

Nitrate Considerations When Harvesting Failed Corn/Milo for Forage Use

As most of Rawlins county has spent most of the year in extreme drought conditions, many crops traditionally grown for grain production are failing and pasture conditions have been worsening. This combination of factors is causing many producers to look into harvesting their failed crops for use as livestock feed. This can be a good way to salvage some of the inputs that you put into attempting to grow a grain crop this year while saving some money on hay. First, before you do anything, speak to your crop insurance agent and ask them about how harvesting your crops for forage will affect your crop insurance payments. Second, you need to make sure that nitrate concentrations and monitoring are a part of your plan from swathing through feeding. This might involve taking samples of the stalks and leaves before you even swath. These samples should be representative of what will end up in the bales and include an appropriate mix of stalks, leaves and ears/heads that should be similar to what will end up in a bale. Also, take samples at the heights you are going to swath at. It's recommended to swath at least 6" above the ground to help reduce nitrate problems because nitrates concentrations are usually higher lower on the plant stalks. Once you get these results back, see if it's even safe to consider baling. If nitrate levels are a little high, the moisture content is high enough and you have the ability, think about utilizing the ensilage process to help reduce the nitrates in your feed. If the nitrate levels are safe, when you harvest, remember to keep your cutting height at least 6" above the ground (or whatever height you sampled to). After you get the stalks all baled up take some samples of those bales and have them checked for both nitrate concentrations and for nutrient values. If you don't have a forage probe for this, call me at the Rawlins County Extension Office, (785) 626-3192, and I can bring out a forage probe and help you get some good samples for analysis. Also, when you get results back on either test, if you would like I can also help you interpret them or develop a ration to most efficiently utilize your forages and available feedstuffs. Please also remember that nitrates can be a problem in many grain crops including corn, milo, oats and even kochia weeds are known to be high in nitrates.

Nitrate poisoning is a very serious condition in cattle and can ultimately result in death. Nitrate poisoning is a bit of a misnomer as it is actually nitrites that become toxic. When cattle ingest nitrates, the rumen bacteria rapidly convert it to nitrites which are usually then converted to ammonia and used by the rumen microbes. If nitrite levels are too high to be quickly converted, nitrites move to the blood stream where it bonds with hemoglobin and reduce the animals ability to carry oxygen in the blood stream. Signs of nitrate toxicity in the animal are brownish discoloration of the blood, difficult and rapid breathing, muscle tremors, low tolerance to exercise, incoordination, diarrhea, frequent urination, blueish coloring to the skin or mucous membranes, collapse and death. Pregnant females may also abort the fetus due to lack of oxygen to the fetus.