

WINTER
2012

GREATER OZARKS



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greaterozarksmfa.com 

Fall Update From Keith McDaniel—Ozark Store Manager

Take Advantage of Our Prepay Fertilizer Program and Save Money!

It's been an exciting Fall here at Ozark MFA with lots of things happening. Early planting of wheat and rye was tremendous with the dry summer months and people in need of some fall and winter pastures. We saw a lot of Marshall Rye planted early as well, to get some much needed grass and hopefully some good spring hay crops. Availability remained high for all of these fall crops, which helped to keep everyone planting when they needed. Fall fertilizer application was also good, as people were trying to get one more cutting of hay to help get them through the winter months. Things that each of you should take a look at in the fall is: 1. If nothing else, put on some nitrogen to help stockpile fescue, 2. Build your phosphate and potash in the fall to help ensure increased plant strength and growth when spring rolls around. If you are only applying fertilizer one time per year, you are not doing your fields justice for what they really need to thrive and survive. I would suggest some type of split application at higher rates to help you get the most out of your fields. Lime is also a big must to help ensure a better pH in your soil and increase plant potential.

Also this fall, a lot of people took advantage of the late growth and warm temperatures to spray weeds in their pastures; the opportunity was there to get some late season kill on those unwanted weeds in hay fields and pastures. Don't forget that we now have a pasture sprayer. Contact us when you are ready and rent our sprayer that can be pulled behind your truck and spray in the air conditioned comfort of your vehicle. It's an easy way to get a handle on the unwanted weed population in your pastures or hay fields.

In early October, we attended the Ozarks Fall Farm-fest at the Ozark Empire Fairgrounds. This is an annual three-day event that is attended by thousands of people every year and is put on by Farm Talk. If you have not been, you should make plans to attend next year. It is an excellent selling opportunity for our stores to see a lot of farmers in a short amount of time. We always enjoy visiting with everyone from all

areas of farming and agriculture during this three-day period. We made some good contacts and moved a lot of product at this year's event.

November brings the start of the holiday season and the time of year when families get together and enjoy some quality time together. This is a special time of year; we hope each of you take time to be thankful for what we have and what we are able to do here on earth. Thank God for what he has done and continues to do for us every day.

Ahh December, the Christmas season and Santa Clause. It's a very exciting time for many adults and especially the kids. At Ozark MFA, we enjoy December as well. We start December with our annual Christmas Open House the first week of December each year. It's an annual sales event with great specials to all customers that attend. It is a fun-filled evening and everyone really enjoys the specials along with refreshments and some fun Christmas shopping.

December brings one of our busiest times of the year, as we open up our prepay fertilizer program. This is the time of year that we offer our customers a chance to prepay for spring fertilizer at reduced prices and lock in that price throughout the spring season. It's an awesome program that has served the farmers well over past years. If you haven't taken a look at this program, you should at least give it a glance. There are two periods to take advantage of: the first will run from December 20-31, 2012. The second prepay period will run from January 1-12, 2013. Please give us a call and let us discuss your fertilizer and lime needs for your operation. If you have any questions regarding this program, please feel free to give us a call.

All of us at Ozark MFA want to wish each of you and your families a very Merry Christmas and a Happy New Year. We appreciate your business and look forward to doing business with you in 2013! May God bless you and your families!

Cold Stress: Cows Need More Energy

Understanding the Effects of Cold Stress on Beef Cows

Warren Rusche- SDSU Extension Cow/Calf Field Specialist

Most beef producers understand that when the weather gets colder their cows need more energy to maintain their body condition. The question is: When do cows start experiencing cold stress, and then how much more energy do they need?

When we're considering cold stress, we need to factor in both the actual temperature and the wind speed to determine the effective temperature. In Table 1 you can see wind speed can dramatically lower the effective temperature the cattle experience. Any kind of available protection, whether natural or man-made, can be very valuable in reducing the amount of wind chill.

The second consideration is, just exactly when does a cow begin to feel cold stress? The point of cold stress, or lower critical temperature, depends in large part on the amount of insulation provided by the hair coat. As shown in Table 2, that insulation value changes depending on the thickness of the haircoat and whether it is dry or wet.



