

Feeding Drought Stressed Forages

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It's no secret that Morgan County is in dire need of rain. The fields that are normally filled with grass ready to be cut for hay are dusty and crisp, and the corn foliage resembles palm leaves rather than Silver Queen. The county's drought-stricken crops not only affect the farmer's yield but also their nutrient content. Stressed plants can accumulate high levels of nitrates; when forages with high levels of nitrates are fed to ruminants, especially cattle, nitrate toxicity can occur. When an animal is poisoned by nitrates, their blood is unable to adequately supply oxygen to their tissues, and this leads to abortions, decreased production, and usually death. Since Morgan County is fifth in the state for beef cattle production and is also home to numerous dairies, this is a pertinent issue.

Plants naturally contain nitrates. The greatest concentration is found in younger plants and lessens as the plant matures. However, there are numerous variables that can affect this concentration throughout the plant's life. The two main causes of increased nitrates are over-fertilization of crops and plant stress. Over fertilization can occur very easily when care is not taken when applying substances such as chicken litter or fertilizer to croplands. Routine soil testing and fertilizer equipment calibration are essential.

When crops go through stress situations, such as the current drought, nitrates accumulate mostly in the bottom third of the plant. Therefore, when harvesting, the cutter bar should be raised to leave a greater portion of the stalk in the field, which will decrease the concentration of nitrates in the yield. Ensiling can also decrease the amount of nitrates in forages by about fifty percent. A forage analysis should always be conducted to determine the actual nitrate concentration.

Forages with nitrate levels on the high-end can be fed in smaller portions with nontoxic forages or energy feeds (such as corn) to dilute the nitrates as part of a total mixed ration. However, the acceptable amount of nitrate concentrations varies with the age and condition of the animals being fed. For additional information regarding forages and nitrate toxicity please contact the local UGA Cooperative Extension office at 1-800-ASK-UGA1 or 1 800 275-8421.