



2018 Wheat Update: March 5, 2018

Assuming we accumulate 10 GDU per day (our average) for the second half of March, **wheat is likely to joint the last week of March** or about a week early.

Jointing is identified as either Growth Stage 30 (Zadoks) or Growth Stage 5 (Feekes) depending on your preference. Nitrogen applications applied just prior to or at this growth stage has a significant contribution to wheat yields.

If nitrogen applications are delayed and leaf nitrogen levels dip below 3.0%, yields are lost.

The warm February took us from 10 days behind schedule to almost 10 days ahead of schedule. Central VA averages ten GDU per day in March but the cooler-than-normal first half of March is slowing things down very quickly.

Nutrition

Plant tissue samples taken at GS4/ GS25 will give a good guide to the amount of nitrogen needed to complete this crop. If the winter topdress was applied timely, it usually takes about 70 to 80 lbs. /acre to finish the crop. Always **balance nitrogen with sulfur**.

Boron leaf levels continue to test very low or deficient. Boron deficiency in wheat is displayed as a tear along

the mid-vein on the leaf. The tear does not reach the leaf edges (see photo).

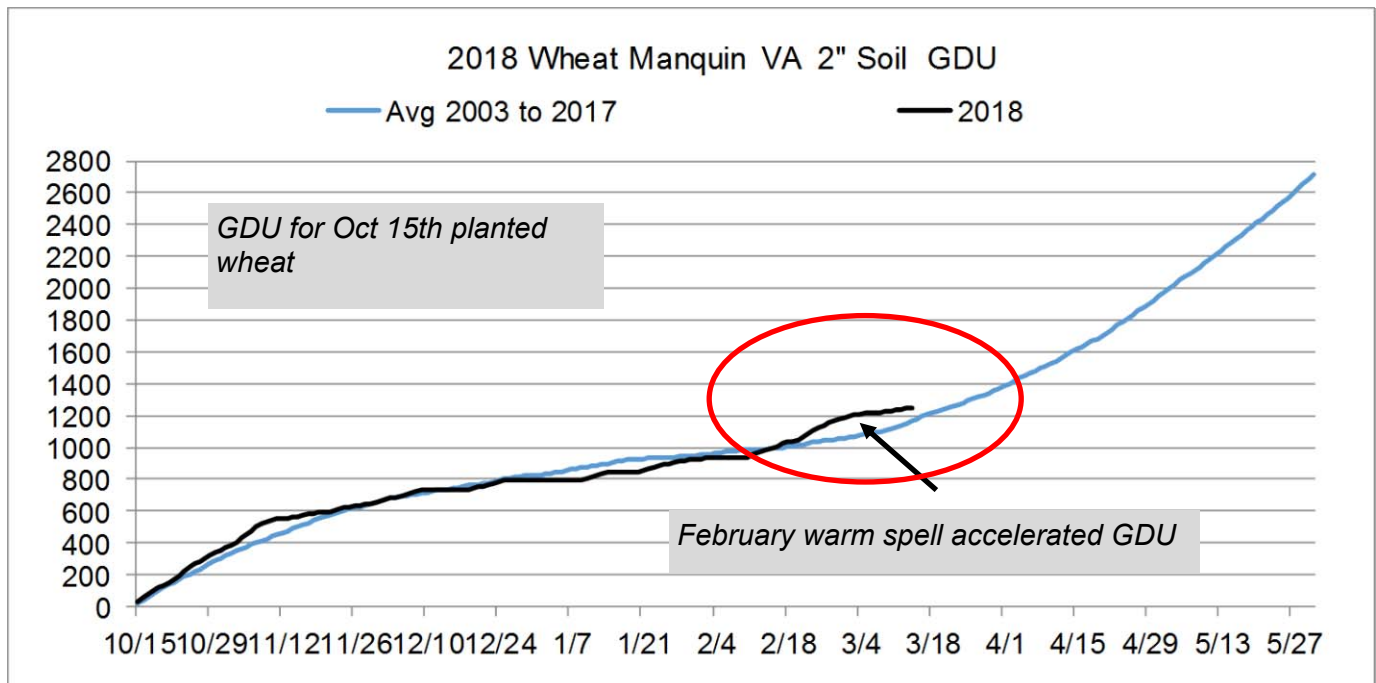
Boron must be supplied throughout the life of the crop. Boron increases nitrogen efficiency and utilization by the wheat plant. Apply 1 qt. /acre of 10% boron with this spring topdress.

Zinc, manganese, copper and magnesium have all been recommended if needed.

Diseases

Powdery mildew and septoria leaf blotch have entered into the picture with the warmer and wetter February.

This topdress is a good time to add Headline® or Priaxor® to the topdress application to control these diseases.





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Wheat Nutrition for Higher Test Weight and Falling Numbers Scores



Septoria leaf blotch in wheat

Insects

Adult cereal leaf beetle (CLB) feeding has been observed so including an insecticide in the GS5/30 application *prior to beneficial insect emergence* should provide CLB, Hessian fly, armyworm and aphid protection for the entire season.

Palisade 2EC

Growers wishing to control lodging can use Palisade 2EC growth regulator on their wheat. Split applications work best with 2.75 ozs/ acre at GS5/30 topdress and the second application at 2nd node or GS7/32. Since April provides about 19 GDU/day, the 2nd node should appear about 160 GDU after jointing which is around 10 days.

Wheat Quality

Two major limiting factors affecting profitable wheat production for food-grade wheat in the eastern US are *low test weights* and *low falling number scores*.

Low test weight indicates a physical change in kernels. Test weight is a measure of how much grain weight can be placed in a given volume. At maturity (about 30% kernel moisture), prior to any rain, wheat kernels will pack well into a bushel. When it rains, kernels swell and upon drying, the kernels do not shrink back to their original volume, shape, and smoothness. This results in more space between kernels, and they will not pack into a bushel as well as they did before the rain or even heavy dews. The result is a lower test weight.

Low falling numbers indicate a chemical change in kernels. The Falling Number test is used to measure alpha-amylase activity due to sprout damage in wheat. Sprout damage is caused by the enzyme alpha-amylase, which cuts long starch chains in the wheat endosperm into shorter pieces, resulting in poor bread, cake and noodle quality. According to research, applying molybdenum as a foliar application will reduce the enzyme alpha-amylase activity in mature wheat by increasing the dormancy period of the kernel for about two weeks.

In the data, foliar applications at flag leaf were critical to prevent low falling numbers. However, for increasing test weight (and protein), the molybdenum applications will have to begin prior to that growth stage.

For 2018, Renwood Farms is recommending 1qt. / acre of Molyron™ be applied each time with the winter and spring topdress. A second option is to add to the spring topdress and again at flag leaf.

In 2017, Molyron-treated wheat was three lbs. heavier in test weight than untreated wheat with falling number scores over 320.