GRI SERVICES

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SPRING

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Spring Update From Keith McDaniel–Ozark Store Manager Planting season is just around the corner, and we can help.

insure that you can harvest them early, then er. follow up with the rest of your favorite garden plants for harvest later on!

seed, bulk garden seed, and the greenhouse plants should be in shortly. We will have a broad range of plants available and well as garden flowers. Also with warm weather comes the time to fertilize your hay fields and pastures. The plants will be busy before you know it, so plan ahead so that you can get a cart when you are ready to put on your fertilizer.

should get this done in a timely manner to insure that your results are available when you are ready to put your fertilizer on. Something that each of you should think about when it comes to fertilizing your hay fields and pastures better. is that fall fertilization is just as important as fertilizing in the spring. You can help your fields prepare themselves for the spring growth by giving them the phosphate and potash that they need to grow and flourish in the fall. This helps the plants be healthy and get the full benefits of the fertilizer and prepares them to flourish in the spring.

You can still put on nitrogen in the fall as well to help with stockpiling for winter. On the flip side, this doesn't mean that come spring that you don't put on any phosphate or potash. Your plants still need the two ingredients plus your nitrogen to reach maximum potential growth and production, whether it be in hay fields or

Things are starting to get busy at MFA with pastures. This is just something to think about as spring just around the corner. It is time to think you plan for spring, but dual application of fertiabout planting those early cold crop plants to lizer can pay huge dividends to you as a produc-

Another area that you need to pay close attention to this spring is your weed population in We have potatoes, onions, packaged garden your fields. You can use the old hoop method and take a hoop and lay it down in several areas of your field and measure the population and ratio of weeds to grass in your fields. This will help you determine if you need to spray your fields for weeds or not.

If you figure out what your weeds are, then we can determine what chemicals are needed to control your problem. We have a sprayer for If you haven't taken the time to soil test, you rent (if you want to do it yourself), and a full line of Chemicals to ensure you find just the right one to do the job. One thing to remember when vou purchase chemicals: always mix in a good surfactant to help make the chemical work

> If you are needing seed or thinking about planting anything in the next few months, remember that MFA has a wide variety of seed from corn, soybeans, alfalfa, teff grass, sudan, fescue, clover, rye and many other field grasses as well as lawn grass to meet your needs.

> Come by and visit with us about all of your needs and we will gladly assist you in any way possible. We have agronomist on staff that can come to your farm and look at what you need and assist in any manner.

> Spring is here.....Let us at Ozark MFA help you with all your Spring Planting Needs!!!!

Creep Feeding

Pounds, Pounds, and MORE Pounds!

Reach Your Calves' Genetic Potential this Year

2

David A. Yarnell- MFA Livestock Consultant

I would like to visit with each of you about fall born calves or spring born calves. Some of you may have both which is good news for you. These calves might be born in different seasons but both have the same opportunities in their corner. They both have the ability to grow when put into a situation to reach genetic potential. We would all agree that every calf is different and some just do better than others. And we know some cow's milk is better than others and this pasture is better than that pasture, etc. But under proper management practices and proper nutrition I think we can clean up the weaning weight gap to obtain more



uniform calf crops. How we get to this point is by utilizing two words, "Creep Feeding." I am sure I just received some head rolls from the peanut gallery. Please bear with me and hear me out before putting this article down, because my goal is to help put more money in your pocket by selling more pounds at a cost effective gain.

I found this interesting as I looked up the definition of creep feeding on the internet. If defines creep feeding as a simple way to supplement grass and milk of unweaned calves with the feed not being available to the dam. Remember your cows are feeding their calves, but it may not be enough. Milk from a lactating cow furnishes only about 50 percent of the nutrients that a three to four month old calf needs for maximum growth. The remaining nutrients must come from elsewhere if the calf is to realize its genetic potential for growth. And as milk production tapers off through the latter part of lactation, and with forage quality declining (especially true in spring calving herds), eventually these calves grow hungry. This is called the "Hungry Calf Gap."

