

Grazing Crop Residue

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. We are in cow/calf country. We have a lot of cow calf herds. We also have a fair amount of crop production. Two of those crops, corn and grain sorghum, produce a lot of residue that has great value for cattle nutrition, especially spring calving cow in the fall of the year. Those cows have fairly nominal nutritional needs at that time and this crop residue, along with some trace mineralized salt or a mineral block can provide some pretty cheap maintenance for those cows. Over the years some landlords and crop producers have been hesitant to utilize that residue. There are fears of compaction which can be an issue with high stocking rates and muddy conditions. Well the latter isn't a worry right now and stocking rates are easy to manage. The higher the yield of corn, the more residue you'll have. If you had 100 bushel per acre corn figure one acre per 1,200 pound cow per month. You have corn that made 150 bushels per acre, figure 1.5 months per acre per cow. Here's a couple of other things to keep in mind. Fall grazing of corn residue can actually improve yield over not grazing at all. Sorghum residue will be slightly less per bushel of grain produced. I'd figure 1.5 acres per month per cow on 100 bushel sorghum residue. Corn residue is more fragile and should be utilized first - within the first 60 to 90 days. Sorghum residue is a little more robust and holds up to weathering loss better. Waiting on sorghum residue for later also reduces the risk of potential prussic acid issues. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

Prussic Acid in Sorghum

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. I've started to receive questions about grazing sorghum and sudan and concerns about prussic acid. Prussic acid, or hydrogen cyanide, is a natural component in all sorghums. It tends to concentrate in young succulent shoots and can be highly poisonous if these young shoots are eaten by livestock. Very small amounts of green material can cause death of mature cows in a matter of minutes. The key here is that anything that ruptures the cells causes it to dissipate in a matter of just a few days. Harvest forage sorghum for hay or silage, and by the time the cattle eat the forage, the prussic acid is gone. But we are rapidly approaching the time of year when we can easily see prussic acid poisoning. Harvesting grain sorghum OR a light to moderate frost, will often stimulate the sorghum plants to produce new shoots and tillers. These are the killers. While frost will rupture the cells and release the hydrogen cyanide in the existing green tissue, most of this mature tissue has very low levels to begin with. But if you have cattle on these stubble fields or sudangrass fields, you will want to get the cows pulled a few days after that frost and keep them off until a good hard freeze has totally killed the plants. Once we are a week past that season ending freeze, then it will be safe to turn the cattle back out on the sorghum residue. If you want to graze milo residue, spend the next few weeks getting fences built or repaired, but just go ahead and wait until we've had that good hard freeze that kills the plant for good. Prussic acid kills too fast for animals to be saved. Don't risk it! This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

Nitrates in Forages

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. Yesterday we talked about prussic acid in sorghum. The other thing we worry about with sorghum and other forage plants, is nitrates. Naturally nitrogen is in all plants. They take it out of the soil and use it in many different plant compounds including protein. Under certain circumstances, typically very high fertility rates or drought conditions, plants, especially grass plants like corn and sorghum, can take up nitrogen, but because of stress it doesn't get reallocated to plant compounds so you have lots of free nitrate nitrogen floating around in the plant. Cattle can consume this forage, develop nitrate toxicity and die. Unlike prussic acid which kills in a couple of minutes, nitrate poisoning can take a couple of hours and if caught in time, cattle can be saved. Prussic acid is just in sorghum, nitrate can be in anything. Prussic acid dissipates quickly after a freeze, nitrates don't UNLESS the forage is ensiled and then rates will drop by half. If introduced slowly into a cow's diet, they can adapt to amazingly high levels of nitrates without any ill effects. The good news is that testing done too date this fall have revealed very low levels of nitrates. Problems are more likely to arise when we have droughty conditions early or mid way through the season. This year, we had excellent growth conditions through much of the growing season. The plants had no problem getting the nitrogen processed and moved around in the plant. If you are concerned about nitrates, especially in high value livestock, we can get feed tested at the soils lab at K-State fairly quickly and for just \$5 per sample. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.