



Agricultural Newsletter



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May 2008

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Spring Time Storms and the Cow Herd

By Glenn Selk, OSU Extension Cattle Reproduction Specialist; (adapted from D. W. Smith, Extension Safety Program Specialist, Texas A&M)

Spring time is thunderstorm season across the Plains. Spring storms occasionally bring severe winds or even tornadoes. Cleaning up after a severe storm is difficult enough. Losing valuable cattle brings additional financial hardship to the situation.

Cattle loss can occur in several scenarios. Livestock may be killed, lost, or stolen during a stormy situation. An accurate accounting of livestock and property is essential to a cattle operation's storm preparedness. Keep a CURRENT inventory of all animals and the pastures where they are located. Individual animal ID tags on all animals have several other purposes, but can become extremely valuable if cattle become scattered or even stolen. If these records are computer based, consider having a "back-up" copy stored at a neighbor's or a relative's house.

The Texas A&M Extension Disaster Education Network has an excellent fact sheet by David W. Smith (Extension Safety Program Specialist) on farmstead preparedness and care after a storm. It can be found on line at:

<http://texashelp.tamu.edu/005-agriculture/farmstead-preparedness-recovery.php>

A few of their suggestions for protecting cattle from the aftermath of storms include:

1. Gather and dispose of trash, limbs, wire, and damaged equipment that could harm livestock. Clear and repair damaged fences.

2. Make sure livestock have plenty of water and food that have not been contaminated by pollutants. In some cases, it is necessary to truck in water and food, or to remove livestock from contaminated areas.
3. Properly and immediately dispose of dead carcasses. If rendering plants are still available in your area, they may process some dead animals. Those not processed should be buried away from water bodies at least 3 to 4 feet deep and covered with quick-lime to accelerate decomposition.
4. Observe livestock for signs of infectious disease such as pneumonia or foot rot. All animals that die immediately following a disaster should be necropsied by a veterinarian.
5. Spray livestock with insect repellent in case of floods to protect against mosquitoes that may carry disease.

There are other things to consider when clearing the storm debris. Be mindful of such things as fiberglass insulation that is often scattered across pastures. Gather as much of the big pieces as possible so that cattle do not consume large amounts of the insulation. Also plastic bags may be ingested by cattle and cause compacted intestinal tracts. Avoid junk or debris that could be a source of lead. (This could really be an issue after a severe thunderstorm or tornado with wind damage which results in roofing debris spread across the pasture.) DO NOT allow cattle access to pastures where old car batteries or sources of crank case oil (old abandoned vehicles or machines) may cause lead poisoning.

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2008 Lahoma Wheat Tour Scheduled

May 16th, was selected as the date for the Lahoma Wheat Tour in 2008. The tour site will be at the North Central Research Station. The station is located one mile west of Lahoma on Highway 412. Registration for the tour will be a 9:00 am. We will have a few doughnuts and some coffee for the early arrivers and at that time you will need to pickup a program for the tour. The tour will be menu driven like the most recent tours at Lahoma. There will be 5 time slots with an option of 5 different topics of discussion or demonstration for producers to attend. The trailers will leave for the first tour stop at 9:20 am.

Producers interested in wheat production, there will be several stops. At one of our fertility sites, producers will be hearing from Dr. Bill Raun, OAES Professor, and Dr. Brian Arnall, OCES Soil Fertility Specialist, Their demonstration will be focusing on getting the right nitrogen rate for the environmental conditions that present themselves. Producers do not know for sure what establishment conditions will present themselves for the production year or what moisture patterns will develop for the year. With that in mind, what fertilizer strategy should producers look for to have just the right amount of fertility levels in the fields? The second fertilizer demonstration will be the use of lime strips to determine if a produce needs to improve his soil by the use of liming. Dr. Hailin Zhang will be looking at lime strips to help producers understand the chemistry involved with liming and the results that producers will see after liming.

Other production demonstrations will include Dr. Tom Peeper, OAES Professor, discussing the new weed control products and management strategies to improve grain yields and the quality of the grain delivered to the elevators. Dr. Tom Royer, OCES Entomologist, will address insect pests of wheat and where producers can help themselves by timing of plant protection products and economic thresholds.

