

8/27/2007 University of Missouri Extension Agronomy Update
MU Wheat Performance Data Reveals Strong Varietal Response to April Freeze Event
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Corn harvest has begun in portions of west central Missouri and with the recent rains, the soybean crop is progressing through pod fill and seed development fairly well. As we move into the month of September, wheat producers are encouraged to utilize the University of Missouri wheat performance results from 2007, prior to solidifying plans for their 2008 wheat crop. The University of Missouri recently released the soft-red winter wheat variety performance data from 2007 and the data is suggestive of a strong varietal response to the April freeze event. It is interesting to note the wide variability in wheat yields, within location. Wheat physiologists and those involved with wheat production would agree that the April freeze event obviously had a negative impact on the wheat crop. Overall, wheat further into jointing experienced greater yield losses and therefore, losses tended to be greater as you progressed south through Missouri. However, the University of Missouri variety trials show a large difference *within* location. For example, at Trenton Missouri, 2007 yields varied from 1.9 bu/ac to 45.7 bu/ac, with the 72 varieties tested averaging 20.5 bu/ac. This degree of variability is extremely important to note. Although all wheat varieties at the Trenton location experienced similar temperatures and conditions, there is a large difference in actualized yield based upon variety. The level of cold and stress tolerance is clearly different between varieties. Test weights at the Trenton location also varied, from 47.9 lb/bu to 54.8 lb/bu. The wheat performance results are now available at all local MU Extension Centers.

When considering fall applications of nitrogen to wheat, Peter Scharf (MU Fertility Specialist) notes that fall applications do not need to exceed 30 lbs N/acre, as a yield benefit is rarely seen with applications greater than 30 lbs N/acre. The primary yield response to nitrogen comes from spring applications.

Lastly, loose smut occurred throughout many area wheat fields in 2007 and as a result, wheat seed may possibly be infected. Loose smut causes a true infection of the seed, with the actual seed embryo being infected. Laura Sweets, MU Extension Plant Pathologist, comments that it is not possible to detect infected seed by visual examination. Seed can be tested for seed-borne loose smut at private laboratories, as the University of Missouri does not conduct this test.

If loose smut was present in your 2007 crop, the kernels in the head would have been replaced with black fungal spores, which blow away, leaving only a sooty appearing spike. Seed from fields in which there were noticeable levels of loose smut should be treated with a systemic seed treatment fungicide.