Here are several advantages to incorporating creep feeding into your operation: provides a way to fill the "Hungry Calf Gap," compensates for low milk production, improves calf uniformity, and provides calves that are bunk broke. It increases rate of gain, weaning weight, and reduces stress at weaning. It also enhances marketability and market flexibility by adding bloom and weight to calves.

I hope you are ready because here are the real nuts and bolts of this article!

Unless you have been living under a rock for the last twenty years you have probably heard of Cattle Charge. Oh, if you have not then today is your lucky day because I have the wrench to tighten those nuts and bolts. Cattle Charge is a complete feed for any stage of cattle on pasture for increased rate of weight gain. But today I want to focus on the calves nursing the cows. Here are some benefits to those calves by creep feeding Cattle Charge that I would like to highlight. Cattle Charge is a high-energy, low starch formula that is safe, highly palatable, and that offers fast starts with superb gain in a pellet form. It provides straight-sided gains by utilizing high quality all natural protein, highly digestible good quality fiber, added vitamin E, zinc, and potassium, and fortified with high levels of other vitamins and minerals. It offers outstanding performance which is backed by years of research with incredible conversions of 4-1 or better. The product also has flexible drug options to meet your needs that can be purchased with Rumensin, Bovatec, CS-700, All Natural, and Non-Medicated.

Creep feeding Cattle Charge fills the "Hungry Calf Gap".

Remember that weight pays the bills and with shorter cattle supplies, the value of that weight will be greater. And with the most efficient gains being on the cow – creep feeding with Cattle Charge makes perfect sense. Let us help you fill your pockets!

FYI: Some of you may be aware that I have acquired a new cell phone number. For those that I have not yet had a chance to meet with: It is area code (573)-378-8954. Sorry in advance for any confusion or inconvenience that this may cause. Thanks for taking the time to read!



Spring Time Helpful Hints: Electric Fencing

Tips to Keep Your Electric Fencing in Tip-Top Shape this Spring

Alan Huhn — MFA Steel Products Manager

Hint #1:

Compare your solar fencer battery to your vehicle. If you start your vehicle every day the battery will stay charged and will last a long time. However, if your car sits over winter and is not started at all during this time, the battery will more likely needs to be charged before starting. Your solar fencer acts the same way. There are several suggestions for over winter storage of Solar Fencers (to name a few): 1.) Take fencer off fence, disconnect the battery, and store it in your shed or garage. To bring solar fencer out of storage- connect battery and place in direct sunlight minimum 3-5 days. This will charge the battery the natural way. There are two other options if time is of essence: 2) buy a low output charger and charge the battery overnight. A regular 12v car battery charger will have too much output for this and could cause battery to overheat and explode. 3) Turn fencer on and if doesn't work purchase a new battery. Batteries in Solar Fencer typically last a minimum of 2 years and I have seen some batteries last 5+ years. In general, there is a 1 year warranty on a solar gel cell battery.





Hint #2:

The main reasons why AC electric fencers fail are, improper grounding, no surge protector installed at the electrical outlet, and/or no lightning diverter installed on your fence. Your electric fencer contains circuit boards and transformers similar to a computer/TV/DVR or any other electronic device. And do you have a surge protector installed on them?

Please visit your nearest MFA for a more detailed explanation and to purchase needed items.

Grass Tetany: How MFA Can Help

Jody Boles — Area Sales Manager

Let us go back to Chemistry class and look at the Periodical Chart. Atomic Number 12, Magnesium (Mg) was discovered in 1808 by Sir Humphrey Davy. Magnesium is the third most abundant metal in the earth's crust. Magnesium is found in all cells. The functions of Magnesium include: bone and teeth integrity, and is essential for all cell respiration, enzyme activation and neuromuscular activity.



This all leads us to Grass Tetany or Grass Staggers which is a metabolic disorder that occurs in livestock: more typical in mature cattle. Cattle can have subacute or acute grass tetany. Subacute: watch for reduced grazing or muscle twitching, which are two of the signs. Acute: watch for teeth grinding, excess salivation, stiff movement, nervousness, and convulsions.

