Spider Mites

There is a wide variability of growth stages of corn across the region. Some corn fields are only 1 ft tall while other fields are tasseling and silking. Likewise, spider mite infestations are just as varied. Some fields have very light spider mite infestations, but others have treatable infestations. As mentioned in other newsletters, spider mite populations will increase more rapidly when corn transitions from the vegetative growth stages to the reproductive stages. Research has shown mite reproduction is 4 times greater during grain filling than during the pre-tassel growth stages (Feese and Wilde 1977, *Environ. Entomol.* 6: 53–56). Archer and Bynum (1993, *Exp. Appl. Acarol.* 17: 893–903.) reported the percentage yield loss during the grain-filling growth stages was 0.20% to 0.22% for each 1% of mite leaf feeding damage. But, after corn reaches the dent growth stage, yield is not affected by additional mite feeding. This could be up to 22% yield loss during the approximate 4 to 5 week time period from tassel to when corn kernels are dented.

Dr. Frank Schweissing, retired researcher from Colorado State University, observed yield losses between 6 to 48 percent, with an 18-year average of 21 percent. For 250 bushel corn a 21 percent yield loss would be 52.5 bushels.

Based on the research by Archer and Bynum an economic threshold for making treatment decisions was developed and is found in the Texas AgriLife Extension publication, E–400, “Managing Insect and Mite Pests of Texas Corn”. The threshold was based on the 22% yield loss and the efficacy of products like Capture and Dimethoate when they were applied to post tassel stage corn. In general, these products in the Texas High Plains are no longer effective and can cause mite populations to increase by removing the spider mite predators. With current miticide products like Comite, Oberon, Onager, and Zeal applications should probably be made earlier than when Capture and Dimethoate were used effectively. This is because the newer miticides are slower acting and require good application coverage. Therefore for effective control, these chemicals should be applied before mites populations are heavy and causing extensive damage. Until thresholds can be developed for the newer miticides a simpler guideline would be to treat when damage is visible in the lower third of the plant, mite colonies are present in the middle third, and there are very few spider mite predators are present.
Moth Activity

There was a notable increase in Southwestern corn borer (SWCB) moths in Parmer, Hartley, Moore, Randall, and Sherman counties this past week. Another interesting note is that SWCB moths have continually been active throughout the entire month of June and into the first two weeks of July. Typically, there is a distinct separation between the first moth flight and that of the second flight. This could mean we are in for a long flight of SWCB during the remainder of July through August.

There has been an increase in Fall Armyworm moths the past two weeks in Randall County and again a steady activity of FAW in all of the other counties.

Western bean cutworm moth trap catches would indicate that the moth activity is past the peak and declining. However, fields should continue to be monitored for egg and larval infestations.