Table 1. Wind Chill Temperature F°

Wind Speed	Air Temperature °F				
0 mph	-10°	0°	10°	20°	30°
5 mph	-16°	-6°	3°	13°	23°
10 mph	-21°	-11°	-1°	8°	18°
20 mph	-30°	-20°	-10°	0°	9°
30 mph	-46°	-36°	-27°	-16°	-6°

Table 2. Lower Critical Temperatures for Beef Cattle

Coat Condition	Critical Temperature °F
Wet or Summer Coat	59°
Dry, Fall Coat	45°
Dry, Winter Coat	32°
Dry, Heavy Winter Coat	18°
Dry, Heavy Winter Coat	18°

Table 3. Dry Matter Intake Based on Temperatures

Dry Matter Intake Based on Temperatures							
Temp. °F	<5°	5-22°	22-41°	41-59°	59-77°	77-95°	>95°
Intake Ratio	116	107	105	103	102	90	65

Be careful providing larger amounts of high concentrate feeds. Rapid diet changes could cause significant digestive upsets. A rough rule of thumb is that the rumen can deal with/handle a lb increase in concentrate every other day

It's important to remember that cattle can adapt to short term weather changes relatively well without a significant impact on performance. A cow can deal with a few cold, miserable days without suffering long-term effects. However, ignoring the energy costs of long-term cold stress greatly increases the risk of problems down the road during calving and subsequent re-breeding performance. Any steps that we can take to lower the cold stress the cows have to contend with, such as providing wind and weather protection, help reduce her maintenance requirements.

As a general rule, for every degree that the effective temperature is below the lower critical temperature, the cow's energy needs increase by 1 percent. For instance if the effective temperature is 17 degrees F., the energy needs of a cow with a dry winter coat are about 15% higher than they would be under more moderate conditions. That energy requirement jumps up to about 40% higher under those conditions if the hair coat is completely wet or matted down with mud.

Body condition score also effects ability to tolerate cold stress. Extra body fat cover is significant in aiding in ability to withstand lower critical temperatures. It cuts the other way too - that a skinny cow will be stressed sooner at a lesser temperature. Energetics of cows grazing pastures is 10-20% more energy requirements than a feedlot pen. The influence on cold stress and energy requirements shows the strategic value of putting on body condition after weaning, during mid-gestation when her requirements are the lowest.

One of the ways that the cow responds to cold stress is by increasing voluntary feed intake. The animal's entire metabolism system increases in activity. Also, the passage rate of roughages through the rumen and digestive tract increases. These changes trigger an increase in the cow's appetite and voluntary intake. Some observed changes in intake based on temperature are shown in the Table 3.

There are some management considerations that we need to keep in mind regarding changes in feed intake in response to cold stress and the cow's need for more energy.

Make sure that water is available. If water available is restricted, feed intake will be reduced.

If the feed availability is limited either by snow cover or access to hay feeders, the cattle may not have the opportunity to eat as much as their appetite would dictate.

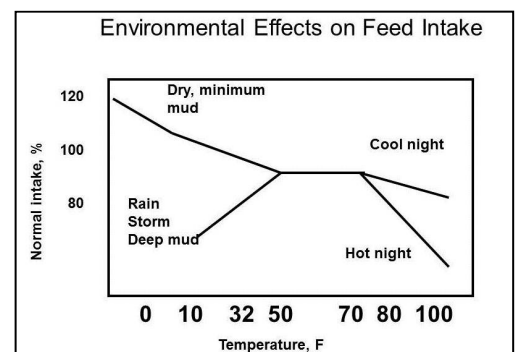


Figure 1. shows a graph of dry matter intake based on temperature

Clear as Mud: Effectively Managing Your Herd's Environment

Protect Your Herd Against Some of the Stress Associated With High Levels of Mud.

On average, the rainfall distribution is such that winter and early spring tend to be the wettest times of the year. This is also the time of year when much of the permanent pasture acreage is dormant, and cattle congregate around hay feeders and feed troughs. The concentrated hoof action causes trampling damage to forages, and bare spots appear in areas where cattle congregate. Tractors, trucks, and ATVs also rut up fields, lanes, and roads during this time. Add in a leaky water trough or busted water line, and mud seems to be everywhere.

So how does mud affect cattle? It creates a variety of problems. Mud can negate the insulation value of the hair coat. Of distinct concern are newborn calves born in or near mud holes or muddy areas. Calves can become chilled by mud, trapped in it, or sickened by pathogens thriving in it. This is why it is so important to closely monitor calving, routinely check cattle, and move cow-calf pairs to fresh pasture soon after calving. Additionally, mud on udders contributes to poor udder hygiene conditions. Also, mud under hooves may increase the risk of foot rot.

