UNIVERSITY OF MISSOURI Extension

Farm Management Newsletter

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Web Site: **http://outreach.missouri.edu/seregion/fmmkt.htm**

Soybean Rust Meetings
February 22, 2005
Scott County Extension Office
Times: 9:00 a.m. – 10:00 a.m. & 11:00 a.m. – 12:00 p.m.

If you have not attended one our Soybean Rust meetings this winter, or if you still have questions, you are invited to attend one of the two sessions on Tuesday, February 22, 2005. Topics that will be covered include: soybean rust disease identification and development, risk to the soybean crop in 2005, and fungicide control decisions. The speaker will be Anthony Ohmes, Mississippi County Extension agronomist. Because our meeting space is limited, we ask that you **pre-register** for the session you plan to attend by calling our office at 545-3516.

Wheat Spring Management

Excessive rain is one factor to blame for the pale looking wheat fields. Wheat does not tolerate flooded conditions for a number of reasons. The primary reason is oxygen depletion, resulting in less N uptake, which leads to less tiller development. Applying a green up fertilizer application should be considered in 2005. Remember, you have approximately a 30-day window between green up and jointing for additional tillering. Wheat begins to grow when temperatures are 50 or above, therefore some N needs to be available for tiller development. Also, base your decision on the number of tillers (includes main shoot) present in your field. In fields with less than 60 tillers at green-up, apply **at least** 40 lbs. of nitrogen as soon as possible to increase tillering and head size. For fields with 60-80 tillers apply a little nitrogen (20-30 lbs) and follow up with some nitrogen later. Applying nitrogen at green-up in a field with over 90 tillers can lead to a thick lush canopy, which may increase the risk of disease, lodging, and winter damage during late winter cold snaps. The time of greatest need for nitrogen occurs approximately 30 days after green-up (pre-jointing).

Injured or dead wheat, especially the main shoot could indicate Hessian fly damage. You will need to examine the injured or dead shoot at the crown or base of the plant, which is at or just below the soil surface. Hessian fly is currently in the puparia stage, which looks like little reddish brown "flaxseeds". The primary ways to avoid injury from this pest is planting after the fly free period and utilizing resistant varieties. This spring the adult flies will emerge around the end of March to lay the first generation on one-to-two node wheat. Typically, temperatures and parasites keep first generation maggot numbers from significantly damaging wheat a second time.

Determining the tillers per square foot is the first step in making that decision on keeping a stand. Count all plants in 3 feet of an average looking row that have 3 or more leaves. Do this in at least 5 locations. Use the formula: #/square foot = {(ave. plant count X 4)/row width inches}. Remember 70-100 tillers/sq. foot prior to stem elongation (Feekes 4) is a target range.
Anthony Ohmes, Mississippi County Extension agronomist, provided wheat production information. Anthony can be reach at 683-6129.

Avoid Sulfur Deficiencies in Wheat

Sulfur deficiency in wheat looks similar to N deficiency; a closer look however shows some differences. Both S and N deficiencies produce stunted, light yellow green plants. Unlike N, S is not highly mobile in plants. Accordingly, S deficiency is first expressed in the younger leaves while N deficiency first appears in older leaves. Other symptoms of S deficiency in wheat include shorter, thinner and woody stems, delayed maturity, and reduced grain fill. Commonly S deficiency will occur in a spotty pattern in the field. Proper identification of the problem is critical as excessive N fertilization can induce S deficiency. Adding more N will not help your wheat if S is the problem. Plant tissue testing offers a method for diagnosing S and N deficiency. For best results, collect 15 to 20 plants each from both a good and bad area of your field. It is a good idea to also collect soil samples from the same areas of the field.

Most of the sulfur in soil is contained in soil organic matter. This sulfur is made available to plants by bacterial action. Soil bacteria increase in numbers and activity as the temperature goes up. As wheat grows in the spring before the soil warms up it is particularly susceptible to S deficiency. The lighter-sandy or silt-loam soils of Southeast Missouri are also prone to low Sulfur conditions. Regular soil testing is a good way to head off potential sulfur problems. These problems are easily corrected by adding sulfur fertilizers.

Ammonium sulfate is a commonly available sulfur fertilizer. It is 24%S and 21%N. When applying green up nitrogen consider including 30 to 40 lbs. ammonium sulfate per acre. This will give you 7.5 to 10 lbs./acre of S. Ammonium Sulfate (NH_4SO_4) is more expensive in terms of N than urea or ammonium nitrate (NH_4NO_3), but when you consider the sulfur, the cost is more reasonable. When I compared a mix of NH_4SO_4 and NH_4NO_3 to NH_4NO_3 alone, adding the 10 lbs. of S cost an additional $1.50/acre. This is inexpensive insurance against sulfur deficiency.

To test this recommendation a wheat trial was performed at the MU Delta Center in the spring of 2004. Two rates of ammonium sulfate, 50 lbs/a (12 lbs S +10 lbs N) and 100 lbs/a (24 lbs S +20 lbs N), were compared to ammonium nitrate. These plots all received a total of 100 lbs N/a (20 PP in fall + 80 at green up). The N contribution from plots with ammonium sulfate was deducted from the amount of N supplied as ammonium nitrate at green up. The results from the test the ammonium nitrate application averaged 52 bushels/acre, the 50 lbs. of ammonium sulfate averaged 66 bu./ac and the 100 lbs. of ammonium sulfate averaged 68 bu/ac.

David Dunn, Soils Testing Lab Supervisor University of Missouri-Delta Center, provided <u>Avoid Sulfur Deficiencies in Wheat</u> information. David can be reach at 379-5431.