

HARDING COUNTY AG NEWS

Vol 6 Issue 1

Blair Clavel, Harding Co. Extension Agent

September 2008
Volume 6, Issue 1

Inside This Issue

page

- 1 Private Applicator Workshop
- 1 COOL
- 2 COOL
- 2 Tuberculosis in NM
- 2 Nitrate Poisoning of Livestock
- 3 Nitrate Poisoning of Livestock



Harding County Cooperative
Extension Service
New Mexico State University
Harding County Courthouse
P.O. Box 156
Mosquero, N.M. 87733

Private Applicator Pesticide Workshop

Come get your CEU's!

The Harding County Extension office will be hosting a workshop for producers holding a private applicator license. License holders who pass a test and receive their license have 5 years to receive 5 CEU credits to prevent retesting. Extension is no longer allowed the use of the video tapes to provide credits, so it is left to the producer to find workshops around the state to get them. However, on October 6th, from 1-5 pm, at the Harding County Community building, producers will be able to get 5 credits by attending this local workshop. The agenda will include Cody Hazen from USDA talking about prairie dog control (what to use, when it works, new methods, etc.), Dr. Keith Duncan, talking about a variety of sprays (what works on different species, spot treating, cholla, mesquite, cedar, etc.), and Tiffany Aragon, NMDA, will talk about what to expect when your inspected as well as record keeping.



If you are a license holder whose license expires on December 31 of 2008 and you need credits, than this is a must for you. If you just received your license in the past year or so, and you do not have any credits, than this is probably a must for you too. You generally have to drive to Albuquerque or Clovis to get these credits. Once you get the credits, you are good for 5 more years. This will be a very informative meeting to update yourselves on rangeland treatments, as well as take care of your credits. Please bring your license with you or your license number to fill out your certificate.

COOL: Country of Origin Labeling

Some of you, if not most of you have probably been keeping up with all of the talk about COOL. COOL will go into affect on September 30th of 2008. On this date, all covered commodities, including beef, will be required by law to be labeled as to the country of their origin. Don't anyone get to excited. There will be a grace period where USDA will be working to "ease" folks into the process by training and educational programs. Here are some questions and answers directly from the final interim rule.

What are covered commodities?
The term "covered commodity" includes: Muscle cuts of beef, lamb, pork, chicken, and goat; ground beef, ground lamb, ground pork, ground chicken, and ground goat; perishable agricultural commodities (fresh and frozen fruits and vegetables); peanuts; pecans; ginseng; and macadamia nuts.

What records have to be kept?
The Act, as amended by the 2008 Farm Bill, states that records maintained in the course of the normal conduct of business, including animal health papers, import or customs documents, or producer affidavits may serve for verification purposes. The Act, as amended, further states that the Secretary may not require a person that prepares, stores, handles, or distributes a covered commodity to maintain a record of the country of origin of the covered commodity other than those maintained in the course of the normal conduct of the business of such person.

In the case of **beef**, lamb, chicken, goat, and pork, a producer affidavit shall be considered acceptable evidence on which the slaughter facility may rely to initiate the origin, provided it is made by someone having first-hand knowledge of the origin of

the animal(s) and identifies the animal(s) unique to the transaction.



What this means is that you may be asked to verify origin on cattle that you sell starting October 1. The rule appears to be less burdensome on producers than anyone in the chain. You can simply sign an affidavit stating that the cattle are of US origin or produce records that show evidence that they are of US origin. I am enclosing an affidavit that NCBA and other industry groups came up with that you can use if you like or you can make your own or adopt another form. At a meeting in Kansas City recently, over 30 industry groups agreed on 3 country of origin affidavit/declaration statements that would suffice for supporting origin. This is the form enclosed.

Tuberculosis in NM

As of this writing, or maybe the week of September 15, New Mexico will be downgraded to modified accredited advanced TB status. USDA has to publish it in the official register, and then it is real.

Why has this happened?

