

GAINES COUNTY IPM NEWSLETTER

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What is the potential for wheat aphids?

Reported by Dr. Ed Bynum, Extension Entomologist in the March 26, 2010 issue of *Panhandle Pest Update*

I have received reports that greenbugs and Bird Cherry Oat aphids are present in fields down state and the wheat is showing symptoms of having the Barley Yellow Dwarf Virus. An IPM agent, Manda Cattaneo, for Gaines County is finding greenbugs in fields, but she is also already finding aphid mummies from the parasitic wasp (**Figure 1**). To prevent any surprises begin scouting fields now and continue scouting weekly. The following is a description and photographs of common wheat aphids to help in identifying them when scouting.

GREENBUG, *Schizaphis graminum* (Rondani) Mature wingless female greenbugs are approximately 1/16 inch long with the typical “pear” shaped of aphids. They are pale green with a darker green stripe down the middle of the back. The legs and cornicles “tail pipes” are also green, except for the tips which are usually black.



Figure 1. Greenbug and an Aphid Mummy

RUSSIAN WHEAT APHID, *Diuraphis noxia* (Mordvilko) This aphid is less than 1/16 inch long. It is greenish with an elongated, spindle “cigar” shaped body. It is distinguished from other common aphids by its short antennae and by the absence of prominent cornicles. It has a fleshy projection above the cauda (or tail) which gives the aphid a “double tail” appearance when observed from the side.



Figure 2. Russian Wheat Aphid
Photo By Monti Vandiver

Freeze/Desiccation on Wheat Leaves

I have noticed a few fields that have some freeze damage on the leaf tips (**Figure 3**). This likely occurred over the March 20th weekend when our minimum temperatures were below freezing. I did not observe any damage to the growing point. A yellow leaf or necrotic leaf emerging from the whorl would indicate that the growing point was damaged. For further information on wheat freeze injury please refer to the Texas AgriLife Extension Service "*Freeze Injury on Wheat*" publication which can be found on the web at <http://lubbock.tamu.edu/wheat>.



Figure 3. Freeze damage on leaf tips

Cotton Diseases

Reported by Dr. Jason Woodward, Extension Plant Pathologist, in the March 15, 2010 issue of Focus on South Plains Agriculture

Rhizoctonia solani and *Pythium* spp. are the predominant causes of seedling disease in the region. Both *R. solani* and *Pythium* spp. can occur as seed decay (which occurs prior to germination), pre-emergence damping off (which occurs between germination and emergence), and post-emergence damping-off or sore shin (which typically occurs on older plants). Symptoms associated with *R. solani* and *Pythium* spp. are similar and can be observed on young seedlings. Initial symptoms consist of sunken lesions at the soil level, resulting in girdling and collapse of the stem.

In addition, black root rot (caused by *Thielaviopsis basicola*) can be experienced on the Southern High Plains. Plants infected with *T. basicola* may also exhibit severe necrosis on roots, severe stunting and swelling of the cortex; however, plants are rarely killed. Black root rot is most commonly found in heavier soils, and is more severe in the presence of the root-knot nematode.

Because of the nature of the pathogens involved, varietal resistance is not an option for managing seedling disease. Losses can be minimized by delaying planting until soil temperature (at the 4 inch depth is above 65°F for three consecutive days, and using high quality, fungicide treated seed. All commercially available seed is treated with fungicides; however, various combinations are available for these seedling diseases. For further information on seedling disease please refer to the Texas AgriLife "Management of Seedling Diseases of Cotton" publication which can be found on the web at http://lubbock.tamu.edu/focus/focus_2010/March_15/Seedling_Diseases.pdf.

Target pathogen(s)	Fungicides
<i>Rhizoctonia solani</i>	Baytan, Vortex ¹ , Argent, Nuflow-M, Vitavax-PCNB, Dynasty CST ² , and Trilex Advanced ²
<i>Pythium</i> spp.	Allegiance FL, Apron XL, Dynasty CST ² , and Trilex Advanced ²
<i>Thielaviopsis basicola</i>	Baytan, Nuflow-M, and Trilex Advanced ²
¹ Vortex (Ipconazole) is a new compound developed by Bayer CropScience and will be a component of seed treatment fungicides on FiberMax and Stoneville cotton varieties in 2009. ² Dynasty CST and Trilex Advanced are over treatments that are applied in addition to a standard or base fungicide treatment.	

