some other delay in emergence (lack of soil moisture, thick crust, cloddy ground, etc.) and where producers had not taken preventative steps to control them.

While not as severe as 2004, the wireworms do seem to be spreading. In 2012, 100% of the fields I checked had some level of wireworm pressure, no matter the crop rotation pattern or location. Most of this pressure was light enough that if we did not have some experience with the pest, we would have accounted any slight reduction in stand to seedling disease or the dry environment.

Several area entomologists have hypothesized that the wider adoption of no-till and min-till practices could be another factor adding to the wireworm's prolonged stay. Few believe the soil and water saving practices should be abandoned just to deal with the problem, especially when we have learned to affectively control the wireworm pest with other methods, no matter the pest pres-sure.

Between 2004 and 2012, Reed Consulting conducted four wireworm product control studies. While these are not Texas A&M AgriLife studies, much of the results of this work has been adopted by area 'at risk' producers and shared with AgriLife Extension personnel and implemented (where needed) with success on wireworm control throughout the region.

Only because of its pertinence to a possibly growing wireworm problem we need to address preventatively, I will share a condensed version of all four trials here. Because we have found many of the available insecticides commonly used for thrips control also have proven some level of control on wireworms, producers will be able to choose the best product for their farm based on their expected control needs.

Reed's Tested Product List	Wireworm Control	Thrips Control
3.2 lbs. Temik	C-	B+
5 lbs. Temik	B-	A-
Orthene (seed treatment)	F	D-
Orthene (spray)	F	C+
Aeris	C-	B
Cruiser	C-	B-
Avicta Complete	C+	B-
3.5 lbs. Thimet	C+	B+
Imidacloprid (10 X rate)	A++	B+
"seed box treatments" (assorted Lindane type prod-ucts)	A-	F

All studies were conducted in Swisher (3) or Castro (1) Counties and thrips species found might be different in your area. True wireworms and four species of false wireworms were all found in tested fields. This is not a complete list of available products for thrips control, only those products that were protocolled and studied for both wireworms and thrips by Reed Consulting, cooperating companies, and other sponsors are listed. Several new products for insects and seed-ling disease have been released recently.

For that complete list, please refer to the relevant Texas A&M AgriLife Extension publications. Temik has been included although it is no longer available because the LLC product Memik has an expected launch although the date and much about the new product are not yet known.

The information for this newsletter was found at the following URL: <http://www.agprofessional.com/newsletters/agpro-weekly/articles/Texas-cotton-Seed-treatments-for-multiple-pests-200878071.html>

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