Another special concern in dealing with mud on cattle operations is that of animals consuming endophyte-infected tall fescue. Cattle suffering from fescue toxicosis typically spend extended time in mud holes, making them more susceptible to health and performance complications related to mud. Even in drought conditions, mud may accumulate in shaded areas where cattle congregate. Concentration of urine and hoof action will cause deep mud holes to develop in toxic tall fescue pastures. Cattle experiencing fescue issues often have large amounts of mud caked on rough hair coats.

Mud creates suction on hooves and makes it more difficult for cattle to move around in a muddy area. They expend more energy moving through mud. Recollections of walking through mud, even with tight boots, makes it evident how much more difficult it is to move around. Modest mud conditions of 4-8 inches deep can knock 15% DMI out of cattle - at a foot deep - DMI can drop by 30%. QED it is really challenging to maintain good body condition on cows and desirable weight gains on calves when mud ubiquitous.



Quick Tips for Mud Management

Frequent movement of hay feeding locations around a large area may result in more widespread damage to pasture plant cover but less severe mud in any one location. Be aware - starting to feed hay at the front of the pasture near the gate, the easiest most sensible place to start, can result in making the area difficult to cover as the mud and travel impact increases. It might be better to start feeding at a further end, and work toward the gate.

Reducing vehicle traffic through pastures can also help protect from vegetation destruction, soil compaction, and rut development. Forages are particularly susceptible to damage when frosted or otherwise stressed. When possible, check cattle on foot or use the smallest possible vehicle - say an ATV rather than a 4 wheel drive tractor.

Note the knee deep ruts - at times 4-wheel drive can be quite handy. Provide and maintain watering sources that reduce water splashing/loss. Some plastic waterer cups that clamp onto the fence, in my experience - seem to irritate bulls- and said sociopath bull(s) feel that it is needful to push the waterers off, break pipe, and stomp all the components - then go bust up the mineral feeders. Such seem to work pretty well for tie stall milk cows, but seem to be beef bull targets. Broken waterers result in water pooling and more mud.

Mud, like taxes, will always be with us - reducing mud will reduce the nutrient requirements of the cattle. When looking to reduce feed costs and nutrient needs- reducing mud stress will directly reduce nutrient requirements/feed needs.

Mud Management

Although it may not be practical to totally eliminate mud; pastures, feeding areas, and cattle should be managed to minimize the negative impacts of mud on the herd. Start by taking an inventory of the soil types and slopes on the farm. Some soils drain better than others and are less prone to mud accumulation. If soil types and slopes are identified on a farm that are less susceptible to water pooling and/or mud build-up, then areas with these soils may be good places to select for high-traffic uses. If you do not have a county soil survey - you can get your soil survey on the web at: www.websoilsurvey.nrcs.usda.gov/app/HomePage.htm. Alternatively - you could ask the clever MFA agronomists - they spend much time contemplating the significant ramifications of soil type, management of the same, and have always been very helpful.



Identify high-traffic areas: these are places that cattle or vehicles move across on a frequent basis (gates, feeding and watering areas, cattle handling areas are examples). Ground level protection from mud development in these areas usually are high traffic ground coverings: concrete feeding pads, use of geotextile, rock base. If the covered area is too small - say a concrete feeding pad/apron - it might become surrounded by deep mud that the cattle fight through for every feeding bout.

Bedding is a useful environment improvement practice. There comes a point in a wet and cold calf's life where they would rather rest than eat. In the picture to the right note the cattle are all resting on the newly unrolled hay rather than eating. Irritating, isn't it?

Hay feeding is a potential source of pasture damage and mud development. If one or only a few hay feeding locations are used throughout the entire winter feeding period, that tends to cause mud to breed and aggressively reproduce in those areas.





Rebuilding the Herd

MFA Offers Valuable Resources to Help With the Rebuilding Process

David Yarnell- Livestock Consultant

As I sit here reflecting on Thanksgiving Dinner while trying to recover from my pumpkin pie induced coma. I ponder the question of “what in the world” am I going to write about for this quarter’s newsletter. Here is when I want to say a light bulb came on but that was just me getting back into the fridge for another piece of pie. Well enough standup comedy for now. Let’s get to talking about something that I feel will be helpful to you.