In early 2008, a dairy cow was sold for slaughter in southeast NM and didn't get slaughtered. It ended up in a feedlot, then went to pasture and traveled to NM and TX and then back. After testing positive for TB, it was traced back to NM. The cow was from a closed dairy herd, which was subsequently tested for TB and no cases found. The feedlot was tested and the disease was not found. Despite these facts, USDA determined to drop New Mexico's status which will require the testing of all breeding age animals leaving the state. USDA's requirements are to downgrade status if 2 or more herds are infected with TB in 2 years. USDA is calling the one animal a "herd", thus the results.

What does this mean to you?

All breeding age animals leaving the state will require a test. Call your vet or state of destination for breeding age.

Animals sold as feeders do not have to test. All of you folks selling calves this fall into feeder channels are not affected. Make sure your brand paper says feeder animal. This will protect you if someone sorts out heifers down the road for breeding and we get a case.

State of destination rules supersede other rules. Some states may require additional testing of their own. Contact state of destination prior to shipping. Intrastate movement is exempt from testing.

All folks that have to test will be required to have a premise ID. If you sell breeding age animals out of state via an auction market for *breeding purposes*, you will be required to have a premise ID. Premise registration can be obtained by calling Ron Parker with NMSU/Livestock Board at 505-646-1709 or going to the NMLB website at

www.nmlbonline.com and downloading a premise ID form. If you have ranches across state lines or move cattle back and forth state lines on leases, you can qualify as a commuter herd. By testing you animals to be TB free, commuter herds can move their cattle back and forth for at least 3 years without having to test. New Mexico Livestock Board is working hard to expand the regionalization zone around 2 counties in NM to limit the amount of time that NM will be subject to downgraded status. If they can get this done, it will free up the rest of the state for movement and just restrict a small zone. This is called a split state agreement. Usually, this takes about 2 years to get done, however; the livestock board is "encouraging" USDA to do this in a matter of months.



Producers, you need to know that this information is constantly

changing, and I highly recommend that if you are moving females out of state that you contact your local vet, or call David Fly at the New Mexico Livestock Board for the most updated and timely information. He can be reached at 505-841-6161.

Nitrate Poisoning

I have recently had some producers in the county with nitrate toxicity problems in their cattle. Plants generally soak up nitrates during times of drought and can accumulate high amounts during cloudy days. The week of cloudy weather and cool temperatures that we had in August combined with abundant rain on top of drought stressed plants caused a rapid accumulation in certain plants. Cattle accumulating high amounts of nitrates can become oxygen starved and die a rapid death. Avoid congregating cows around old barns or homesteads with abundant weeds. Pigweed and ragweed tested all right, but the kochia weed was out of sight with nitrates. This could last up to first freeze and possibly past first freeze into spring. I am enclosing pieces of an article concerning nitrate poisoning from an extension publication.

Nitrate Poisoning of Livestock Guide B-807

Christopher D. Allison, Extension Range Management Specialist College of Agriculture and Home Economics, NMSU

Nitrate poisoning can result from ingesting forage or water high in nitrate content, or by inhaling nitrogen gases. Both humans and livestock can be affected.

Nitrates are found in most plants and ground-water in varying amounts, but under certain conditions, nitrates can accumulate in plants and water to toxic levels. Forages with high nitrate content are sometimes used for ensilage. Under the acid conditions of the silo, denitrification of the nitrate produces nitrogen dioxide, a toxic, heavy, yellow-brown gas, which is highly toxic to humans. Such toxicity is sometimes referred to as "silo-filler's disease."

Range livestock are most commonly poisoned by nitrates in forage. Cattle are most susceptible while sheep are less affected, possibly because of their ability to break down nitrate more quickly than cattle. Goats, horses, dogs, birds, and swine are also susceptible. Swine, however, are not affected as often as cattle or sheep, because they consume smaller amounts of roughages and, consequently, are less likely to ingest toxic amounts of high-nitrate forages.



