**Anthracnose on Maple Trees**  
By: Jill Scheidt  

This year we have experienced a cool, wet spring; these weather conditions are favorable for the development of anthracnose on maple trees. Anthracnose of maples is a fungal disease causing irregular spots on leaves. Anthracnose fungi typically create spots that form around the leaf veins, causing the death of the vein and the surrounding tissue. Over time these areas tend to fall out, giving the leaves a very ragged appearance. Leaf margins, intervene areas and some petioles can also be infected, causing malformed and blighted leaves. Anthracnose can also affect ash, birch, elm, hickory, linden, sycamore, tulip tree, walnut and white oak trees in Missouri.

Anthracnose can be treated with a fungicide, but is not generally recommended because trees are usually able to recover without long term damage. Trees damaged by anthracnose usually recover by mid-June (when weather conditions are drier and warmer). Raking leaves in the fall and discarding of them is the easiest and best way to control anthracnose.

**Tips for management of anthracnose:**
- Because spores of anthracnose fungi over winter in leaf litter and on dead branches, raking to remove infected leaves in the fall and pruning dead branches will reduce the inoculum available to create infections for next season.
- Promote air circulation by thinning excessive twig and branch growth. This will reduce the period of time that leaves are wet and vulnerable to inoculation.
- Keep trees growing vigorously; supply 1 inch of water weekly during dry periods and fertilize in early spring.
- Fungicides are available to control this disease on many hosts; however, they are most appropriate and economical for younger, newly transplanted trees that may not be able to withstand defoliation. To be effective fungicidal sprays must begin at bud break before symptoms are noted and be continued at intervals specified by the label (usually 10 to 14 days) through the period of spring rains. Spraying after infection is present will provide little benefit. It is essential to cover leaves and twigs thoroughly for good control.
Nutritional Disorders When Showing Sheep and Goats
By: Jodie Pennington

There are several nutritional diseases associated with showing sheep and goats, especially market lambs and market goats. The most common disorders also occur in commercial production and include acidosis, bloat, founder, enterotoxemia, and getting animals too fat or too skinny. Generally, animals that are too fat have been overfed and animals that are too skinny have been sick or underfed. Acidosis, bloat, founder, and enterotoxemia (overeating disease) are related to increased levels of grain in the diet, sudden changes in the diet, or improper balance of grain to forages. To prevent these problems, proper levels of grain supplementation should be followed. Other control practices include availability of probiotics and/or buffers such as sodium bicarbonate in the diet, either free choice or in the grain mix. Acidosis is associated with the production of high levels of lactic acid in the rumen from a large supply of starch or soluble sugars that the animal is consuming. Usually, acidosis is associated with high levels of feeding grain, feeding finely ground grain, and low levels of fiber from hay. The pH of the rumen then goes from 6.2-6.5 to less than 5.5, which results in changes in the microorganisms in the rumen. Endotoxins also may be produced by ruminal bacteria that make the problem worse and can result in enterotoxemia. Generally, there are two types of bloat. Dry or free gas bloat is the accumulation of excess free gas in the rumen, often caused by overeating of grain or failure to burp from lack of chewing the cud. Frothy or foamy bloat is where the contents of the rumen become foamy, trapping gas in the foam. Frothy bloat may be caused by high grain feeding or by over-consumption of lush pasture or rich legume hay. Bloat can also be caused by a blockage of the esophagus. The most noticeable sign of bloat is the extension of the rumen on the left side. The rumen is usually very tight if the bloat is severe and action should be taken quickly in such a case. In severe cases of bloat, the animal may be in extreme distress, gasping for air, and have the tongue hanging out. These animals can die quickly as pressure increases on the heart, blood vessels, and lungs from the expanded gas in the rumen. Death may occur from respiratory failure. This is an emergency situation and the vet or a competent person knowledgeable of treatment of bloat should be contacted immediately. The norm is for less severe and mild cases of bloat. Treatments for those include massaging the rumen and/or walking the animal with its head up and a stick in the mouth to release gas that may relieve the pressure. Some animals are more prone to bloat than others and may be chronic bloaters which may require that grain be removed from the animal. In other cases, the use of a stomach tube, drenching with mineral oil or a commercial product with proloxalene may reduce the gas in mild bloat. Probiotics should be given after the bloat treatment to aid in establishing normal rumen function. Founder or laminitis refers to problems that occur with the feet of the animal as a consequence of acidosis. Founder may be caused by a sudden change in the diet, high levels of grain feeding, or restricted feeding of forages, or a long-term combination of these such as low forage to grain ratio. The blood vessels in the hoof become engorged, causing pain. Long-term or chronic conditions cause the tissues within the hoof to break down, causing abnormally rapid growth. The excessive growth of the feet may be thick and irregular, requiring frequent hoof trimming. Usually, either both front or both back feet are overgrown but all feet can be overgrown. Enterotoxemia or overeating disease is caused by sudden changes in the diet of young sheep and goats. Bacteria in the intestine grow rapidly and produce an endotoxin in response to sudden high levels of starch or soluble sugars from grain in the diet. Animals can be in extreme stress from the effect of the endotoxin and may die quickly. Vaccination with the CDT vaccine will help prevent this disease. Show animals may be vaccinated for enterotoxemia at 5-6 weeks of age followed by a booster 3 weeks later. Additional vaccinations also may be needed, depending on how long the animal is shown and the level of grain feeding. It is important to remember that goats are not sheep when feeding. Market goats are going to have more rumen development and will not be as trim in the middle as market lambs. Good grass hay may be used in feeding goats more easily than with a market lamb. Additionally, sheep tolerate less copper than goats and should be fed a different mineral. For either sheep or goats, provide fresh, clean feed and water daily.

