



Pest e-alerts



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Wheat Disease Update

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Oklahoma: Harvest is occurring or starting across all of Oklahoma, so observations and reports of disease occurrence are about at an end. The only disease observations that have come to my attention are a number of samples from the OK panhandle that came into the diagnostic lab last week and tested positive for various combinations of wheat streak mosaic virus, wheat mosaic virus (high plains virus), Triticum mosaic virus, and barley yellow dwarf virus. This is similar to the panhandle of Texas as indicated by the report from Dr. Jacob Price (below) who is located in Amarillo, TX.



Texas (Dr. Jacob Price, Plant Pathology Research Associate, Texas AgriLife Research-Amarillo): During this wheat season 214 samples were submitted to the GPDN diagnostic lab in Amarillo from counties in the northern Texas Panhandle. Of these, many were found to be infected with single and multiple infections of Wheat streak mosaic virus (WSMV), Triticum mosaic virus (TriMV), Wheat mosaic virus (WMOV), and Barley yellow dwarf virus (BYDV). The most prevalent viruses found were WSMV and BYDV at 31 and 21%, respectively. Thirteen percent of samples were found to be infected with TriMV and of

these samples 93% were also infected with WSMV, as has been seen in previous years. Only 4 and .01% of the samples were found to be infected with WMOV and CYDV, respectively. These results are similar to previous years.



Kansas (Dr. Erick De Wolf, Wheat Plant Pathologist, KSU): The wheat disease survey in southwestern and central Kansas this past week (5/23 to 5/26) continues to find low levels (less than 3% incidence, severity 1 to 5%) of leaf rust and stripe rust in many locations in the state. Dry conditions have delayed the development of the rust diseases in Kansas this year but we are likely to see a moderate increase in disease pressure in north central Kansas during the next two weeks. Most fields in north central Kansas are now past flowering and the disease is not expected to cause serious yield losses. Both stripe rust and leaf rust were observed in the following counties: Southwest Kansas: Clark; Central Kansas: Reno, Pawnee, Rice, and Saline; North Central Kansas: Lincoln, Jewell, and Republic.

Stem rust was also observed in south central Kansas on May 25th in Barber County. The disease was found in the variety Winterhawk, which is known to be susceptible to the current races of stem rust present in North America. The incidence was close to 2% and severity 1% or less. The wheat at this location was in the dough stage of kernel development.

Ticks are Out in Force and Biting

Justin Talley, Extension Livestock Entomologist

Ticks are abundant this time of year and sometimes unavoidable. There are some key issues to take into account if you are constantly finding ticks on yourself or your pets. Probably the most critical issue is noticing where you have just been when you find ticks on yourself. Ticks prefer wooded areas or areas where the humidity does not fluctuate excessively during the day.



One of the easiest yet most under-utilized things a person can do is keep the grass and shrubs trimmed weekly especially if you have been in an area where there has been a lot of precipitation. If you have large areas of pastureland or land that is grown up then you need to protect yourself and your pets.

Methods of protection from ticks

- ❖ Avoid heavily-infested tick areas, especially in the spring and early summer.
 - Stay on cleared or prepared trails or paths.
 - Avoid tall grasses or bushy overgrown areas and areas covered with large amounts of leaf litter.

- ❖ Wear protective clothing.
 - Wear light colored clothing so ticks can be seen easily and removed before they attach.
 - Wear long pants and tuck pant legs into boots or into high socks.
 - Wrap tape (masking tape works well) around the cuffs of your pants with the sticky side out. Ticks will be captured on the tape.
 - Wear boots or closed toe shoes.

- ❖ Use a repellent that indicates it works well against ticks.
 - Many repellents contain DEET (N, N-diethyl-M-toluamide) which can be placed on the skin or on clothes. Concentrations of 20 to 40% or greater work best. DEET is sold under several different trade names.
 - Additional tick repellents contain the insecticide permethrin, which should be sprayed onto clothing where it remains effective for up to three washings. Do not apply to the skin. Read instructions carefully, as it is harmful to some fabrics.

- ❖ Protect your pets and premises from ticks.
 - Inspect pets frequently for tick infestations. Remove ticks or treat for them.
 - If your yard or premises is infested with ticks, treat it with the recommended insecticides.

- ❖ Frequently inspect yourself and other family members for the presence of ticks, especially children, at least every two- to three- hours if you are in a tick-infested area.
 - Examine the head and hairline especially close. The waistline and other tight spots should also be surveyed.
 - Crawling, unattached ticks cannot transmit disease and are easily removed.

- ❖ Properly remove attached ticks.
 - Use tweezers to grasp the tick at the surface of the skin.
 - If you do not have tweezers, use tissues or a cloth to protect your fingers and to grasp the tick firmly. A Ziploc bag turned inside out works very well for this purpose. (Protection of your fingers is necessary because you could accidentally crush the tick. The ticks body fluids could be infected and contaminate your fingers. You could accidentally introduce the disease organism into the mucous membranes or a scratch or wound.)
 - Pull the tick straight out with a slow steady pull. Do not be alarmed if the tick head (mouthparts) stays in your skin. Your body will take care of this wound and heal without removing the head. The important thing is to stop the potential for the tick to secrete disease organisms into the feeding site by severing the connection between the tick and your skin.
 - Do not try to remove ticks with a match or other hot objects, as this is likely to cause a burn. In addition, folk methods of using alcohol and Vaseline to suffocate the tick are not effective.