Mechanism of Poisoning

Although poisoning from the various forms of nitrate is referred to as "nitrate poisoning," the nitrate ion itself is relatively nontoxic. In the ruminant, ingested nitrate is broken down to nitrite then undergoes further degradation to ammonia, which is used to form microbial protein. The reduction of nitrate to nitrite occurs much more rapidly in the rumen than the reduction of nitrite to ammonia. Consequently, when ruminants consume plants high in nitrate, some nitrite formed in the rumen enters the bloodstream where it converts blood hemoglobin to methemoglobin. This greatly reduces the oxygen-carrying capacity of blood, and the animal suffers from oxygen starvation of the tissues. Prussic acid also produces death by tissue asphyxiation, but by an entirely different process.

The methemoglobin content of the blood of cattle succumbing to nitrate poisoning may be as high as 80 percent. Conversion of one-third of the hemoglobin to methemoglobin produces only slight symptoms; life is still possible when 60 percent of the hemoglobin has been converted; but death is a certainty when hemoglobin has fallen to one-third normal levels.

Conditions of Poisoning

Plants containing more than 1.5 percent nitrate (KN_3) are dangerous and nitrate consumption in amounts of as little as 0.05 percent of the animal's weight may be lethal. Losses are most frequently associated with cool temperatures and cloudy days, drought, heavy applications of nitrate fertilizers, and soils characteristically high in nitrogen.

The rate of nitrate formation is very slow at soil temperatures below 50°F , but rates of conversion increase in direct proportion to increased soil temperatures up to $80\text{--}90^\circ\text{F}$.

Nitrate concentration in forages increases greatly during drought conditions.

Low light, such as a cloudy day, causes nitrate accumulation in plants, because nitrates accumulated during the night are not dispersed until sunlight hits the plants.

Some plants contain a substance that, under proper conditions, is capable of reducing nitrates to nitrites. This is thought to be the mechanism whereby nitrate poisoning has occurred on previously harmless pastures and hays. Controlled experiments, as well as carefully investigated field cases, have shown that oat hay moistened with water and exposed to air may contain toxic amounts of nitrates in a relatively short time. The reduction of nitrates to nitrites reaches a peak in 18 to 22 hours after the hay or plant material has been moistened. During this time, about 40 percent of the nitrate is converted to nitrite; hence, toxic amounts of nitrites are present where harmless amounts of nitrates previously existed.

Symptoms of Poisoning

Nitrate poisoning acts very quickly, therefore symptoms may not be observed before animals are found dead. Animals being poisoned may stand apart from the herd, then collapse; or they may fall in their tracks if driven. Signs of poisoning, in the usual order of

appearance, are weakness and unsteady gait, collapse, shallow and rapid breathing, rapid pulse, coma, and death- the latter accompanied by the usual terminal muscular reflex movements.

Respiratory distress is not as obvious as when associated with choking or pneumonia. The unpigmented parts of the body, such as the white of the eye, the tongue, and lips, have a blue-brown discoloration from the onset, as a result of methemoglobin circulating in the superficial vessels.

Blood in which at least 10 percent of the hemoglobin has been converted to methemoglobin is chocolate-brown in color. Fatal methemoglobin levels range above 70 percent of the total hemoglobin, so the color of the blood of a dead animal may indicate poisoning. However, even though plant nitrate poisoning is suspected as a cause of death, be cautious in accepting the color of the blood of the dead animal as confirmatory evidence, if some time has passed since death. A chemical analysis to determine the presence of methemoglobin, nitrate, or nitrite in a blood sample is the most reliable method of determining nitrate poisoning.

Few tissue changes are evident at autopsy after nitrate poisoning. Some inflammation of the respiratory and gastrointestinal tract may be noted, and there may be a few small hemorrhages, particularly on the heart.

Following an abnormal exposure to nitrates or nitrites, a cow may abort a fetus that died because of oxygen starvation. The grazing of plants containing "borderline" levels of nitrate has also been associated with abortion, reduced milk flow, lower weight gains, and signs of vitamin A deficiency. (Nitrate is thought to interfere with the conversion of plant carotene to vitamin A.)

If you all have any questions about the issues in this newsletter, please call the office at 673-2341 or cell at 643-7517