COW/CALF CORNER

The Newsletter

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Water Requirements for the Cow Herd

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During hot summer months, the water needed for a cow herd often determines several other management decisions. To best assess the adequacy of water quantities in surface water or from wells or "rural water" supplies, it first is necessary to have an idea of the amount needed for cattle of different sizes and stages of production that you may have during the summer on the ranch.

A University of Georgia publication lists the estimated water requirements for cattle in different production stages if the daily high temperature is 90 degrees F. They suggest that amount of water required can be estimated by the production stage and the weight of the cattle. For instance, a growing animal or a lactating cow needs 2 gallons of water per 100 pounds of body weight. A non-lactating cow or bull needs just 1 gallon of water per 100 pounds of body weight. If you are estimating water needs for your cattle, be honest about the weight of the cows in the herd. Many cows today weigh 1200 pounds or more (some a lot more). Therefore expect that most spring calving cows will need at least 24 gallons per day for themselves and another 5 to 10 gallons of water for their calf. Also recognize that some summer days in Oklahoma get even hotter than the 90 degrees used in the Georgia paper. On days with extreme heat, expect the water usage to go up even further.

Test the Forage Before You Cut!

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Hot dry summer weather brings about heat and drought stress on summer annuals. Stressed plants such as the forage sorghums can occasionally accumulate dangerous concentrations of nitrates. These high nitrate plants, either standing in the field, or fed as hay, can cause abortion in pregnant cattle, or death if consumed in great enough quantities. Nitrates do not dissipate from sun-cured hay (in contrast to prussic acid), therefore once the hay is cut the nitrate levels remain constant. Therefore, producers should test summer annual hay fields before they cut them for hay. Stop by any OSU County Extension office for testing details. Testing before cutting gives producers an additional option of waiting and allowing for the nitrate to lower in concentration before harvesting the hay. The major sources of nitrate toxicity in the South and Southwest will be summer annual sorghum type plants, including sudan hybrids, sorgo-sudans, sorghum-sudans, millets, and Johnsongrass. Other plants also may accumulate nitrates. See OSU Fact Sheet PSS-2903 : http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1996/PSS-2903web.pdf

Some of the management techniques to reduce the risk of nitrate toxicity (Note: the risk of this poisoning cannot be totally eliminated), include:

1) Test the crop before you harvest it. IF it has an elevated concentration of nitrates, you still have the option of waiting for normal plant metabolism to bring the concentration back to a safe level. Experience tells us that we cannot estimate nitrate content just by looking at the field.

2) Raise the cutter bar when harvesting the hay. Nitrates are in greatest concentration in the lower stem. Raising the cutter bar may reduce the tonnage, but cutting more tons of a toxic material has no particular value.

3) Do not rely on the presence or absence of a white powdery mildew on the plants to determine the likelihood of dangerous nitrate concentrations. The mildew is not related to nitrate concentration in the plant.

4) Know the extent of nitrate accumulation in the hay. If you still have doubt about the quality of the hay, send a forage sample to a reputable laboratory for analysis, to get an estimate of the nitrate concentration. This will give some guidelines as to the extent of dilution that may be necessary to more safely feed the hay.

5) Allow cattle to become adapted to nitrate in the hay. By feeding small amounts of the forage sorghum along with other feeds such as grass hay or grains, cattle begin to adapt to the nitrates in the feed and develop a capability to "digest" the nitrate with less danger. Producers should avoid the temptation of feeding the high nitrate forage for the first time after a snow or ice storm. Cattle will be stressed, hungry, and unadapted to the nitrates. They will consume unusually large

amounts of the forage and be in high risk for nitrate toxicity. Be sure to read OSU Fact Sheet PSS-2903 closely before cutting and feeding any sorghum forage hay.