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Urea and Cool Season Forages

It's the season for cool season grass nitrogen applications. As you make evaluations regarding nitrogen rate/product/timing to these forages, the mechanisms surrounding losses when applying urea are a common – and justifiable – concern.

Put very simply: nitrogen losses from surface applications of urea to cool season forages is a possibility. Potential losses are complicated to a degree by lots of factors, but there's just more loss potential (via volatilization) from urea than there is from ammonium nitrate or ammonium sulfate for example. If urea is the only option we have, however, or if a price point dictates it's our best buy, understanding under what conditions N loss occurs with urea or urea containing products like UAN can be important

For starters, losses will generally occur with warmer temperatures and moist soils. Under dry conditions or when temperatures are cooler, little urea loss is expected. IF ideal loss conditions do occur, losses seldom exceed 20 percent of the surface applied product.

Second, it takes (ideally) about a half inch or more of moisture to get urea in to the soil profile and eliminate loss potential. During periods of high N loss potential, rainfall should occur within 24 hours. As long as soils aren't frozen and moisture is ample to move product in to the profile, losses are minimized.

Third, inhibitors may be available to help reduce urea loss potential. Urease inhibitors can delay loss processes, providing an opportunity for rainfall to incorporate urea in to the soil.

Fourth, forage crops tend to have a soil surface covered with decomposed litter that may increase the potential for nitrogen (as urea) loss via volatilization. Surface litter can also result in tie-up (other N sources could be affected in this manner as well) of nitrogen.

Bottom line: in most well drained soils in Kansas, there is little loss from urea when applied in an appropriate time – typically November through early March. Still, potential loss mechanisms have to be considered when urea is used, and application management options should be considered so urea can be applied when it can be the most effective and economical.

2021 Tomato Trials

Each year, Master Gardeners from Kansas and Missouri, on collaboration with each state's respective Extension Horticulture programs plant and rate a number of tomato varieties. Trials are conducted in multiple locations across each state, with one of this year's trials being hosted by the Meadowlark Extension District Master Gardeners.

The trials are a good way to look at varieties that will perform well in this region. Missouri recently ranked their top 10 varieties based on pounds of fruit harvested per plant are, with the following coming in at the top: Anna Russian, Cherokee Purple, German Johnson, Beef Master, Early Girl, Big Boy, Brandywine Black, Jet Star, Celebrity, and Big Beef.

More information on KSU's trials will be shared as they are available in the near future. Trials vary by county/region, but as you're looking through garden calendars this winter, these are certainly some options to consider.