How do you keep from having Grass Tetany? Let MFA show you a few ways.

Most everyone likes using a Magnesium supplement either in mineral or feed. MFA has you covered either way you would like to go. Here are three MFA minerals to help your herd stay healthy and bypass the pitfalls of grass tetany. Hi-Mag, Mag Ade Meal and XI Mag mineral. Consumption of these MFA minerals runs from 4 to 8 ounces per head per day on 1,000 to 1,200 lbs. cow. MFA Hi-Mag is 4 ounces, Mag Ade Meal is 6 ounces and XI Mag mineral are 8 ounces. The main question I get on using a Mag mineral is when to start feeding it. Generally the first of March or very close to that works well. The next question is when to stop using a Mag mineral. For most years, go until Mother's day and your herd will be covered.

Some producers like feeding a Salt Mix with Magnesium. If you want to do this MFA has you covered. MFA has two Salt mixes with Magnesium in bulk or bag. MFA Salt Mix #1 with mag is a 20% protein 30% salt mix that has a consumption rate of 2 to 3 lbs. on a 1,000 to 1,200 lb. cow. MFA Salt Mix #2 is a 16% protein 20% salt mix consumption rate is 3 to 4 lbs. on a 1,000 to 1,200 lb. cow.

Some producers like using tubs. MFA has this option as well. Ultralyx 20% Mag tub consumption runs 1 to 2 lbs. on a 1,000 to 1,200 lb. cow MFA has many options for any producer. Give us a call for a farm visit and we can help you build a plan for your herd. Thank you for your business.

Grass Tetany 4



Grass Tetany: Know the Facts

Now is the Time to **Develop a Strategy** to Reduce the Risk of Grass Tetany This Spring

Dr. Jim White -- Nutritionist

There are several factors which increase the likelihood of grass tetany:

1) Low magnesium and/or high potassium content of rapidly growing grasses and pastures, quite common with spring growth of cool season grasses. If the concentration of potassium is 2.2 times greater than the sum of calcium and magnesium, the forage is tetany conducive K/(Ca+Mg)> 2.2. In a recent grass hay sample that I saw, the lab report showed 20% moisture, 9.1% protein, a potassium of 1.62%, a calcium of 0.57% and magnesium of .24%; so the calculation would be 1.62/(0.28+0.57)=2.0, which would indicate limited likelihood of tetany concerns,

2) High soluble crude protein content of forages,

3) Weather stress, both for plants and animals, changes plant metabolism-causes cattle to be off feed,

3) Lactation, milk is a significant magnesium and calcium sink,

4) Nitrogen fertility-status of the pastures,

5) Supplement offered cattle, (particularly magnesium, calcium, salt, fermentable carbohydrates) reduces the incidence of tetany,

6) A combination of the above.

For quite awhile we have realized that magnesium is a dietary requirement for all cattle. Growing beef cattle have a magnesium requirement of about 0.1% of the dry matter; for lactating beef cows, that requirement is doubled, triple that for wet dairy cows.

For nursing cows, the requirement for Ca increases, likewise so do the requirements for Mg. Thus nursing cows are at increased risk of grass tetany. The heaviest milking cows are at greater risk of grass tetany. Empirically we have noted that experiencing stress or fasting will decrease both Ca and Mg in cattle. Storms, trucking, running the self feeder empty, or other stressors that cause cattle to stop eating can precipitate grass tetany.

A MFA Salt Mix with magnesium is generally the fastest and most certain method of addressing grass tetany (Salt Mix #1 with Mag- # 445195 or #2- # 445205). If modest protein and energy supplementation are needed where labor is an issue, 20% tubs with magnesium are a good choice (#445612). If the forage base is protein and energy adequate, Hi-Mag Mineral (#465320), MFA Tasty Mag Mineral (#468690) or Mag-Ade meal (#465460) would be options.

