

News Column

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PRUSSIC ACID POISONING

I don't buy lottery tickets. I don't go to casinos. I don't even play penny ante poker with my kids. I'm not a gambler!

Some would argue that I'm kidding myself and lying to others. As someone who likes to dabble in farming – and at one time made my living (albeit a meager one) farming – you might think I'm really a high stakes gambler, in denial. If that's your line of thinking, then I can't argue.

While I'm willing to gamble at farming, I don't like to take unnecessary chances. I am not the guy who opens the gate and turns cattle out on freshly harvested milo stalks before a freeze. That's not a chance I'm willing to take.

Why don't I turn cows (or sheep) out on stalks before a hard freeze? Because I'm worried about prussic acid poisoning. Been there. Done that. Not planning to do it again.

The reason freshly harvested milo can be dangerous is because the plants are usually not yet dead when the grain is harvested. With a little rain and sunshine, milo will send up new shoots from the roots and those new shoots are likely to be high in prussic acid.

The danger usually becomes clear when we call prussic acid by its' other name, hydrogen cyanide. Cyanide, as you probably know, is a famously fast acting poison. It is the stuff in the pills that the spies in the movies take when they get caught by the bad guys. To avoid spilling secrets, they swallow a cyanide pill and die instantly.

Cyanide really does work about that fast when ingested by cattle. It may actually take a few minutes for them to die, but it is quick enough that producers rarely see other symptoms, such as excessive salivation, heavy breathing, and staggering. The first symptom most cattlemen see is a dead cow.

Cattle that consume hydrogen cyanide die from respiratory paralysis – suffocation. Clinical signs of prussic acid poisoning are similar to nitrate toxicity, but animals that have died from cyanide poisoning will have bright red blood that clots slowly. Animals that have died from nitrate toxicity will have dark, chocolate-colored blood.

Crops most commonly involved with prussic acid poisoning are grain sorghum, forage sorghum, Johnsongrass, and sudangrass. The small plants are the dangerous ones, so producers should be most concerned when cattle get out on newly planted sorghums, or when grazing stalks in the fall that might have regrowth.

The good news is that mechanical injury to the plant releases the cyanide. Swathing and baling will do the trick, as will a hard freeze. Wait at least four days after a freeze before grazing to allow the hydrogen cyanide gas to dissipate.

The bad news is that mechanical injury caused by chewing will also release the cyanide. That's why plants that are at risk for being high in prussic acid shouldn't be grazed. If chewing is the action that releases the cyanide, then it will kill the cow.

While it is rare for hydrogen cyanide levels to remain high in harvested forages, it is possible. I've seen it once, about 50 years ago, when Dad killed some sheep with sudan he had swathed and baled in the fall.

Even though sorghum looks to have already been killed by frost, you still need to scout fields carefully before turning out on stalks. If there is any regrowth at all, or if there is any

chance the plants are still living, wait for a hard freeze. There is no reason to gamble with prussic acid. If prussic acid is present, prussic acid always wins and the cow always loses. It's a bad gamble to take.

If you have questions, you can reach me at the Riley County Extension Office at 785/537-6350. Or, you can send e-mail to gmcclure@ksu.edu.

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