All summer long I have heard the same story about calves being shipped early, cows that are not bred going to the sale barn, and even complete herd dispersals. Most of this was due to the drought and shortage of available forage, which is completely understandable. So in our area it appears to me that we would have a huge shortage of cows running on these pastures. Thinking about fewer producers and fewer cattle had me singing the blues. But as we go further into fall, my frown has turned upside down. As I have noticed several producers keeping back replacement females or purchasing replacement females to start the rebuilding process.

With that being said I would like to talk about those replacement heifers and how we get them from the weaning pen to breeding season. The ideal situation would be for these replacements to have been run through our MFA Health Track program. But I understand that not every heifer was given this option. If they were not, we can still help get them to where they need to be by breeding season.

So, I want to talk about how to feed them after weaning period is over. If you are going to hand feed, then without a doubt (repeat, repeat, and repeat) I would recommend MFA Trendsetter Developer. MFA Trendsetter Developer Ration is a 16% protein complete feed in pellet form that was designed for weaned calves following MFA Cattle Charge. Which, by the way, is what I hope that all of you weaned with this year? MFA Trendsetter Developer “sets the trend” for growth in replacement heifers. With low-starch, high-quality protein formulation, heifers grow without getting fat and optimize available forage for desired growth. And yes, I like to see them fed at the rate of 1.5% to 2% of body weight along with pasture or hay. This product has been put through the ringer time and time again with the same result of outstanding feed conversions and gains. You can not go wrong with this product if hand feeding is what you are looking for. This product comes standard with Bovatec.

If you plan to run them to a self feeder, my recommendation depends on how much you would like them to eat. At MFA we have four self-limiting rations that can help you reach your goals for the replacement heifers. They include Cruisin, Cadence, Cadence 25C, and Cadence 50C.

Cruisin is a 16% protein complete feed in pellet form with intakes ranging from 0.5% to 0.75% of body weight. Some benefits include controlled consumption, produces healthy functional heifers, it provides and balances the deficiencies of energy and protein levels necessary for required average daily gain, and assists poorer quality forage situations to meet the heifer’s needs and aid in production development.

If more consumption is desired, we have you covered with the Cadence line up. Cadence is a 14% protein complete feed in pellet form with intakes around from 1% of body weight. Cadence 25C is a 13% protein complete feed in pellet form with intakes ranging from 1% to 2% of body weight. Cadence 50C is a 12% protein complete feed in pellet form with intakes ranging from 1.5% to 3% of body weight. The 25C and 50C represents the percentage of corn in the pellet stopping the problems of sorting by cattle in self feeders. Cadence is an excellent way to provide that extra push for developing heifers. It is convenient, safe, and flexible. Cadence saves you time and labor giving you more time to do other things that are important to you. These products come standard with Bovatec.

Even though all of these products have outstanding vitamin and mineral packages, I still highly recommend that you keep out one of our free-choice Gold Star Minerals.

You have many choices to help get you the preferred results for your replacement females. At MFA we would be glad to help set you up on the program that best fits your needs. Thanks for taking the time out of your busy schedule to read this article.



Think Ahead: Kill Next Year's Thistles Now

For Better Pasture and Hay in 2013, Plan Ahead and Take Care of Thistles Before They Even Have a Chance

By: David Moore

Thank goodness we have some grass again! Most of our spraying for the year is behind us now, however, we can attack next year's thistle crop this fall.

The three primary thistles we have in southern Missouri and eastern Kansas and Oklahoma are the **Bull Thistle**, **Musk Thistle** and **Canada Thistle**. The Canada thistle is harder to kill, so we do need to try and identify what type we have. I'll give a brief description of each:

-The Canada Thistle is a perennial and grows from rhizomes, so tends to grow in patches or clumps. It does not typically grow a rosette in the fall, as do the bull and musk thistle. The stems and flowers of the Canada thistle do not have spines on them. Young leaves may have some fine hairs on them.

-The Bull Thistle is a biennial, so it begins life as a rosette in the fall, then bolts upright in the spring. The rosette of the bull thistle is covered in coarse hairs. Stems and flowers have spines. The leaves arrange themselves in spiny "wings". This is the spiniest thistle we have here.