If the producer is hand feeding cubes or a supplement at recommended rates, the likelihood of tetany is extremely remote. Lactating cattle should consume 15-25 grams of magnesium a day. If the feed is on offer at all times, e.g. a free choice mineral, the supplement disappearance should be checked frequently. Magnesium is not well stored in the body, so frequent consumption is needed. Solubility-or rather bioavailability is important: the more soluble a magnesium source is, the more bio-available it is. One of the principal factors that dictate the solubility of magnesium oxide is how hot it was cooked- or rather "calcined". One gets magnesium oxide by putting the magnesium carbonate- magnesite ore in a kiln (an overgrown furnace)- and cooking it. It is important to note that how a magnesium oxide calcined is highly reactive, highly soluble, highly bioavailable magnesium source. The kilns are often called "lime kilns" in that we take limestone and calcium carbonate, cook it to calcium oxide, and then use that to make plaster, concrete, whitewash- all sorts of good stuff.

Anyway, the temperature of the kiln is one consideration, and best results are at 900-1000 degrees centigrade. This is ideal for most efficient calcining of magnesium carbonate into a highly reactive mag oxide. If the temperature is any hotter, one gets a 'hard burn', which is less reactive. At even higher temperatures (so the plant guys can process more/hr), one gets a 'dead burn'. This material is much less reactive. The length of cook is also an issue. Another factor that we consider is what is being used to heat it- the cleanest material is cooked with natural gas. Using coal has given dirtier material, and in some off shore materials, there have been reports of dioxin, which, if I was using the same, would cause me to be drowned in a tsunami of Federal paperwork.

Start supplementing now! Supplementation should begin 2 to 3 weeks before tetany is likely to occur. This means for much of Missouri, March 1 should be the start of offering magnesium fortified supplements.

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Battling Pinkeye in Your Herd

Know How to Handle Pinkeye When it Hits Your Herd

Dr. Jim White— Nutritionist

Soon we will be in that time of year when pinkeye in cattle can become troublesome. The problem has been associated with reduced animal performance and value; i.e. calf weight gains can be less, and affected calves will likely be docked at sale.

Reducing the incidence if pinkeye rolls around:

- 1) Reduce eye irritation,
- 2) Reduce the spread/infection of the bacteria that causes pinkeye

Reduce eye irritation: reduce dust. Use dust abatement practices- spraying, congregate animals on hard surfaces, etc. Ensure adequate shade. Seed heads are known to cause eye irritation. Appropriate mowing will reduce potential irritation and result in a more uniform stand.

Irritated eyes will tear-weep-look "watery". For whatever reason, watery eyes seem to be a magnet for flies. The flies further irritate the animal and eye tissue as they feed around the eye, spreading disease in the mean time. Flies have been shown to harbor and spread several strains of bacteria that have been implicated in pinkeye. Knocking down flies with premise sprays, ear tags, feed through pesticides (an example would be Fescue Equalizer with Altosid #465600 or Rabon #465140) all help in reducing pinkeye by reducing flies.

Reduce the spread/infection of the bacteria that causes pinkeye. Reducing fly pressure reduces eye irritation and reduces the spread of the bacteria. The bacteria that causes pinkeye is Moraxella bovis. Controlling face flies particularly reduces the spread from animal to animal. Horn flies tend to stay with an animal. They are not strong flyers, but they are really good at biting. They do not fly anywhere near as far as face flies. Given that house/face flies can travel significant distances between herds- spreading different strains of Moraxella bovis- the pinkeye vaccines will be broad spectrum. If you are going to vaccinate for pinkeye, use the product(s) recommended by your herd veterinarian, in the manner recommended by your veterinarian. The vaccine stimulates the animal to produce antibodies. These antibodies will be present in the fluid around the eye and help reduce the likelihood that Moraxella bovis bacteria can get established, and they tend to reduce the severity of the infection. Being an a sound feeding program will help ensure a good response to vaccination and reduce the severity of the infection.