Warning Signs of Credit Problems
By: Janet LaFon

While credit is a convenience, it can lead to problems if not used cautiously. Following are some warning signs that you might be heading for trouble:

- You pay only the minimum amount due on your credit card(s) each month.
- You make so many credit purchases that the amount you owe does not shrink from one month to the next.
- Your debts make you feel uncomfortable.
- You put off one creditor to pay another.
- You take out new loans or cash advances on your credit card(s) to pay off old debts.
- You have to skip some payments.
- You overdraw your checking account.
- You charge day-to-day living expenses such as gasoline and food instead of paying cash.
- You receive past-due bill notices.
- You rely more heavily on overtime or a second job to pay your bills.
- You dip into savings to pay current bills.
- Not counting your mortgage or rent, your credit payments exceed 20 percent of your take home pay.
- You borrow money to pay expected expenses like insurance and taxes.
- You are late in making payments each month.
- You are afraid that your utilities will be shut off or that something you own will be repossessed.
- You get a credit card bill that is much larger than you expected it to be.
- You get calls from bill collectors.
- You don’t know how much you owe on your credit cards and charge accounts.
- You’ve paid late penalty fees more than twice within the last year.

If three or more of these warning signs apply to you, you may be headed toward credit problems. It can be hard to cut back on spending, but this may be the time to make changes before potential problems become reality.
Beef Cattle Mineral Supplementation

By: Eldon Cole

What type of mineral supplement do you provide your cattle? There's certainly a lot to choose from as you look over the various companies’ products. Even within a company brand, you'll have numerous choices to consider. You may end up picking the cheapest or you may pick a higher priced one because you just figure it has to be good to be priced so high.

I imagine buying minerals creates some anxiety in cattle raisers because there are so many choices and they're spending a lot of money as mineral costs have gone up sharply in the last 3 or 4 years. In the rest of this article I'll share some thoughts that might ease your mind when it comes to shopping for minerals.

First of all, you've probably never submitted a pasture or hay sample to a lab for an analysis for mineral content except possibly calcium, phosphorus and magnesium. The basis for any supplementation program begins with knowing what the cattle are getting as they graze or eat a stored forage such as hay, haylage or silage.

The reason few mineral analyses are run is cost. The lab we use for the basic energy and protein test charges about an additional $10 for a fairly complete run on the trace minerals. In addition, if you request information on selenium it costs $45 more. Needless to say, I have very few forage test results for minerals. Even though my file on mineral tests is limited, I can say that most of those forages I have results on, are not in too bad a shape except every now and then I get some odd deficiency or excess.

