

Ag-Info

December 2007 - January 2008

**Northeast Missouri Agriculture Newsletter
 serving Clark, Knox, Lewis, Marion, Monroe,
 Pike, Ralls, and Shelby Counties**

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Calendar of Events

December 14	Show-Me-Select Bred Heifer Sale, Palmyra
December 27	Lewis/Marion Cattlemen & Extension Beef Meeting, Ewing
January 10	Ralls County Cattlemen & Extension Beef Meeting, New London
January 29	13th Annual No-Till and Crop Management Seminar, Quincy, IL
February 5	Lewis County Extension Night, Ewing
February 7	Putting Small Acreages to Work workshop, Quincy, IL
February 16	Lewis/Marion Cattlemen Annual Scholarship Banquet, Palmyra
March 13	Monroe County Ag Night, Paris
March 19	Missouri's Fence Law, Palmyra (via ITV)
March 29	Performance Tested Bull Sale, Palmyra

ENM and Lime

Often soil tests are referred to as calling for “two ton of lime per acre”. Statements such as this fail to realize two inherent properties of lime which affect the way it decreases soil acidity: particle size and purity. ENM (effective neutralizing material) is a measure of a liming material’s CCE (calcium carbonate equivalent) and particle size. The CCE refers to the purity and neutralizing ability of the liming material. Any material sold in Missouri as a lime must have an ENM rating.

High CCE, fine lime will neutralize soil acidity much more rapidly than low CCE, coarse lime. The bottom line is that lime should be applied as tons of ENM, not tons of lime. To determine the cost per pound of ENM, divide the lime cost per ton by the ENM of the material.

Temperature Effects on Storage of Agricultural Pesticides

Most liquid pesticides should be stored within the recommended range of 40° to 100° F; others have narrower ranges at which they should be stored. Exposure to temperature extremes can reduce a pesticide’s effectiveness. Liquid pesticides, when frozen and thawed, may experience separation of active ingredients from solvents or emulsifiers. Freezing can also lead to inactivation of emulsifiers, so that crystallization or coagulation of the pesticide occurs. The freezing point for liquid pesticides may be much lower than 32°F, due to the components of that particular formulation.

Generally, wettable powders and granules are not affected by low temperatures. What can affect these formulations is moisture, which may cause caking and reduce effectiveness. Pesticides which are packaged in water-soluble packets have a high affinity for moisture, and become brittle when frozen. If handled when brittle, the bags may break open; these products should be stored in a warm, dry area.

Prior to storing any pesticide, refer to the “storage and disposal” section of the pesticide label. Many pesticide labels provide specific storage information. The following precautions should be used in the storage of all pesticides:

- ▶ Do not store near heat, sparks or open flame.
- ▶ Do not contaminate other pesticides, fertilizer, water, food or feed by storage.
- ▶ Keep containers tightly closed and dry in a cool, locked, well-ventilated place that is out of the reach of children.
- ▶ Store products in original, labeled containers.
- ▶ If storage information cannot be found on the pesticide label, contact the manufacturer of the pesticide.

White Grubs in Wheat

Last spring, and again this fall, there have been scattered reports of white grubs causing damage to wheat. Damage caused by grubs is usually evident as yellowing plants and poor stands, a result of the grubs’ root feeding. Several different species are responsible for damage in wheat (and fall-seeded grass pastures); depending on species, the grubs may have a one- to three-year life cycle.

As winter progresses, the grubs will move further down into the soil profile to overwinter. They will move closer to the soil surface as the soil warms, and most likely resume root feeding. Once damage is noted, little can be done to control grubs. While there are several insecticides labeled for grub control, getting the insecticide to where it can control the grub is difficult, if not impossible.

Missouri’s Complicated Fence Law

This program will be held via ITV (interactive television) in the Palmyra State Bank Community Room, March 19, from 7 to 9:30 p.m. Missouri’s fence and boundary laws are very complicated because there is a different law depending on the county in which your land is located. This program will help to better understand the law and is open to anyone interested.

AG BUSINESS NOTES

Karisha Devlin

Be Counted - 2007 Census of Agriculture

This December, the U.S. Department of Agriculture's National Agriculture Statistics Service (NASS) will begin the 2007 Census of Agriculture. The Census of Agriculture is the Nation's largest, and most comprehensive, information-gathering project for agriculture. It is the only source of consistent data on agricultural production and operator characteristics for each county, State, and the entire Nation. The census provides a current assessment of where farmers and ranchers stand on issues, their farm supply needs, and their production costs and cropping systems. It also shows how trends in agriculture are changing. Congress requires USDA's NASS to conduct the census every five years.