Identifying the Severity of the Infection



Stage I: Cattle have excessive tearing and increased sensitivity to light. They will blink frequently and there is redness along the eyelids. Cattle will often seek shade, which will decrease their grazing time. Pain associated with pinkeye also decreases their feed intake. Stage I will progress to a small ulcer in the center of the cornea which appears as a small white spot. The cornea develops a slightly cloudy grey appearance due to inflammation. One or both eyes may be affected.



Stage III: The ulcer covers most of the cornea and the inflammation continues to spread into the inner parts of the eye. When this occurs, the inside of the eye fills with fibrin, which is a puslike substance that gives the eye a yellow appearance versus the typical brown appearance.



Stage II: The clinical signs described in Stage I continue, but the ulcer spreads across the cornea. As more inflammation occurs, the cornea becomes increasingly cloudy. At this point, some of the dark color of the iris can still be seen. Blood vessels from the outside portion of the cornea begin to grow across the cornea to help with healing. These blood vessels make the cornea appear pink, which is how the disease received its name.



Stage IV: The ulcer extends completely through the cornea, and the iris may protrude through the ulcer. The iris will become stuck in the cornea even after healing. This may lead to glaucoma or persistent swelling of the eye. This eye will be partially or completely blind. The eye may go on to completely rupture, and will develop a shrunken appearance or enlarge if glaucoma (increased eye pressure) is present. This

The Workings of N-P-K

6

The Role Each Nutrient Plays in Your Crop's Well Being

Story: Jim Tomnitz— Store Manager



How important is fertilizer? Plants take nutrients to grow strong and healthy. These nutrients come from the soil, but after several years the plants draw all the nutrients out of the soil. Farmers must find a way to get the nutrients back into the soil so that plants can grow again. A cost effective and efficient way to do this is to add fertilizer.

Fertilizer is material added to soil to supply one or more plant nutrients essential to the growth of plants. Fertilizers provide nitrogen, phosphorus, and potassium. Farmers may also get fertilizer that contains magnesium, sulfur, boron, and zinc.

Nitrogen plays an important role in agriculture through the development of plant life. It gives plants nutrients which cause them to have vigorous growth and thrive. It also assists in cell division and reproduction of plants. Nitrogen is an energy receiver for light which begins the process of photosynthesis.

Phosphorus also plays an important role in agriculture. It promotes growth and vitality by stimulating the root system, and allows plants to use nutrients found in water and soil. Disease resistance and the production of seed and flowers can also be attributed to Phosphorus.

Potassium may be the most important nutrient for agriculture. While the other nutrients change the chemical makeup of the plant, potassium is required for the ongoing processes that make a plant healthy. It regulates the opening and closing of the pores that allow the plant to use oxygen, carbon dioxide, and water vapor. Potassium activates more than sixty enzymes in the plant that are necessary for plant growth. Potassium also increase root growth and makes plants less vulnerable to disease.

Every field is different; to know what analysis of fertilizer is needed for healthy plants a sampling of the soil may be done. This is done through a soil test. Small amounts of soil are taken and then analyzed in a lab to determine which nutrients are missing. Once farmers know this, they know what analysis of fertilizer to apply.

Interpreting Soil Sample Reports

Know What the Reports are Saying About Your Ground

Eric Preston— SW MO/ SE KS Regional Precision Sales Manager (660) 674-1775 epreston@mfa-inc.com

Corn harvest is done, and we are now waiting on soybean harvest. Meanwhile, we are making plans for next season. This includes ordering seed for next season, deciding planting dates, and getting soil samples taken to manage your fertility program. I have had many questions and worked through many soil reports in the last month. Soil reports can be intimidating when you are looking at a list of 100 of



random numbers. I am going to try and clear up some of the confusion of converting parts per million (ppm) into lbs. /acre, understanding Bray P1 & P2, and CEC.

Converting Parts per million (ppm)/ lbs. /acre

Results for the major and minor elements are reported in parts per million (ppm) on an elemental basis. An acre of mineral soil 6 to 7 inches deep weighs approximately 2 million pounds. Therefore, to convert parts per million readings to pounds per acre, multiply by 2.

