

S2-02/03

February 21, 2003

Off-Season Management Tips

Early Investment Yields End-Of-Season Benefits

James F. Leser

Professor and Extension Entomologist

Lubbock, Texas

The economics of growing cotton are tight again this year. It looks like something has to go to balance the budget. What about fertilizer, water, PGRs, or insect control? You can bet that insect control will get a very hard look, especially thrips control. After all, why invest in thrips control practices at planting time when later weather events might eliminate your treated field? Don't thrips mainly make the cotton look bad and only occasionally cause yield reductions? And wouldn't you be better off waiting to see if you have a problem before spending money on thrips control? After all, that's how you handle other pests such as worms and aphids. These are all good questions that will be addressed in the discussion that follows.



Tests conducted in the High Plains area for the last 25 years have clearly shown a huge advantage to controlling thrips in cotton. The average yield increase has been around 21% in irrigated tests. What you will actually make will depend upon the kind of year it is, how bad the thrips are and how well you manage the crop. But don't expect the same returns on dryland production fields. Five years of tests showed that thrips control in these treated fields did not result in a yield increase and sometimes actually reduced yield. Why? Not because thrips weren't present! They were and we did significantly reduce their numbers, make plants look good and increase early square retention. But more often than not, these fields did not receive a timely mid summer rain and ended up over committed (too much leaf area and fruit load) for the available moisture. The result? A shedding of fruit to adjust the load to the available moisture level, often retaining less fruit than the untreated check plot plants.

My conclusions after all these years of testing are that thrips control is probably the best investment a producer can make in his overall pest management scheme, at least for irrigated fields. This would be especially true for areas where maturing winter wheat releases millions of these little pests.

Tests conducted the last few years have yielded further insights into how to manage this tiny yield robber. I have concluded that there are basically three reasonable approaches to thrips control, each with their own champions.

Seed treatments are the most attractive to growers because of their ease of use. Unfortunately, until recently, there has been no seed treatment that provided sufficient control and residual activity to consistently perform as well as the industry standard, Temik. This all changed with the introduction of Syngenta's Cruiser seed treatment. Until Cruiser's introduction, the only seed treatments available were Orthene and Gaucho. Orthene seed treatments never did give us the residual control we needed and performance consistency from trial to trial was awful. The Gaucho seed treatment has shown glimmers of promise in some parts of the country but just doesn't perform well in the Texas High Plains where the dominant thrips species is the western flower thrips. What is the bottom line for the seed treatments? **Cruiser appears to provide cost effective control equal to Temik where nematodes are not a problem.**

Bayer's Temik is still a Cadillac treatment for thrips control in cotton. It also has the added benefit of providing nematode control at an affordable cost. In the past, I have recommended rates as low as 2 to 2½ pounds per acre. These rates may still be viable but my recent experience has led me to feel more comfortable with rates in the 3 to 3½ pounds per acre range. Unlike seed treatments, the use of Temik will require an investment in application boxes and some time spent accurately calibrating these boxes for the correct rate. The availability of the Lock'n Load system does significantly reduce the hazard presented by this insecticide to the user.

Foliar treatments have long been popular with producers for thrips control, especially when banded applications can be made with available ground equipment. This significantly reduces insecticide cost. My tests have clearly indicated that this approach will work well, but only when applications are timed properly. Basing spray decisions on the appearance of cotton plants or the relative abundance of thrips on plants will result in significantly reduced returns. Also, weather and other needed farm operations can interfere with the timely application of foliar insecticides, resulting in less than optimal yield returns.

I base my foliar control decisions on actual thrips counts, a practice often avoided by others that have trouble seeing these tiny pests. As you approach the plant you intend to examine, watch for winged adults taking flight and then carefully dissect the plant, paying particular attention to areas where thrips can hide. My counts separate winged adults from wingless immatures. The currently accepted treatment levels are an average of 1 thrips per plant for each true leaf present, with the action level up through the 1st true leaf being one.

A new wrinkle has been added this year to address those situations where follow-up foliar applications are needed. And yes, these may be needed in addition to a seed or Temik treatment when thrips infestation pressure continues into the 4th and later weeks after planting. Since winged adults must either feed or make contact with treated plants (foliar sprays) before they can be killed, a total thrips count will not provide enough information to make the correct decision except when the field is

untreated and the use of a foliar insecticide is being considered for the first time. Otherwise, you must include a measure of immature activity to determine if a previous treatment is still working. Most preventative treatments last no more than 3-4 weeks and foliar sprays only 5-7 days. I have added 30% or more immatures present to the current total thrips per plant threshold to handle these situations.

While yields have been the highlight of successful thrips control, a new benefit has recently been documented, even though it has been talked about for years. This benefit is earliness. Yes, earliness is a benefit as it can get the crop matured and beyond damage vulnerability before heavy caterpillar infestations cause late season heartburn. Earliness can also help compensate for a late start due to a weather-induced replant or even late initial planting. Earliness also allows producers to get their crop out before late adverse weather conditions reduce fiber quality or delay harvest. **Successful thrips control in last year's tests resulted in a 7-10 day earlier harvest aid use window.**

So how much did I make as a return on my investment last year in a Parmer County test yielding an average of 1½ bales? It depends upon the cost of the treatment, but the Temik treatment netted \$47.00/A, the Cruiser Seed Treatment netted \$51.00/A and the foliar Orthene treatment with three sprays netted \$88.00/A. The 3rd foliar application represented a return of \$29.00/A and was made later than we normally would recommend. If this were added to the seed (I actually did this in the 2002 test) and Temik treatment then they too would return at about the same level as the foliar treatment system. Before you jump on the foliar spray approach, do remember the caveats I mentioned earlier---timely applications, possible weather delays, banded ground applications and a challenging sampling method for appropriate decisions.

Off-Season Management Tips, a new supplement to *Focus on Entomology* newsletter, is published by Texas Cooperative Extension
Route 3, Box 213AA
Lubbock, TX 79403

For more information call or e-mail:
806-746-6101 or
m-coffman@tamu.edu

Editor: James F. Leser
Web Site Layout: Michelle Coffman

Educational programs conducted by Texas Cooperative Extension serve people of all ages regardless of socio-economic level, race, color, sex, religion, handicap or national origin.

References to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by Texas Cooperative Extension is implied.