There are different stops for producers to look at to determine what wheat variety to choose. Dr. Jeff Edwards, OCES Small Grain Extension Specialist, will review the current wheat varieties available for producers. Edwards will review the

strengths and weaknesses of the varieties. He will address varieties that will work in grain only and dual purpose production systems. Those producers looking down the road several years for varieties that will improve their production, Dr. Brett Carver, OAES Wheat Breeder, will review the wheat breeding program and see what is to be offered. This is a great chance to see what researchers are trying to provide Oklahoma Wheat producers in the years to come.

Crop rotations have advantages to improving wheat yields and reducing pest problems in production systems. Often times there might be some other crop which might provide a higher market value as well. Producers looking for these options have stops to assist their management skill. Crop rotation offerings include Dr. Mark Boyles, OCES Canola Specialist, offering production assistance with canola and particularly with stand establishment into no-till fields. There will be Dr. Chad Godsey, OCES Oil Seed Specialist, reviewing soybeans in rotations with wheat. Rick Kochenower, OCES NW Area Agronomist, will address crop rotations in the study that he, Dr. Godsey, and Dr. Edwards have been working on. At this site you will see corn, grain sorghum and soybeans in the crop rotations with wheat. Rick will work through some of the yield data that also includes last years sunflower crop.

As wheat producers look at the budgets for wheat, they quickly see that the wheat prices are at levels that we only saw in a crystal ball. Dr. Kim Anderson, OCES Wheat marketing Specialist, will review the price increases and see what the markets will be offering at harvest and beyond for the wheat marketing year. J C. Hobbs, NW Area Extension Farm Management Specialist, has been working through the wheat budgets for producers who are concerned about the price of fertilizer materials for the remainder of this year and for next year. Hobbs is going to try to identify which fertilizer options are the most economical and expected prices for fertilizer materials down the road.

Other presentations are in response to questions that are being faced by producers today. The most important question as we write this article is the use of foliar fungicides on wheat. Dr. Bob Hunger, OCES Wheat Pathologist, will have you walk through varieties and let you see what

happened to your variety with the use of foliar fungicides this year. He will review past history with foliar fungicides and their impact on the economics involved with that management strategy. Our last speaker is involving the legal liabilities of wheat production. Dr. Shannon Ferrell will briefly discuss with producers several key issues that producers face with their neighbors. What happens if you are impacted by neighbor negligence? A couple of issues that Dr. Ferrell will address include the spread of wheat streak mosaic virus and the spread of ryegrass or rye from one field to another. This should be a very interesting stop with great discussion!

At the conclusion of our presentations, Farm Credit of Enid will be serving lunch to those who participated on the tour. Lunch is a great way to conclude the day with discussion with our specialist and with your fellow wheat producers. With the extreme interest in wheat production this year, we asking for those who are going to attend to call 580-237-7677 and let us know that your plan to attend and have lunch. Please RSVP by May 13th so that arrangements can be made. In case of bad weather, please call to obtain information about the tour also!

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Observe Bulls Closely as Breeding Season Begins

By Glenn Selk, OSU Extension Cattle Reproduction Specialist

Spring breeding seasons will soon be underway in the Southern Plains. A good manager keeps an eye on his bulls during the breeding season to make sure that they are getting the cows bred. Occasionally a bull that has passed a breeding soundness exam may have difficulty serving cows in heat, especially after heavy service. Inability to complete normal service and low libido are problems that can severely reduce calf crop percentage. Such problems can best be detected by observing bulls while they work. Therefore producers should (if at all possible) watch bulls breed cows during the first part of each breeding season. If problems are apparent, the bull can be replaced while salvaging the remainder of the breeding season and next year's calf crop. Likewise a small proportion of bulls can wear out from heavy service and lose interest. These, too, will need to be replaced. The greater the number of cows allotted to each bull in the breeding pasture the more critical it is that every bull be ready to work every day of the breeding season.

Injuries to bulls during the breeding season are also relatively common. When a bull becomes lame or incapable of breeding, because of an injury to his reproductive tract, he needs to be removed from the breeding pasture and replaced with another bull.



