PANHANDLE PEST UPDATE

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Spider Mites

Spider mites continue to be relatively light across the Texas High Plains, but there are fields with infestations that either need to be or will be treated soon. As I talk to consultants, they are seeing mite populations expanding in some fields. The following is a checklist of questions for helping to make treatment decisions to prevent damaging infestations.

- Does the field have a history of mite problems?
- Are most plants infested with mite colonies?
- Is the crop near tasseling?
- Is the crop drought stressed?
- Are mite predators scarce?
- Are daily max temperatures expected to be 95° F or higher?
- Are two-spotted spider mites expected to be a problem?

The more of these questions that you can answer "yes" to, the more likely a miticide application will prevent mite populations from reaching damaging infestations. Also, fields planted early often tend to have more mite problems than later planted fields.

Spider mite feeding damage.

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The mite predators most commonly found this week in our spider mite trials are flower thrips and small crab spiders. There were on occasion a sixspotted thrips or a spider mite destroyer beetle seen among the mite colonies, but not in sufficient numbers to keep spider mite infestations under control.

The sixspotted thrips and the spider mite destroyer beetles along with minute pirate bugs and predatory mites are key predators of spider mites. The sixspotted thrips, *Scolothrips sexmaculatus*, are tiny and slender between 2-3 mm in length. Adults can be distinguished from plant eating thrips by 3 dark spots on each wing. When the wings are folded over the body the spots match up. Immature nymphs are whitish in color. These thrips are specific predators of spider mites and are very effective in controlling mites as long as they can become established before mite infestations become heavy.

The spider mite destroyer beetles, Stethorus spp., are very tiny (0.5mm) oval shaped black lady beetles that are about the size of a pinhead. The miniature larvae are grayish to black in color. Both adults and

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larvae feed on all life stages of spider mites. The females need to consume 20 mites per day to maintain her production of eggs. A larva can consume up to 240 mites during their 8-9 day developmental stage before changing into a pupa. The entire life cycle takes about 14 days at 78° F.

The minute pirate bug, *Orius* spp., is a generalist predator that will feed on many different kinds of insects, but is good predator of mites. Adults are about 1/8 inch long, flat and oval shaped with a black and white X pattern marking on the back. The nymphs are yellowish to light orange. The adults and nymphs kill mites by piercing their beaks into mites and mite eggs and suck out the body fluids. Nymphs become adults in 12-20 days and the adults live 2-3 weeks.

Predatory mites are also excellent predators of spider mites. There are several different predatory mite species but they all have a similar pear-shaped body. They can be clear to translucent reddish-tan in color. This contrasts to the spider mites that have green to dark green color food particles accumulated within the body cavity. The predatory mites run very quickly when disturbed or searching for food (mites and mite eggs).

These predators, individually and collectively, are important to spider mite management. Their presence often starts out lagging behind that of the spider mites and their population increase is initially density dependent on the spider mite infestations. When conditions are hot and dry and corn begins to tassel, spider mites can increase to damaging levels before the predators provide effective control. But, when predators are abundant they can reduce mite populations in days.

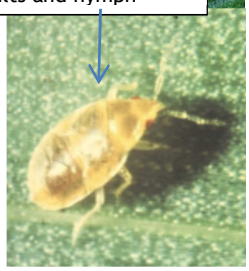
When you need to use a miticide:

- Use one that will preserve the predators
- Pick the right miticide for the crop stage
- Give the miticide time to work

Fortunately, many of the miticides available for mite control are soft on the predators. The predators are able to work in concert with the miticides to enhance and extend the level of control.

Zeal® miticide has received registration for use on corn and Onager® has a pre-harvest interval that allows it to be used as a post-tassel application. These two chemicals along with Oberon and Comite II are soft on the predators. All of these miticides are proven to be effective when spray coverage is good and before spider mite infestations become heavy with extensive damage.

