

Plant Disease and Insect Advisory



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Wheat Disease Update – 16 June 2003 Bob Hunger, Extension Wheat Pathologist

Summary of foliar diseases. Although many foliar diseases occurred on wheat in Oklahoma this past spring, reports I have received following the start of harvest indicate that significant losses over a large area due to diseases were minimal. Producers I have talked to in southwestern and central Oklahoma indicated to me that yields ranged from 35-50 bu/acre and test weights were around 60 lb/bu (or even slightly above that). I'd imagine there were exceptions to this, but overall, I think that much of the wheat crop in Oklahoma "dodged the disease bullet" in 2002-2003. I haven't heard any reports of yields for wheat to the north and west of Stillwater.

Take-all root rot. This week, the Plant Disease and Insect Diagnostic Lab received a wheat sample from Caddo County that was diagnosed to be infected with take-all root rot. Take-all usually is detected (as are many of the root rots) by the appearance of whiteheads as plants mature (see photo). Diagnosis of take-all is then relatively easy because of the presence of black shiny fungal growth on the lower tillers that can be "scratched-off" with a thumbnail (see photo). Apparently this take-all in Caddo



County did not cause significant losses, and was detected as areas in the field where the heads became particularly “sooty” or darkened. The fungus that causes take-all survives on the wheat root and crown tissue, so rotation out of wheat, deep tillage and late planting all can be used to help control this disease. Also, if a field is limed to increase the pH, limit the lime to not raise the pH above 5.5-6.0 because a high (alkaline) pH favors take-all incidence and severity.

Common bunt/stinking smut. Similar to the last few years, there have been several reports of common bunt (also called stinking smut) in harvested grain. Common bunt is characterized by the presence of a “fishy” or “musty” smell. In severe cases the grain may appear “dusty” due to the presence of black bunt spores on the kernel surfaces. Additionally, bunted kernels often can be observed that are about the same size as a wheat kernel but black (or dark) in color. These bunted kernels can be easily crushed, which releases the bunt spores and the odor. The fungus that causes common bunt survives the summer in the soil and on the seed coat. These spores germinate in cool temperatures in the fall when wheat seed is germinating, infect the young seedlings, and then the fungus grows with the developing wheat plant through the year. As the plant matures, bunted kernels rather than healthy kernels are formed in the head.



Bunted

Normal



If you have a field in which common bunt was found, be sure to plant seed that has been treated with a fungicide registered to control common bunt. These include Vitavax, Thiram, Baytan, Dividend, and Raxil (or various combinations of these). Be sure seed is completely and thoroughly covered to obtain control. Planting treated seed every year (or at least every other year) is a sound practice to follow to avoid the initiation and increase of common bunt. Such treatment of seed also will control loose smut, which is another seed disease that can be irritating especially if wheat is being grown for seed. Controlling common bunt and loose smut are particularly important because of the always-present threat of Karnal bunt, which is a bunt that has the same “fishy” or “musty” smell as common bunt. Hence, elimination of common

bunt (and loose smut) is helpful to avoid the risk of common bunt being misidentified as Karnal bunt. For more information contact your County Extension Educator.

Other States. The most recent information I've heard from Kansas is that leaf rust was severe on susceptible cultivars in south central Kansas, with fields of Jagger at the late berry stage having 60% severities. In central Kansas, leaf rust in variety plots ranged from a trace to 60%, and in northeast Kansas leaf rust was at a 10% severity on flag leaves. Apparently leaf and stripe rust were present in Kansas, Missouri and Arkansas, and may cause losses greater than Oklahoma will experience.

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