**Situation**

Unfortunately, we know all too well that the dry land wheat is hurting for water. And, irrigated fields with limited water are just hanging on. The freezing temperatures are also burning back the leaves. This is not a very encouraging report, but if you are an eternal optimist the rains will be coming soon.

Our extreme cold temperatures have also had a detrimental impact on the pest complex. There is very little or no pest activity at this time. Usually by the middle of March, aphid infestations (greenbugs, Russian wheat aphids, Bird cherry oat aphids) are beginning to be a concern. And with the drought conditions the past few years, brown wheat mites are usually active by now. Just because these pests are not active now, do not think they will not become a problem. As temperatures do begin to warm up, damaging populations could still develop from those that have survived the extreme conditions. This is because aphids and mites have a high reproductive capacity.

The reproductive capacity of greenbugs increases dramatically at temperatures between 55°F to 75°F and Russian wheat aphid at temperatures between 50°F to 70°F. Both of these aphids give birth to two to five living young per day, depending on the temperatures. The young nymphal aphids will mature to an adult in five to seven days and will begin giving birth to more living nymphal aphids. All of the aphids are females and each female will reproduce for about three weeks. As an example of the high reproductive capacity, if we start with 1,000 female adults and each gave birth to an average 3 nymphs/day within a week (3 x 7 days = 21 nymphs/female) there would be 21,000 aphids in week 2. Then if the population continued increasing by 3 per day there could be 441,000 aphids by week 3. So, depending on the temperatures and the number of aphids starting out, heavy damaging infestations can develop quickly.

Brown wheat mites are just as prolific as the aphids. All brown wheat mites are females. They lay eggs which hatch in about 7 days, giving rise to multiple generations in a very short period of time. And, drought conditions are ideal for the build up of heavy infestations.
Since these wheat pests can become problematic rather quickly, begin checking fields if you have not already begun scouting.

**Wheat Viral**

**Diseases and the Wheat Curl Mite**

The viral diseases of wheat (*Wheat streak mosaic virus*, *Wheat mosaic virus*, and *Triticum mosaic virus*) are all vectored by the wheat curl mite, *Aceria tosichella* Keifer. These diseases cause devastating yield losses. Unfortunately, our current practices for managing these diseases are the same practices that were used in the early 1970’s. These practices are delayed planting, clean tillage, and destruction of volunteer wheat in August and early September in order to break the “green bridge” cycle of wheat curl mites moving onto the wheat seedlings in the fall.

However, Dr. Charlie Rush with the Texas A&M AgriLife Research, Bushland, Tx and his research team are continuing to study the relationship of the wheat curl mite to disease infection and the impact of the progressive nature of the disease on additional crop inputs, such as fertilization and irrigation. Research findings are providing valuable information that are leading to management decisions which will reduce the losses from mite-vectored virus diseases. The research objectives are 1) evaluate the impact of cultivar mixes and deficit irrigation on mite infestations, 2) develop an economic threshold for mite-vectored virus diseases of wheat, and 3) identify new chemistries for efficacy in controlling the wheat curl mite. Coupled with the research objectives there are objectives for Extension to 1) develop multi-media educational tools and programs for mite-vectored diseases and 2) develop a First Alert system for tracking the progression of the mite-vectored diseases across the Texas High Plains during a growing season.

A website “Wheat Virus Early Detection System” is being created so individuals can go to for information about mite-vectored virus diseases and the wheat curl mite. The site will show by county when each of the viruses have been positively detected. Individuals can follow where hot spots are occurring and the progression of virus development across the Texas High Plains. This system will provide an early detection for when virus infections are light or heavy each season. When the website is completed I will provide a link to it. We expect the website to be available before fall 2014.

Currently, few samples have been submitted this year to the Plant Diagnostic Clinic at the Texas A&M AgriLife Research and Extension Center. Because of the limited number of samples there has not been wide spread detection of the diseases. We encourage submission of samples to the Plant Diagnostic Clinic because as wheat begins growing now the symptoms development of diseases may increase.

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