Spider mites in corn

Last week I reported that spider mites were readily found in most fields, but not all fields, and they continue to be a concern because populations are building rapidly. Even in some fields that have already been treated mite colonies are rebounding. Again, our hot, dry conditions are ideal for greater mite reproduction rates even during the vegetative growth stages. This is important because more mites now will contribute to even greater populations once corn starts tasseling. Research has shown that mites increase 4 times faster after corn tassels than during the vegetative stages.

Fortunately, we are also seeing mite predators becoming more common. In the spider mite experiments I have at the Texas AgriLife Research North Plains Research Field at Etter the most common predator this week is the six spotted predator thrips and followed by the minute pirate bug nymphs and small spiders. Greg Cronholm is reporting the six spotted thrips and the spider mite destroyer lady beetle, *Stethorus punctillum*, in the fields he is scouting. John Quillin, crop consultant from Dalhart, came across small bright red mites in a few fields while scouting. And, Andy Ford, told John he had also seen these and a bigger red mite while scouting. I collected some of these mites and found that the small red mites had only six legs, which is indicative of the larval stage. The larger red mites were about 3 times larger than the adult Banks grass mites. These red mites appear to be the *Balaustium* sp. Mite, which are also a mite predator of the phytophagous mite pests. All of these spider mite predators are critical in managing mite infestations. Some fields may never develop prevalent. This is probably true for the entire high plains area. David Kerns, Extension cotton specialist at Lubbock, is reporting that the blasted squares he is seeing is related more to the heat, wind, and blowing sand.

Cotton Fleahopper

As cotton begins squaring fields need be scouted for the cotton fleahopper because as they feed on the developing squares the squares die (aka blasted square). This can severely reduce the early first position fruit load that is important to developing mature cotton. The fleahoppers develop on weed hosts and later move into cotton. Monti Vandiver, IPM extension agent for Bailey and Parmer counties, is not finding many fleahoppers in his scouted fields. This may be related to the dry conditions where weed hosts are not very prevalent. This is probably true for the entire high plains area.
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damaging mite population because of the predators. And, even in fields that have to be treated with miticides conserving the predators will help and improve the level of control.

Miticides available for control are primarily limited to Comite II, Oberon 4SC, and Onager 1E. These products require good spray coverage for effective control. With the dry conditions a spray volume of 10 to 20 gpa for ground rigs and 5 gpa for aerial should be the minimum used per application. I would also encourage you to not reduce rates. For Comite, best control is when corn is less than 4 feet tall and mite numbers are low before causing damage. The total amount allowable per season is 54 fl. oz and the recommended label rate for a single application is 36 to 54 fl. oz. The pre-harvest interval is 30 days from last application for grain, grazing, and cutting for silage. For Onager, the label rate is 10 to 24 fl oz per acre, but 10 to 12 fl oz is the rate being recommended by Gowen’s representative with no application under 8 fl oz per acre. The maximum allowable per season is 24 fl oz per acre, but only one application can be sprayed per year. And, an application after tassel is prohibited. The pre-harvest interval is 45 days from the last application. And, for Oberon the Bayer rep is recommending a rate of 4.0 fl oz per acre early threshold and a rate of 5.0 to 6.0 fl oz per acre for post-tassel rescue applications. The total allowable per season is 8.5 fl oz per acre with a maximum of 2 applications. The pre-harvest interval is 5 days for silage and 30 days for grain.

The addition of a crop oil surfactant at 1 to 2 pints per acre should help reduce droplet evaporation and get more droplets to the canopy.

What about using a mixture of Lorsban or Dimethoate with these other miticides? I would not recommend the mixture because these products are going to kill the beneficial natural predators which are critical for effective control. These products have a short residual activity and by themself only provide a quick initial knockdown of the mites. They do not kill eggs. So infestations rebound quickly. Even with a mix the predators are going to be important to keeping mite infestations under control. Also, we do not know how the mixture affects the mite ability to detoxify the chemicals. I am cautious about mixing chemicals together because my experience with dosage–mortality studies has shown that some combinations can cause the mixture to be less toxic and antagonistic (non–effective). And, people have a tendency to cut rates when mixing chemicals to reduce costs. This is usually the chemical which is the most expensive for control. This will be the miticides which are what we need most for controlling mites.
Moth Trapping

This past week the Southwestern corn borer (SWCB) moth numbers generally remained about the same level as numbers for week 3. John Quillin, crop consultant at Dalhart, said he was seeing SWCB eggs on approximately 1% of the plants. The moth activity may begin to drop off with collections this week.

We did see an increase in Western Bean Cutworm (WBC) catches Dallam, Hartley, Moore, and Sherman counties. Again, this activity is earlier than in 2010.