The trace minerals that traditionally are short or borderline in straight fescue are copper and zinc. Selenium is seldom analyzed, but it can be borderline according to the results I've seen. The major minerals, calcium and phosphorus, appear to be in pretty decent supply in most southwest Missouri forages. The best lab results usually show up in a mixed legume-grass sample. Season of the year when the forage is sampled can have an effect on the mineral level. Stockpiled, mature or drought-stressed fescue will normally show a greater need than immature, leafy fescue pasture. In addition to having a lower amount of the minerals in the forage, their palatability is reduced so daily intake adds to the mineral shortage in the animal.

We've conducted several trials at the Southwest Research Center at Mt. Vernon on mineral supplementation plus a few field trials were done. The minerals provided varied from just salt to a rather complex mineral that should have had about any major or trace mineral in it.

The trials involved endophyte infected fescue and we used both cow-calf pairs and stocker cattle. Our results showed that some deficiencies did show up when blood and tissue samples were checked. In spite of that, animal gain differences were not statistically different. Nor could we detect any difference in health or appearance during these summer trials which ran from April into October. The complex mineral did not appear to reduce fescue toxicosis symptoms, contrary to some claims.

One big problem with mineral supplementation is the erratic intake patterns seen among the cattle. I'm sure some eat a lot more when the mineral is fed free choice than others. Some cattle no doubt have different requirements based on age, production status, breed and their own taste. You probably have noted these up and down patterns in cattle from one pasture to another. We can mix the minerals in a palatable concentrate feed to insure better intakes. Bear in mind that grazing animals tend to select higher quality forage that could test higher in certain minerals than our human collection method would.

Well, you're wondering what is the bottom line recommendation. I suggest you do some mineral testing of your forages. Since our basic forage in the area is fescue, look at it in different stages of growth. If you harvest early growth, check it but also check some that's pretty mature. If you have some fescue with legumes in it, run a test on it.

Compare what's in your forage against nutrient needs of the various classes of cattle you're running. Then, shop for what might be missing. Chances are you can find a reasonably-priced mineral supplement that will give you what's needed to correct those minor deficiencies. Salt will be the mineral they normally seek. Remember minerals are a great carrier for a number of additives that you might or may not desire to have in your supplement. Unfortunately those items can add a lot to the cost.

Since cost should be a consideration, watch cattle intake and waste from the weather. Most supplements are geared for a 2 to 4 ounce per day intake. If your cattle’s intake is above that, you may want to put out some plain salt in addition to the mineral supplement.

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How Much Is A Bale of Hay Worth?

By: John Hobbs.

As costs have risen for fertilizer, fuel, twine, and net wrap, many producers are asking, “How much is it costing me to wrap a bale of hay this year?” or “How much should I charge when I sell a large round bale of hay?”

To answer these questions, let’s first look at the fertilizer costs in a bale of hay. Fertilizer value of nutrients contained in a bale of hay should be considered when pricing hay to sell or determining costs per bale or per acre. The large price increases in commercial fertilizer should be offset by an increase in hay prices.

Another thing to remember is not all hay is created equal when it comes to the quantity of nutrients per ton or bale of dry matter. Hay differs in nutrient content due to species, yield, growing conditions including soil fertility, haying conditions, and maturity when cut. A large round bale of hay that has been fertilized, cut and baled at the correct stage of maturity is worth much more than hay cut after it has matured and has low digestibility. According to research data for our Forage Systems Research Center in Linneus, MO, a 1,200 pound round bale of grass hay removes $29.22 worth of nutrients from your hay field that you will have to replace. This is based on current nitrogen, phosphorus, and potassium prices. Another way to look at it, you have removed 50-70 pounds of N, P, & K per large bale from your field!

Another cost increase has been the fuel. As farm diesel approaches $3.45 per gallon, how does that affect the price of a large round bale of hay? The following rates are average costs from custom operators in the state of Missouri.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Round Bale (net)</td>
<td>$11.50</td>
</tr>
<tr>
<td>Wheel Rake</td>
<td>$2.25</td>
</tr>
<tr>
<td>Rotary (disc) mower</td>
<td>$5.45</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>$19.20</strong></td>
</tr>
</tbody>
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In summary, you must look at increased forage machinery costs including fuel, and more fertilizer costs due to nutrients being removed when harvesting the hay. This amounts to a little over $48.00 of costs per 1200 #large round bale of grass hay. Yes, it is going to be more expensive to bale hay or buy hay this year due to increased fertilizer and machinery costs.