The report forms will be mailed out to all U.S. farm and ranch operators in late December 2007. Information on individual operations will remain strictly confidential by law (Title 7, U.S. Code). NASS safeguards the confidentiality of operators' responses and will not disclose any information about an individual farm or ranch operation. Operators are required by U.S. law (Title 7, U.S. Code) to respond to the census. The completed forms from each farmer and rancher are due by February 4, 2008. Producers can return their forms by mail, or by filling out the Census online via a secure website.

This information is extremely important because it provides a true portrait of American agriculture for every county and state in the Nation. The

census data benefits producers in a number of ways. Farm and ranch organizations use the data to evaluate and propose programs and policies that will help farmers and ranchers. Agribusinesses use the information to develop marketing strategies and determine locations of facilities that will serve producers. Farmers and ranchers use the census data to determine potential business opportunities, and to evaluate their operation in comparison to local, State, and national averages. Extension specialists and universities use census statistics to develop new improved methods to increase agricultural production and profitability. Elected local and state representatives will use the census data to develop farm programs that will produce and promote U.S. agriculture.

Every farmer and rancher needs to be counted regardless of the size and type of operation. If you did not participate in the previous Census of Agriculture, but would like to be counted, be sure to sign up to receive a 2007 Census of Agriculture report form. To sign up, call toll free (800) 892-1660 or visit www.nass.usda.gov/counts.

Only U.S. farmers and ranchers can supply the answers needed to generate an accurate picture of the Nation's agriculture. So please take the time to fill out the census form. Your response is very important! For more information on the 2007 Census of Agriculture, contact your local Extension office or USDA Service Center.

LIVESTOCK NOTES

What you should know about Calf Scours

There are several causes of disease and death in newborn calves. In many locations, the leading causes of calf deaths are related to difficult births, however, the most common calthood problems are infectious diseases. Of these, scours, which occurs within the first several days of life, is the single most important cause of calf sickness and death in the United States. I have compiled some important things to know about calf scours,

including: causes and effects, methods of prevention, and tips on treatment.

Causes and Effects

There are many factors that influence the occurrence of diarrheal disease including: calving difficulties, exposure to infectious agents, poor nutrition of the dam, poor health of the dam, poor mothering ability, etc. Any one of these factors may be difficult to control, but all will lower the

Zac Erwin

calf's ability to resist infectious diseases. There are several different types of agents that cause calf scours and a few of the most common will be discussed briefly. The two most common viruses associated with calf scours are Rotavirus and Coronavirus. Both viruses infect the lining of the intestinal tract and destroy the cells that digest and absorb milk. The damage will be repaired if the calf survives. There are several different types of E-coli bacteria associated with calf scours. Most E-coli will also destroy the lining of the digestive tract causing large losses of electrolytes and fluids; however, some types of E-coli are capable of invading other organs through the bloodstream causing severe damage to infected sites. Salmonella bacteria are also associated with calf scours and cause disease similar to E. coli. Salmonella can be especially dangerous due to the fact that the calf handler may be at risk of disease through handling the sick calf. Be extra cautious handling sick calves and be sure to wash thoroughly after treatment of the calf. The usual cause of death in infected animals is tremendous fluid and electrolyte loss leading to severe dehydration and acidosis (body pH changes to the acid side of normal). The clinical signs of infectious scours are dryness of mouth, loss of skin elasticity, sinking of the eyes into the eye sockets, and extremities that are usually colder than the body. Aside from these infections, there are also cases of diarrhea caused by excessive feeding of milk. Generally known as nutritional or milk scours, it results from fermentation of excess milk in the gut. Affected calves will have loose stools but rarely become dehydrated and will generally maintain good appetites.