- Record the date of tick bite and save the tick (freeze in the ziplock bag used for removal) in case you become ill.
- ❖ To prevent tick populations from building up in your yard, keep ticks off your pets, keep your lawn mown and prevent the growth of tall grass, weeds or brush in fence lines and around shrubbery.
- ❖ Landscaping Tips to Reduce or Limit Tick Access to Your Property:
 - Remove leaf litter and clear tall grasses and brush around homes and at the edges of lawns.
 - Place wood chips or gravel between lawns and wooded areas to restrict tick migration to recreational areas.
 - Mow the lawn and clear brush and leaf litter frequently.
 - Keep the ground under bird feeders clean.
 - Stack wood neatly and in dry areas.
 - Keep playground equipment, decks and patios away from yard edges and trees.
- ❖ Do not use pet tick and flea collars on humans to repel ticks.
- ❖ Discourage deer from entering your lawn.
- ❖ Bait boxes that treat wild rodents with acaricide (insecticide that kills ticks) are now available for home use. Properly used, these boxes have been shown to reduce ticks around homes by more than 50 percent. The treatment is similar to products used to control fleas and ticks on pets; it does not harm the rodents. Bait boxes are available from licensed pest control companies.

Diseases caused by ticks that should be of concern this time of year include:

Rocky Mountain spotted fever (RMSF)

RMSF is caused by the intracellular bacteria, *Rickettsia rickettsii*, and transmitted by tick bites. It is the most important tick-borne disease in Oklahoma. Most cases of RMSF in Oklahoma occur between April and September, with the peak number of cases in May, June and July. The American dog tick (*Dermacentor variabilis*) is the major tick that transmits RMSF, and it is most active in the spring and early summer. Most of the cases of RMSF occur in the eastern half of the state, where the American dog tick is the most abundant. Most people come in contact with this tick in heavily wooded areas including many of the recreational areas of eastern Oklahoma.

Symptoms of Rocky Mountain spotted fever: Usually the first symptoms of RMSF appear three to 14 days after the tick bite. They include sudden fever, chills, muscle aches and headaches. Nervous symptoms such as sleeplessness, restlessness and delirium may also occur. In about 50 percent of the patients, a characteristic spotty rash occurs on the feet and hands within two to three days of the fever. The rash may move to the rest of the body but does not start on the

trunk of the body like the rashes caused by measles and some other diseases. If someone develops these symptoms and knows they have been bitten by a tick, they should seek medical help immediately. When diagnosed early enough, RMSF can be effectively treated with antibiotics. Prompt treatment after the disease is diagnosed usually results in complete recovery. If left untreated, the mortality rate can be as high as 20%. Two-thirds of all RMSF cases occur in children under the age of 15.

Southern Tick-Associated Rash Illness (STARI)

A rash similar to the Lyme disease rash has been described following lone star tick bites. This rash is can be accompanied by fatigue, fever, headache, muscle and joint pains. This condition has been named southern tick-associated rash illness (STARI). The rash of STARI is a red expanding bull's eye lesion develops around the tick bite. The rash usually appears within 7 days of a tick bite and expands to a diameter of 3 inches or more. Unlike Lyme disease, STARI has not been linked to any arthritic, neurological, or chronic symptoms.

Human Monocytic Ehrlichiosis (HME)

HME is caused by the intracellular bacteria, *Ehrlichia chaffeensis*. The first human case was reported from Arkansas in 1986. Human cases have been found in mostly the southern states where the lone star tick is widely distributed. Cases of the disease have risen in recent years. The lone star tick is the vector for HME.

Symptoms of HME: Symptoms can be very mild to severe, requiring hospitalization, and include fever, chills, headache, aches and pains in the joints and muscles, loss of appetite, eye pain, nausea and vomiting. There is usually no rash.

Prevention of Tick-Borne Disease

The best way to prevent tick-borne disease is to protect yourself and your family from tick bites. It is important to remember that less than one percent of the ticks actually contain infectious organisms. Ticks do not transmit disease while crawling on you. Do not panic if you find a tick attached. If a tick is attached, it should be removed following the methods presented in the methods of protection from ticks section. Be sure to record the date on a calendar and place the tick in some kind of container in the freezer (a "Ziploc bag" will work well for this purpose). Keep a close watch for any possible symptoms of the diseases caused by ticks, and if they occur, see a doctor immediately. All of the tick-borne diseases are usually easily cured with use of antibiotics, especially if treatment is started early.

Below are pictures of some commonly encountered ticks during this time of year.

Gulf Coast Tick



Lone Star Tick



American Dog Tick



Brown Dog Tick



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