Choosing Summer Annual Forage Crops to Reduce Risk of Nitrate Toxicity

By Glenn Selk, OSU Extension Cattle Reproduction Specialist

Annual forage crops like forage sorghums make valuable contributions to the hay supplies in Oklahoma. They are well adapted, very productive and provide high quality forage. However, some of these plants accumulate toxins that can result in costly livestock losses.

Nitrate is the primary nutrient form of nitrogen in most soils and is a normal constituent of plants. Normally nitrate is assimilated into plant protein so rapidly following uptake from soil that its concentration in plant tissues is low. Occasionally, excessive levels occur in plants. The most notorious accumulators of nitrate in Oklahoma are the plants in the sorghum family including johnsongrass. Certain weeds (pigweed, mustard, nightshade and lamb's quarters) also can contain dangerous levels. Some perennial grasses (bermudagrass, fescue) very rarely have been reported to accumulate high levels of nitrate.

Accumulation is usually triggered by some environmental stress, where plant growth is restricted but absorption of nitrate from soil continues. The most common stress of summer annuals is drought. Lack of moisture, together with excessive soil nitrogen for existing growing conditions, is a frequent cause of toxic levels of nitrate in sorghums.

The level of nitrate that causes toxicity in ruminants varies depending on rate of intake, diet, acclimation to nitrate and nutritional and reproductive status. As a rule, forage containing less than 5,000 ppm nitrate on a dry matter basis is safe for non-breeding cattle. Forage containing 5,000 to 10,000 ppm nitrate is considered a potential source of production loss when provided as the only feed. Production losses are usually manifest as reduced milk production and lowered reproductive performance. Forage containing over 10,000 ppm nitrate is considered dangerous, and potentially lethal. These high concentrate forages often can be fed safely after proper dilution with other feeds.

Questions among cattle producers and hay growers about the potential nitrate accumulation in various forages caused the following experiment to be conducted and reported.

During the first summer, 17 varieties of Sorghum x Sudan, 12 varieties of Sorgho x Sudan, five varieties of Sudan x Sudan hybrids, and six varieties of Pearl Millets were being grown at three Oklahoma State University Agronomy Experiment Stations for yield evaluations. The second year of the study was conducted with 18 varieties of Sorghum x Sudan, nine varieties of Sorgho x Sudan, two varieties of Sudan x Sudan hybrids and five Pearl Millets. Field locations were: Eastern Oklahoma Agronomy Experiment Station at Haskell, OK in Muskogee County; South-Central Oklahoma Agronomy Experiment Station in Grady County near Chickasha; and the Southwestern Oklahoma Station near Tipton in Tillman County. The following table lists the average nitrate concentration of hay samples collected from these plots over the two summers. Obvious differences in locations are apparent, reflecting differences in soil type and soil moisture in those two growing seasons. Equally apparent is the fact that pearl millet consistently accumulated nitrate at greater concentrations than did the other forage types.

Table 1. Least squares means (averages) for nitrate concentration in ppm for four types at three locations.

Forage type	Location		
	Eastern (near Haskell)	South-Central (near Chickasha)	Southwest (near Tipton)
Sorghum x Sudan	7795	3302	7049
Sorgho x Sudan	7291	3255	6673
Sudan x Sudan	8079	3461	7190
Pearl Millet	14122	6572	10534

Selk, et al. Prof. Animal. Scientist. Vol 11: 20 - 25

Millets have been shown in other research to be unlikely to accumulate a different toxin called prussic acid. Prussic acid will tend to dissipate when the crop is cut for hay and, if allowed to cure thoroughly, will be reduced extensively. Therefore, **if the summer annual, that producers plan to plant this spring, is targeted to be a hay crop, it makes sense to plant one of the other forage sorghums, not the pearl millets.** Planting one of the other forage sorghums does **NOT** eliminate the risk of nitrate toxicity (but does reduce it), AND if grazed after stress such as frost or drought may accumulate prussic acid. Therefore, if the plan for the crop is to graze it in the early fall (when frost and prussic acid is probable) then the millets may still warrant consideration.

Producers are strongly encouraged to plan the use of the crop before they select and plant the seed. Learn more about nitrate toxicity in livestock by reading [OSU Fact Sheet PSS-2903](#).