Methods of Prevention

Several studies have shown that precalving nutrition has a measurable impact on calf survival. Calves born to first-calf heifers that were restricted either protein or energy during pregnancy had reduced ability to produce body heat soon after birth. The nutrient requirements of the pregnant cow must be met if she is expected to deliver a healthy calf with maximum opportunity to resist environmental stress and disease. The last third of gestation is absolutely NOT the time to cut nutritional corners in an attempt to save money. There are several precalving vaccinations available to aid the fight of calf scours. These vaccines work to provide protection to the

pregnant cow; which she will pass on to the calf with colostral antibodies. The problem with these vaccines is that they are seldom enough for prevention. The vaccines are certainly going to aid in prevention, covering the "most common" sources, but do not protect against all agents of infection. A vaccination program should only be part of your management plan, and I would encourage a discussion with your veterinarian to see if using a scour vaccine is right for you. The third, and arguably most important method of prevention, would be a clean calving environment. The frequency of encountering an infectious disease is a function of not only immunity level, but the level of exposure to an infectious agent. Exposure to an infectious agent is the highest when cattle are kept in a confined environment. There are some procedures that may help reduce the level of exposure which include:

- ▶ Clean area to assist delivery
- ▶ Washing teats on the cow that has an assisted delivery
- ▶ Clean esophageal feeder between uses on calves
- ▶ Clean and dry maternity pens
- ▶ Movement of pairs out to clean pasture as soon as possible after calving

The last procedure is highly effective in the control of scours within your herd if your access to land resources allows you to do this, however this may be a limiting factor for many operations. A key element to consider when choosing a calving lot would be to rotate to a different area from year to year and do not use a calving area in which scours has occurred in the previous 12 months.

Tips on Treatment

When we understand the causes and effects of scours, we can devise effective treatment measures. By far the most important treatment of a scouring calf is the replenishment of fluids and electrolytes. There are numerous formulas commercially available that are designed to rehydrate and correct the calf's pH balance. Other treatments have been tried. Gut-lining protectants such as kaolin and pectin are favored by some, but their effectiveness in stopping fluid loss has been in question. Pepto Bismol has also been used with some success to protect the gut lining. These protectants are at least not harmful. Oral antibiotics are commonly used to treat scours, but some researchers and veterinarians believe the

overall effect can be detrimental to the calf. Several agents that cause scours are either not affected by antibiotics, or are highly resistant to most commercially available antibiotics. Most bacteria that invade the gut lining will generally

respond better to antibiotics given in the muscle, subcutaneously, or intravenously. Antibiotics given orally will also alter the normal population of organisms in the gut and can slow the rate of recovery.

LIVESTOCK NOTES

Red Books Available

The popular cow-calf record books, known as "Red Books" are here and available. Both Zac Erwin and I have copies and they are also available in Extension offices that we cover. These books are almost like a bible to those who are use to using them. They will help you keep records of calf birth dates, cow breeding dates, and much more, plus they include a handy calendar. They are pocket size and very useful for age and source programs.

I will have some with me at meetings and events or you can call the office.

The Red Books are free again this year in our area due to the sponsorship of NEMO BCIA, F & T Livestock Market, and University Extension. Otherwise they would cost \$4.00.

Genetic Evaluation of Bulls

There are still a lot of cattle producers who think the primary criteria in bull selection is looks. However, some of you realize the old saying, "beauty's only skin deep, but ugly goes all the way to the bone." I'm not sure that's an accurate comparison when it comes time to select a bull, but certainly "genetics" or "genes" go much deeper than the skin.

When you venture into buying bulls the next time, put some faith in Expected Progeny Difference, EPD's. Sure, I know you've heard people say, "they're just a tool." But what a valuable tool they are especially when it comes to things you can't see in the animal. You can't see calving ease, milking ability, marbling and it's questionable to me whether you can very accurately see growth, mature size, and muscling.

AI Kennett

EPD's on young, non-parent animals such as we have in our tested bull sale at F & T Livestock Market next spring have accuracy values on them that are fairly low (under 40). That doesn't mean they can't guide you in the direction you'd like to move your herd. It simply means there will be some offspring that don't turn out just like you thought they would. There is more risk of variation in a young bull's EPD's than in a proven bull that could have 1000 or more records on his progeny.

These older bulls, usually those found in artificial insemination programs, will have accuracies in the .85 or over range. That means if you're looking for a "can't miss, few mistakes" kind of bull to use you'd better stay with one of those. This is why we encourage AI users to look closely at accuracy values.

Another thing to look at is the percentile rank of the bull. Most all breeds will provide the breed average for all EPD traits. They will also provide the percentile rank for a bull. If his percentile rank for a trait is 50th, he is just average. If it is 10th percentile, then he ranks in the top 10% of the breed. However, if he is in the 90th percentile, it means he is in the bottom 10%. It is a little confusing but very useful.

We expect to have around 50 bulls in our Northeast Performance bull sale March 29, 2008 and EPD's will be available on all of them.

Finally: I would like to wish all of you a Merry Christmas and Happy New Year and remember "money can buy a fine dog, but only kindness will make him wag his tail"!!