Minute Pirate Bug Adults and nymph



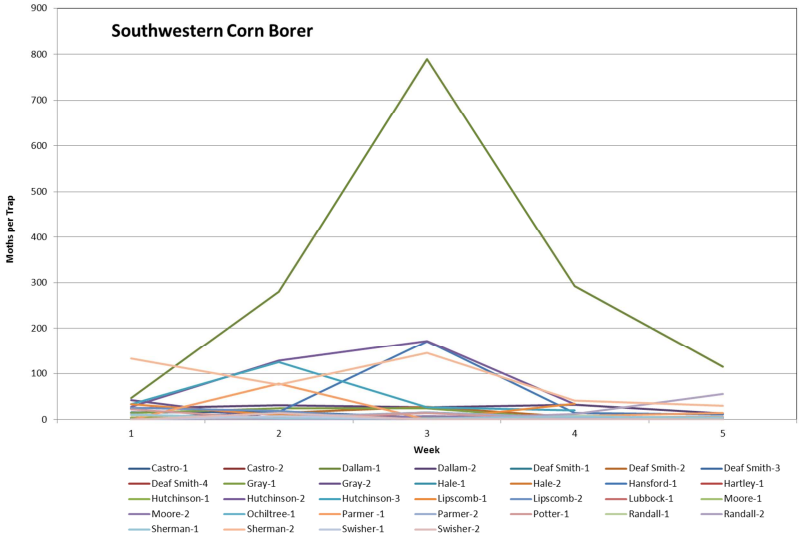
Sixspotted Thrips - Adults and nymph, photo: UC - IPM

Stethorus Adult and Larva

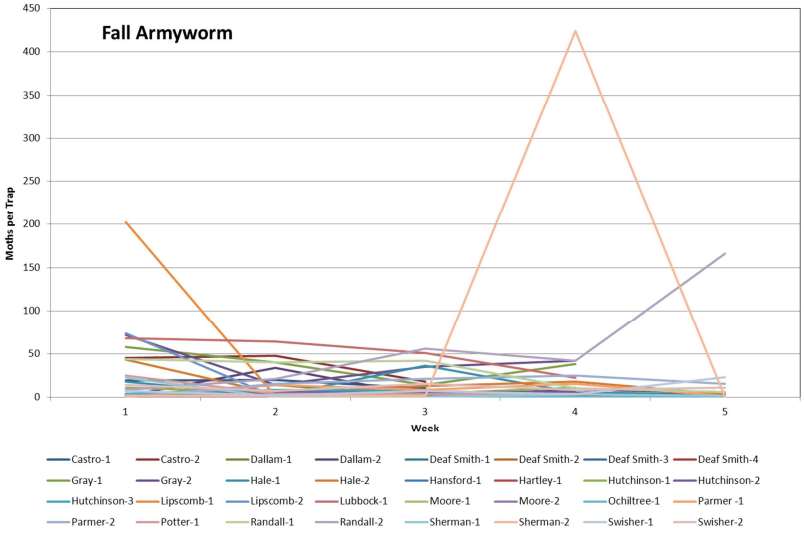
Predatory Mite

Moth Activity

Southwestern corn borer moth activity for the first flight is declining. They have already deposited eggs and there are reports of first generation larvae. While in a non-Bt field near Dalhart on Tuesday, larvae from the second instar to about the fourth instar were found in less than 1% of the plants. These larvae will develop into the next generation moths which may start emerging in about 3 weeks.



Fall armyworm moths have been present each week in almost all of the counties. Dr. Pat Porter, Extension Entomologist at Lubbock, has been finding FAW, true armyworm, yellowstriped armyworm, beet armyworm and corn earworm in whorl stage corn at the Lubbock Texas AgriLife Research and Extension Center. There have been yellow striped armyworm and wheat head armyworm moths captured in our FAW or western bean cutworm traps.



Western bean cutworms are active in the Dallam, Hartley, Hansford, Moore, and Sherman counties. Crop consultants are reporting 8% to 10% of plants infested with WBC eggs primarily in earlier planted corn. Our moth trap captures of WBC coincides with the egg laying activity the crop consultants are finding in the fields. Fields will probably need to be monitored for a few more weeks so applications can be timed to prevent larvae from entering the ear.