

Post Rock Extension District Column

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Well, winter just doesn't seem to want to stay away, but spring seems to give us a tease once in a while. Unfortunately, we may experience a lot more winter before spring appears for good.

Over the last couple of weeks, we have been experiencing some pretty big fluctuations in our temperatures around north central Kansas. However, it won't be long and the wheat fields will wake up and come alive with green color.

Producers are now making some tough decisions on exactly what nutrients need to be applied to their wheat crop. Some wheat fields look pretty decent, while other fields are pretty thin due to limited moisture. Plus, producers may have concerns over these thin stands and regard to winter survival. There are several key elements that need to be considered when deciding on the exact fertility program you plan to use. These include: the **timing**, your **nitrogen source**, the **application method** and the **nitrogen rate**. Having adequate nitrogen available to support spring tillering when the wheat breaks dormancy will be very important.

So the most important factor in getting a good return on topdress nitrogen is usually the timing. It is critical to get some nitrogen on early enough to have the maximum potential impact on yield by producing adequate numbers of tillers and large wheat heads. This occurs prior to the **jointing stage** which is also called "stem elongation" of the wheat.

Different soil types can affect the application and utilization of this nitrogen. For well-drained medium to fine textured soils, which dominate our area of wheat acres, the odds of losing much of the nitrogen that is "top-dressed applied" in the winter, is LOW since we typically don't receive enough precipitation over the winter to cause any significant denitrification or leaching. For these soils, topdressing can begin anytime now – and usually the earlier the better.

Also keep in mind that nitrogen should NOT be applied to the soil surface when the ground is deeply frozen and especially when snow covered to help prevent runoff.

Most topdressing is broadcast applied and in high-residue situations, which can result in some immobilization of the nitrogen, especially when using liquid urea ammonium nitrate known as UAN with your herbicide application. However, if no herbicides are applied with the nitrogen, a dribble band spaced no wider than about 15- to 18-inches can help avoid immobilization and may provide for a more consistent crop response. The typical sources of nitrogen used for topdressing wheat are a UAN solution or dry urea.

Numerous trials by K-State Research and Extension over the years have shown that both are equally effective. In no-till situations, there may be a slight advantage to applying the dry urea since some of it will tend to fall to the soil surface and be less affected by immobilization than broadcast liquid UAN, which tends to get hung up on some surface residues. Low grain prices and the dryer conditions this year may also play a pretty critical role for your nitrogen rate decisions this spring. However, it is important to keep in mind that N is the most limiting nutrient for wheat, and could make a difference in your economic returns.

So, in general, producers may consider a later topdress application (around jointing) with a better idea of the overall crop condition and the expectations for the rest of the season; rather than cutting back on your nitrogen rates now and potentially limiting those yields even further. Just remember, topdressing should complement or supplement the nitrogen applied in the fall, with the total application amount equaling that targeted rate as determined by a soil test that was taken earlier in the fall.

For more information on wheat fertilization contact me at any Post Rock Extension District Office in Beloit, Lincoln, Mankato, Osborne or Smith Center. Don't forget to go to our Post Rock District webpage at www.postrock.ksu.edu and take advantage of our many agronomy educational programs to help you with your cropping enterprises during the months of February and March.