

North Carolina Pest News

Departments of Entomology and Plant Pathology



Stephen J. Toth, Jr., editor
Volume 23, Number 2, April 18, 2008

CAUTION !

The information and recommendations in this newsletter are applicable to North Carolina and may not apply in other areas.

In This Week's Issue . . .

FIELD AND FORAGE CROPS

- Cotton Insect Outlook for 2008

ORNAMENTALS AND TURF

- European Red Mites

See current and archived issues of the *North Carolina Pest News* on the World Wide Web at:

http://ipm.ncsu.edu/current_ipm/pest_news.html

FIELD AND FORAGE CROPS

From: Jack Bachelier, Extension Entomologist

Cotton Insect Outlook for 2008

Entomologists typically show far more skill in analyzing insect pest problems after the fact than they demonstrate in predicting problems in a way that might be helpful – that is, before they occur. With the power of 20/20 hindsight, the causes of most of last year's insect headaches (or lack of thereof) make sense. For many of North Carolina's cotton producers, drought dominated the insect scene in 2007, with high thrips damage due to dry weather and poor insecticide uptake, and low bollworm and stink bug levels due to "sorry", unattractive plants. Other items remain a

mystery. With the combination of high acephate (Orthene in most cases) use for thrips and dry hot weather, most of us had expected a spider mite tsunami. Oddly, it never happened.

Essentially all of the factors that will influence the severity of our upcoming 2008 “pest year” – such as pest survival during the winter, the abundance and quality of nearby insect crop and weed hosts during the spring and early summer months, and the development of the cotton crop itself – are related to weather patterns. Unfortunately, weather forecasting on a farm or countywide basis is often unreliable even just a few days in advance. And predicting weather patterns that might impact insect levels weeks or months in advance are virtually worthless, especially in the Southeast. Additionally, all of our major insect pests – thrips, bollworms, stink bugs, cotton aphids, spider mites, and others – undergo a number of generations on other crop and wild hosts before moving into cotton, making early predictions several generations down the road even less reliable. Despite the above limitations, a few observations are offered:

1. **Thrips** have caused major headaches for North Carolina’s and Virginia’s cotton producers for the past three years (2005 to 2007). Unfortunately, our region leads the Southeast and other parts of the cotton belt in high thrips levels and damage. Our slower seedling “grow off” conditions and high amount of surrounding thrips host vegetation that serve to funnel thrips adults into small cotton fields often result in rough start for cotton seedlings. Unfortunately, this situation is more the rule than the exception in this area. Behind the seed treatments Gaucho Grande, Cruiser, Avicta, and Aeris, plan on a foliar spray targeted at the first true leaf stage or at 3 weeks after planting (whichever comes first) – unless cotton is planted after about May 20. We often observe higher levels of cotton aphids and spider mites following seed treatments than following Temik. With Temik 15K at the 5 pound rate per acre, a foliar spray can sometimes be avoided with adequate soil moisture and close scouting.
2. At our latitude, **plant bugs** are usually kind to producers during the pre-bloom period (we have averaged approximately 3 to 8 percent treated acreage for plant bugs over the past 7 years), so the odds favor this trend holding for 2008. Weekly square retention counts should define most potential problem fields up to about a week or two beyond bloom initiation here. In North Carolina, it’s not unusual to observe 90-plus upper square retention 4 to 5 weeks into the bloom period. However, these pests can be an occasional headache in blooming cotton, particularly in our far-eastern counties. “Dirty bloom” assessments, though not the sampling method of choice in the Midsouth where plant bugs are a more serious pest, are quick, easy to do, and can tell a scout or consultant if more intensive scouting is needed, particularly if dirty bloom counts are in the 5 to 10 percent range, or less. Visual observations for plant bug adults and nymphs, sweepings and drop cloth sampling are also helpful if indicated.
3. The potential for **stink bug** appears to have a strong correlation with moisture, with dry years often resulting in low stink bug damage to bolls. Dry weather negatively influences early wild and cultivated stink bug hosts resulting in fewer stink bugs, as well as makes cotton plants less attractive and prone to early “cutout.” Scouting wheat both before and after the big 2007 “Easter Freeze” confirmed the huge reduction in stink bug levels. Most North Carolina cotton producers would probably trade the potential for higher stink bug damage in 2008 if it meant that we could also count on good moisture levels and high yields. With our ever-higher adoption of *Bt* cotton – more than 97 percent in 2006 – we can probably count on the bug complex to continue to account for most of our late season boll damage on *Bt* cotton. No matter what 2008 has in store, we need to be paying much more attention to the bug