Selecting Cotton Varieties to Fit Your Farm

When selecting varieties it is important to identify the strengths of a variety, as well as its limitations. This will help you to determine which varieties will perform best under various pest pressures and management practices. I highly recommend that growers and consultants refer to the Texas AgriLife Extension and Research Trial Results when they are trying to determine which variety will perform best under individual field conditions. Results of these trials can be found on the web at <http://gaines-co.tamu.edu/> and at <http://lubbock.tamu.edu/>. Several of these reports have also been included in the "2009 Cotton, Peanut, and Wheat Management Reports" which can be picked up at your local gins or ag chemical stores or at our office.

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As you are looking through the results you may want to note the strengths and limitations of each variety. Below are some examples of comparisons:

- *Variety A* may be partially resistant to root-knot nematode, but susceptible to Verticillium wilt.
- *Variety B* may be tolerant of Verticillium wilt, but susceptible to Fusarium wilt.
- *Variety C* may have the best return under irrigation, whereas *Variety D* may have the best return in dryland production
- Another consideration is whether you are prepared to scout for pink bollworms and bollworms. A non-bollgard variety, needs to be scouted on a weekly basis for "worm" populations that can cause economical damage.

Preplant Weed Control in Cotton

Reported by Dr. Peter Dotray, Extension Weed Scientist, and Dr. Wayne Keeling, Research Weed Scientist in the March 15, 2010 issue of Focus on South Plains Agriculture

One of the major challenges of using herbicides pre-plant is to ensure that herbicide activity in soil will not reduce crop germination and emergence. A second challenge is to select the proper herbicide(s) for the weeds that need to be controlled. The use of Prowl (pendimethalin) or Treflan (trifluralin) is the first step towards successful weed management programs in cotton. The strength of these dinitroaniline (DNA) herbicides is annual grass control (barnyardgrass, crabgrass, foxtails, panicums, etc.) and control of small-seeded broadleaf weeds such as Palmer amaranth (careless and other pigweed species), Russian thistle (tumbleweed), and kochia (ironweed). Most larger-seeded broadleaf weeds, like annual morningglories, cocklebur and sunflowers, and perennial weeds are not controlled by these herbicides.

The rate of each DNA herbicide is dependent on soil type. The sandier the soil, the lower the recommended rate. If soil conditions are dry and large clods are present during mechanical incorporation, herbicide performance will be less effective. Keep in mind that when Treflan was first used over 35 years ago, farmers were diligent with two-pass incorporation prior to bedding and planting. This resulted in thorough mixing of the herbicide and excellent weed control. In recent years many farmers have cut back on incorporation to save time and money. Some have still achieved adequate weed control while others have observed that poor incorporation caused herbicide failures. In cotton, Prowl EC rates range from 1.2 to 3.6 pints per acre in conventional or minimal tillage and from 1.8 to 4.8 pints per acre in no-tillage. Rates for Treflan and other trifluralin products (formulated at 4 pounds per gallon) range from 1/2 to 1 pint per acre for sandy soils, and up to 2 pints per acre on other soils. The DNA herbicides may be incorporated by mechanical means or by irrigation. A double-pass method of incorporation is recommended and is most commonly used. Mechanical implements used to incorporate these herbicides include a springtooth harrow, a disk, a double or single stalkcutter, and a rolling cultivator to name a few. The better the implement mixes and uniformly distributes the herbicide in the upper 1- to 2- inches of soil, the better the weed control.

Treflan should be incorporated within 24 hours after application. Prowl must be incorporated within 7 days after application, but the sooner the better. Prowl EC may be surface applied and then incorporated by rainfall or irrigation. Three-quarters to one-inch of irrigation is necessary to incorporate (activate) these herbicides. Both Prowl EC and Treflan may be chemigated into the soil. These applications may not be the best way to incorporate Prowl or Treflan, but may be the only way to use these herbicides in a reduced tillage or no-tillage crop production system. Always carefully read and follow label recommendations.

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The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating