Wheat Update March 21, 2012

Vernalization and Status of Wheat

Dear LSU Wheat Update Recipient:

I have received a number of phone calls recently regarding wheat that is either ragged in appearance with uneven heading, or not headed when most wheat fields in the state are headed or approaching that stage. It is possible that we do have a few fields of wheat varieties with a long vernalization requirement that did not receive enough cold weather to fully vernalize and these wheat fields may not head out properly. However, I want to caution you not to make a decision on a wheat field immediately, but rather wait until early April when the variety would head out in a normal year. Remember that the same variety was not headed out at this time last spring. The difference this year is that many varieties are heading 14+ days early due to warm temperatures. A vernalized variety with a strong photoperiod response may not head out any earlier this year than last year.

One of the varieties with heading issues in some fields is Terral TV8861, although there are certainly others. TV8861 performed very well in north Louisiana last year and there is a fair acreage of this variety planted from central Louisiana northward. TV8861 was not sold in south Louisiana because it is late-heading and was assumed to have a fairly long vernalization requirement.

Wheat heading date is controlled by accumulated cold (vernalization) and also by photoperiod and heat units. The degree to which photoperiod influences heading date is variety dependent, and photoperiod interacts with vernalization and heat units, making it difficult to predict what will happen in a year like this one. It is still possible that photoperiod will still trigger normal heading in those fields that do not appear to be vernalized. It is also possible that they are not vernalized and will only put up sporadic heads and have very low yields.

Many wheat fields and research plots are ‘ragged’ in appearance with a mixture of heads that emerged early, later-heading plants, and even some plants that appear not to have vernalized. This can occur for several reasons. The variety may have almost reached the vernalization threshold (partially vernalized) such that some heads are triggered, or there may be normal variation for vernalizaiton requirement within that variety that does not show up in a year with a normal winter (if there is such a thing). The ragged appearance this winter is a function of the interaction of the particular variety with the warm winter we have had. It is not a result of a seed mixture and probably will not show up again next year even if you planted the same seed source back. In most cases the ragged appearance is a relatively small portion of the total plants in the fields. The later-heading plants should mature near the same time as the early-heading plants and have minimal impact on harvest or yield.

The picture below was taken on March 20 at the LSU AgCenter Central Stations Ben Hur Farm in Baton Rouge. These are plots in the statewide variety trials. As you can see, there is tremendous variation in stage of development. We will have to make some decisions in late April about what and how to harvest. Many of these plots did not vernalize and will not head out. Some plots are already well into grain fill and will be ready for harvest in late April whereas others will not be ready for harvest until several weeks later. It will be impossible to harvest this test and get good data on all plots. We will have to either harvest the early varieties when they are ready and not harvest the later ones, or wait for the later ones knowing that weather and birds will seriously compromise the earliest varieties. Fortunately the North Louisiana locations do not have as much variation, although there will still be some issues.

Regards and good growing,

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