complex in our *Bt* cotton. Additionally, as we approach mandatory planting of Bollgard II and perhaps WideStrike varieties in 2008 and in 2009 (Bollgard varieties will be phased out in the fall of 2009), our expected lack of treatment for caterpillars in all but a few circumstances will likely result in an even greater potential buildups of bug pests. Adequate sample sizes, lots of interior boll examinations, and green versus brown adult stink bug ratios are a must in *Bt* cotton fields, especially during weeks 3 to 6 of the bloom period.

4. **Bollworm** moth levels have seesawed up and down for the past 8 years here until 2003, when both 2002 and 2003 were rough bollworm years. The year 2004 showed only moderate bollworm levels, and in 2005 the flight was both very late and exceptionally light, while 2006 and 2007 were about average. Although bollworm damage to Bollgard cotton fields has averaged approximately 1 percent during the 1996 to 2007 period, replicated tests show that a foliar application for stink bugs with either Orthene or Bidrin just prior to or during the initial 10 days or so of the moth flight can increase boll damage by bollworms by approximately 3-fold, with proportional losses in yields. This will not likely be as strongly the case with Bollgard II cotton, as late season bollworm damage to these varieties has average less than 0.2 percent in 2005 to 2007 boll damage surveys of growers' cotton fields. Widestrike lines typically provide intermediate bollworm control between Bollgard and Bollgard II varieties.
5. In recent years, our cotton producers have had only minimal damage from **other caterpillars**, such as fall and beet armyworms, European corn borers, and loopers. Unlike conventional and Bollgard cotton, Bollgard II and Widestrike varieties show high resistance to both armyworm species and loopers.

Weather patterns during upcoming crop year will essentially determine the timing and intensity of our potential 2008 insect outbreaks. Most producers would gladly trade higher moisture levels for potentially higher bolls damage from insects like sting bugs. Whereas we can't control the weather in dry years, we certainly can minimize insect damage in wet years. Although meteorologists have difficulty in predicting weather patterns more than about a week in advance, on the positive side, sound insect and plant monitoring and well-timed sprays can play a major role in making the best of what nature has in store for us in 2008.

Cotton insect problems will not really start cranking around here for two or three weeks. We'll try to keep you posted as the cotton insect situation unfolds.

ORNAMENTALS AND TURF

From: Steve Bambara, Extension Entomologist

European Red Mites

We haven't seen this mite often in the landscape the last few years, but it has shown up twice in the Plant Disease and Insect Clinic at North Carolina State University over the last two weeks. European red mites usually overwinter in the egg stage. The tiny orange-red colored eggs hatch at about the time when apple trees bloom. The European red mite is an introduced pest that in North Carolina primarily infests apple trees. Although it is reported to infest various shade

trees and ornamental plants in the landscape, cherry laurels seem to be the major ornamental plants that European red mites infest (Figs. 1 and 2). The European red mite causes typical pale stipples on the leaves of their host plants, but this spider mite spins very little webbing. This mite is slightly different from the southern red mite. With your hand lens you should be able to see that the hairs on the back of the mites each arise from a small, white bump whereas the hairs of southern red mites arise from red bumps. I believe any horticultural oil spray should give adequate control. Oils will not significantly harm beneficial predator mite populations are often preferable for this reason. For professionals, most of the favorite miticides will also work.



Fig. 1. European red mites on laurel. Image by Steve Bambara.



Fig. 2. European red mites on laurel. Image by Steve Bambara.

Recommendations for the use of chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by North Carolina State University, North Carolina A&T State University or North Carolina Cooperative Extension nor discrimination against similar products or services not mentioned. Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical. For assistance, contact an agent of North Carolina Cooperative Extension.

Employment and program opportunities are offered to all people regardless of race, color, national origin, sex, age or disability. North Carolina State University, North Carolina A&T State University, U.S. Department of Agriculture, and local governments cooperating.

