

Buckeye Poisoning

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One day one of my colleagues from West Virginia informed me he had consulted Mr. Webster and found that a buckeye was a smooth, bald nut of no economic value. As Will Rogers would have said, this isn't necessarily so.

In the fall of the year, when the buckeye tree sheds its nuts, we find that it is toxic to cattle. We see a condition in southeastern Ohio which for the want of a better name we refer to as buckeye poisoning. This is a condition which I imagine is confined primarily to the Appalachian states because that's about the only place that the buckeye tree grows.

For the sake of brevity, we will confine these few comments to the conditions we see in the bovine. As stated, we refer to this as buckeye poisoning, but it is more a type of intoxication because, in the early stages of the condition, the animal staggers and stumbles and acts very much like it is intoxicated. In fact, the older practitioners tell me that 30-40 years ago, the only differential diagnosis you had to make with buckeye poisoning was to be sure the steer hadn't gotten into the mash barrel. It does very much resemble a straight intoxication. In the later stages of the condition these cattle will be down, unable to rise, there is a stiffness in the muscles of locomotion, and they are constipated and will usually show signs of bloat. This most often is from being in lateral recumbency and unable to regurgitate. I imagine in other parts of the country you see similar conditions from local weeds or plants. In southeastern Ohio and the Appalachian foothills for many years, they used methylene blue solution administered intravenously which gave rather poor results as an antidote. More recently, we have switched to a 30% thiosulfate solution given at the rate of 5 cc per 100 lbs. I.V. This is usually accompanied by an injectable laxative such as cascara preparation, 20-25 cc given subcutaneously. We then put them to sleep by giving them a general surgical anesthetic. The product of choice is one of these combinations with the pentobarbital chloralhydrate and magnesium sulphate, dose it to effect until the animal is completely asleep. Until recently, tranquilizers were of little or no value in treating these animals with drugs such as Dyquil, Sparene, or Acepromazine, but results with the newer tranquilizers in treating buckeye poisoning are better. This is about the only place in my bovine practice that I will still use mineral oil. Give mineral oil to the animal, not so much for the bloat problem but to coat the lining of the intestinal tract and reduce the absorption of the toxin or the alkaloid which is present in the buckeye. If you don't administer something to coat the lining of the GI tract, as soon as he gets a drink of water, he's like a wino—he'll be right back down again tomorrow. We usually prop these animals up in the normal position, then go off and leave them for two or three hours. When the anesthetic wears off,

they rise and are able to walk. We instruct the owner to confine them to the barn or a corral and keep water away from them for 12-24 hours. If any of you in other parts of the country are seeing buckeye poisoning or a similar condition, I would appreciate talking to you here.

Teat Lesions and the Milking Machine

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The following are some problems encountered in trying to deal with a herd which has had bouts with chronic fibrous teat-end lesions in its lactating cows, and the causative factors which seemed to go along with these lesions.

Owners of a hundred milking cow herd contacted our clinic approximately one and one-half years ago complaining of cattle that would not enter the parlor. In addition, there was an increased incidence of clinical mastitis, along with what they felt was a shocking sensation to themselves in the parlor pit. This herd had been dropping approximately 50 to 100 lbs. per month for four to six months. Its rolling herd average was approximately 15,300 lbs. of milk and 560 lbs. of butter fat. A call to the power company and visit by their representatives revealed, upon touching any of the metal parts, a voltage leak of approximately 15 volts AC in the parlor. As it turned out, the power company had stepped up the voltage of a nearby power line from 24 to 48 thousand volts and was having some serious leakage due to improper grounding of a transformer. Additional grounds were put on the transformer. This made life more tolerable in the parlor, but still the cows did not enter the parlor readily and had to be driven in with each change of cattle.

The parlor is a double four with a two-inch looped low line. Cows are fed grain in the parlor and are fed hay and ensilage outside. There is a separate area for dry cows and heifers. During the summer months the cattle have access to a five-acre pasture.

Milking preparation consisted of washing the udders with a hose, wiping with a sanitizing solution of aqueous iodine on a common sponge, followed by application of the milker. After milking, an iodine-based teat dip, Bovadine®, was applied. A dynamic test of the milking system was performed, revealing a milk-to-rest ratio of 80:20 with a pulsation rate of 65 per minute. An attempt was made to alter the milk-to-rest ratio by ordering a new master pulsator cam and grinding it so as to obtain an approximate milk-to-rest ratio of 65:35. Some improvement was noted in the clinical mastitis problem. Also, the breaker cups were changed to a larger capacity so as to decrease flooding of milk at the teat ends. The problems seemed to diminish for a period of four months. At that time the vacuum pump motor burned out and was replaced with a 5 hp. motor from a 3