Freeze-Damaged Wheat Options for Forages

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The freeze damage that occurred to much of the wheat in Kentucky has many agents and producers asking about cutting the wheat for hay or silage. First, we recommend waiting about 5 to 7 days before making any management decisions. This time delay will allow surviving plants to begin regrowth and dead plants to turn brown and flaccid (“mushy”).

Cutting damaged wheat for hay is probably not a good idea since the weather is cool and drydown of the plant material is unlikely. Existing wheat plants are close to 20% dry matter (80% moisture) and need to be near 80% dry matter (20% moisture) for hay. The current conditions make drying down suitable for hay unlikely.

Ensiling is a better option. These plants will need to dry down to 30 to 35% dry matter (65 to 70% moisture) for proper ensiling. Drydown conditions are not suitable, but more likely than drying down for hay. Our forage extension specialists, Drs. Lacefield and Smith, remind us that “Although silage inoculation may not be needed during the summer months, the extended cold temperatures have significantly reduced the beneficial bacteria necessary for proper ensiling. Therefore, we recommend adding a commercial silage inoculum for this crop.” Ensiling will reduce nitrate levels by 50%, which leads into the next question.

Many agents and producers want to know if nitrate levels in frozen wheat are a concern. The quick answer is "Yes”, nitrate levels in freeze-damaged wheat are a concern. None of us are sure how high nitrate levels will be. We recommend that forage samples be analyzed for nitrate levels prior to feeding. Silage will reduce the nitrate in samples by about 50%, so it would be best to test with core samples at least 14 days after ensiling.

University of Kentucky Livestock Disease Diagnostic Center (LDDC) Toxicology can test for nitrates and you can submit the sample(s) under your name/extension office if they do not have a local DVM to work with. It will cost $10 to send sample(s) from each farm that questions the nitrate levels. Better safe than sorry. The Accession sheet is available at http://ces.ca.uky.edu/lddc/services.htm

Commercial laboratories likely will test for nitrates. Whether you select a commercial lab or the LDDC, just get the samples tested for nitrates before feeding.

Wait to cut:
If you are trying to salvage a forage crop from the damaged wheat, let the wheat grow for a couple more weeks. Even though the head may be destroyed the wheat likely will grow new leaves. The additional growth should help reduce nitrate levels. (Nitrate levels should be tested, just to be safe.) The additional growth may allow you to wait to cut the wheat when temperatures are warmer and more favorable for drying down cut plant material.

By letting the wheat stay in the field for a little bit longer, leaves and tillers that were killed by the frost will begin to decay. This decaying material should have little impact on the feed quality of wheat, but will hurt the appearance.