-The Musk Thistle is also a biennial, so look for the rosette in the fall. Musk thistle rosettes lack hairs on the upper leaf surfaces and are often more pale green than the bull thistle. Stems and flowers have spines.

In a nutshell, if you see rosettes in the fall, we are dealing with Musk or Bull Thistle. When looking at plants that have bolted upright already, if the stem has no spines we are looking at Canada thistle. If the vegetation in our pasture and hay fields will allow spray to reach the rosettes, then we can expect a fall spraying to reduce our spring thistle population greatly. We have to remember that we will be hitting bull and musk thistle only in the fall. Canada thistles can be addressed next spring.

A November/early December application of 2 pints of Grazon Next HL per acre or 2 ounces of chaparral per acre will do a nice job. Don't forget to use either Torrid or Astute as your surfactant. This means the difference between success and failure. The proper rate of either is 1 quart per 100 gallons of solution. To spot spray mix 2 ounces of Grazon Next HL and ½ ounce of Astute per gallon of water.

I am often asked, "at what point should I sacrifice my clover to kill my weeds?" After looking at many of these fields I have come to the conclusion that if you are asking the question, then it is time to spray now. A healthy, weed-free grass stand will produce more pounds of beef than a weedy field with clover. After the weeds are controlled, and residual herbicide has dissipated, we can reintroduce clover.

Fall is also a great time to soil test. Knowing what nutrients are lacking and what the pH is can help us to formulate a plan for healthy grass stands. High fertilizer values and two big drought years in a row have had a big impact on the health of our grasses, and it wasn't a good impact. Act now so we can go into spring in better shape than we are today.

David Moore, CCA
Range and Pasture Specialist
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dmoore@mfa-inc.com

Pictured Below: (Left) Musk Thistle, (Middle) Bull Thistle, (Right) Canada Thistle



Winter is Coming! -Be Prepared.

Weather changes in Missouri on a daily basis, but you know that we will be in for several weeks of cold, dreary weather. Prepare your home, your property, and yourself now before the bad weather strikes.

Your home will remain cozy if you keep a good supply of heating fuel. Many Missourians are looking to become more self-sufficient by heating their homes with renewable wood energy. An energy efficient pellet stove is a good option for these families. After the purchase of a pellet stove, which will heat up to 1200-1500 square feet, all you need to purchase is bags of pellets to burn. Pellets are a type of fuel made from compacted sawdust. They are extremely dense and have a low moisture content that allows them to be burned with high combustion efficiency. They come in forty pound bags which make them easy to transport and handle. The average home will burn one bag each day. Many families who use wood pellets supplement heating with a high efficiency electric heater. This is one option that seems to be catching on; check with your MFA store for more information.

You need to make sure that you have winterized your equipment before the cold weather arrives. You also need to have a plan for getting your animals water if the ponds freeze. A wind-powered pond mill will give you piece of mind as the weather gets colder.

Nothing is more comforting in cold weather than having the right clothing to do the job. Don't forget to get your hats, boots, gloves, insulated bibs, coveralls, and coats ready so you will have them ready to grab as you go out the door. MFA carries a complete line of winter clothing; talk to your MFA store about ordering what you need. It usually takes a couple of days to get what you need.

Cold, wet weather is sure to come. Preparing before the storm will make your job much easier. And don't forget that when your work is finished, you can enjoy the warmth of the indoors planning for spring which will soon follow.

Jim Tomnitz
Manager, Springfield MFA

MFA Agri Services– Ash Grove Wishes You and Your Family a Happy Holidays

Take Advantage of Our Most Recent Programs Designed to Help You Save Time and Money as We Move Closer to Winter Weather

Story: Dustin DeVore, Store Manager

Several things have been happening here at Ash Grove MFA. This year we started renting out some equipment for daily fees. One of the biggest items that we rent out is a pasture sprayer. These sprayers have 200-gallon tanks with gas-powered motors so they can be pulled with a tractor or a pickup. The sprayer will put down 20 gallons of water per acre at 4 miles per hour. The sprayer has a hand-held spray wand as well as 30' boomless nozzles. In addition to the sprayers for rent, we also carry a full line of chemicals to put in the sprayer. Ask us about the pull-behind seeder that we have started renting out. This is a 5-bushel pull-behind broadcast seeder that can be pulled by an ATV. The seeder will spread anything from pellet lime to clover seed.