For an example: Your P1 reading is 15 ppm and your K reading is 130 ppm. Then 15x2= 30 lbs. /acre P205 readily available and 130x2= 260 lbs. /acre K20 available in the soil. This makes reading the numbers have more meaning when it is in a familiar term.

Bray P1 & P2 what are they and how do they work together?

The P1 (weak Bray) test measures phosphorus which is readily available to plants. The optimum level will vary with crop yield and soil conditions, but for most field crops, 20 to 30 ppm is adequate. The P2 (strong Bray) test measures readily available phosphorus plus a part of the active reserve phosphorus in the soil. A level of 40 to 60ppm is desired for good yields of most crops.

The relationship between the P1 and P2 test levels (P1:P2 ratio) can help evaluate the phosphorus status of the soil as well as identify a soil condition that contributes to poor crop performance.

Soil Sampling

(continued from page 6)

The following comments will apply to the P1:P2 ratio in most areas:

A. 1:1 – VL to L Poor history of fertilizer use – adding P2O5 will tend to widen the ratio. Many times the available P2 increases faster than the standard available P1 indicating an increase in the reserve.

B. 1:1 – M to VH Low reserve. Fe and Al "P" bond is very tight – a lime application will release P and increases the Ca availability, generally the ratio will widen as a result of the lime application.

C. 1:2 with P1 M to H. Ideal range with reserve as high as the P1 availablity.

D. Greater than a 1:2 ratio. Some may be as high as 1:20 or greater. One or more of the following principles may apply:

1. Response to starter may increase as ratio increases.

2. Presence of free lime in the soil may be indicated.

3. Increasing response to the use of sulfur and zinc. (Use 1 part

of zinc with 2 to 4 parts of sulfur. A maximum of 8 pounds

of SO4 -S may be used in a starter band.)

E. When the P2 is over 50 ppm, one can expect greater response to Zn.



F. The amount of P2O5 which will be required to increase the P1 reading is dependent on soil texture (or cation exchange capacity), soil pH, and level of P1 and P2. An average value would be 9 lbs. of P2O5 required to raise P1, reading 1 ppm.

What is Cation Exchange Cite CEC and what does it mean for your soils?

Cation Exchange Capacity measures the soil's ability to hold nutrients such as potassium, magnesium, and calcium as well as other positively charged ions such as sodium and hydrogen. The CEC of a soil is dependent upon the amounts and types of clay minerals and organic matter present. The common expression for CEC is in terms of milliequivalents per 100 grams (meq/100g) of soil. On most soils, it will vary from 5 to 35 meq/100g depending upon the soil type. Soils with high CEC will generally have higher levels of clay and organic matter.

For example, one would expect soil with a silty clay loam texture to have a considerably higher CEC than a sandy loam soil. Although high CEC soils can hold more nutrients, good soil management is required if these soils are to be more productive.

CEC is a very closely tied with soil type and is very difficult to change on a large scale. It is very important to manage your low CEC soils differently than your high CEC soils to maximize both soils productivity.

Soil reports are a great source of information and a management tool. Hopefully these small pointers can help understand some of that information better. Using the information to manage your fertility program should increase productivity and profitability of your farming operation. For more information ask your local Ag Choice location about how they can help your soil fertility program.



MFA Greater Ozarks- March Specials

Don't Miss Out on These Great Spring Deals!

6 CUBIC FEET POLY WHEELBARROW	\$59.99
15 GALLON SPRAYER 2.1 GPM PUMP	\$99.95
2x4x14 GA WELDED WIRE	\$36.50
2.5 GALLON GAS CAN	\$11.99
ТОМАТО CAGES	\$2.75
2" x 27' Ratchet Straps (J or Flat)	\$11.95
TORDON RTU QUART	\$10.50
Herdsman Pigtail Post	\$2.95/EACH
1.5 BUSHEL ELECTRIC SEEDER	\$296.00
110 GALLON SPRAYER W/BOOMLESS NOZZLES	\$1233.00



Thank You For Your Business!

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