We have expanded our lines of pet foods to include Diamond brand as well as our Gold-N products. We developed a program for customers to purchase 10 bags of dog food and receive the tenth bag for free. This is a purchase over time program that has been a great success. We plan on continuing this program for the foreseeable future. We also carry pet toys and accessories here at the store for cats, dogs, rabbits, as well as various items for other species. If there is a specific item you are looking for, let us know and we will do our best to find it for you.

As winter begins to set in and we start to look towards next year, we tend to forget that we still need to address fall pasture and test our forages to make sure we have adequate nutrition for our animals. This fall has been just about as perfect as we could have hoped for following a major drought that had producers scrambling to find enough hay to get them through until next year. Most of the hay that has been for sale locally has not had any testing performed at all and with the drought and minimal amount of fertilization that comes from a drought situation, it is very important to have hay tested to determine the actual value and to what extent supplementation is necessary. A soil test is also a valuable tool for this coming spring to determine accurate amounts of fertilizer for your farms. Let us know here at the store if you need assistance with either forage or soil testing. We have the equipment and can send the tests off to the respective labs for you. A soil test will cost \$15 and a basis forage test is \$16. This is a good time of year to send the soil test off and avoid longer waits.

We carry a full line of livestock supplements and feeds to meet all of your livestock needs. We also have a full line of bulk feed - from commodity blends to MFA branded feed products. We carry several lines of supplement tubs - both protein and mineral tubs. Our line of livestock equipment includes Tarter, Powder River, Applegate, Midwest Gates, as well as several other brands. We have a large selection of electric fences and materials. New this year we have started servicing electric fence chargers at the store location. We have parts on hand for Herdsman, Parmak, Speedrite, Gallagher, and Power Wizard chargers. Usually fences can be repaired and returned to you in around thirty minutes. Most other fences can be repaired, but it may take us a few days to wait on the parts to ship. We still sharpen most chain saw chains as well.

We appreciate your continued patronage here at Ash Grove MFA and we look forward to continuing to earn your business in 2013. Thank you and have a Happy Holidays and a safe and Happy New Year from all of us here in Ash Grove.

MFA Agri Services– Marshfield News

What's New at MFA Marshfield

MFA in Marshfield is excited about some past and upcoming changes. We have a new website that is in the beginning stages. We hope everyone will check it out for current weather, markets, sales, and weekly specials. Feedback is important to us, let us know if you would like an addition to this site. Click on the Marshfield location at www.greaterozarksmfa.com and let us know what you think.

When you stop by the store, you will see new faces at the Fertilizer plant and the front counter. Brian Nichols began as the Assistant Manager in the Spring and is doing a great job assisting customer needs at the fertilizer plant. Another new employee is Mark Vermillion; he started in October working our sales counter. We welcome them both to our staff and put great value in their effort to provide a friendly and smiling face to each customer as they come in to our locations. Our MFA Field Crop Sales Representative, Ben Fizette has accepted a position with WL Research. We wish him luck in his new position and look forward to working with him in assisting our customers with premium alfalfa seed.

Drought and stress to this year's crop has not allowed for a plentiful availability of seed for row crops in this coming year. We encourage anyone interested in seed corn or soybean seed for next year to book early. Deadlines are approaching for prepayment and booking of Seed Corn and Soybeans. There are good discounts available for prepayment and seed financing is available. MFA in Marshfield has current booking specials on Mycogen, MorCorn, and MorSoy seed; please contact our office with questions and details. We will also have prepay programs for fertilizer and spring needs by December 20th.

As we have come to the end of another year, the MFA in Marshfield would like to wish each of you a wonderful holiday season and hope you join us in celebrating the birth of Christ. We value each customer and want to express our appreciation for your business and send wishes to you and your family for a healthy and prosperous New Year.



BUYING FERTILIZER?

ARE YOU ASKING THE RIGHT QUESTIONS?

Fertilizer can be confusing at times. Often producers call their local fertilizer dealer and ask for the price on a 1-1-1 ratio or a 4-1-1 ratio and so on. The answer can be misleading.

MAKE SURE YOU ALSO ASK FOR THE PLANT FOOD ANALYSIS OF EACH RATIO.

For example, a 4-1-1 ratio can be mixed with Ammonium Nitrate (34-0-0) as the nitrogen source or with other products such as Calcium Nitrate (27-0-0-20) or Ammonium Sulfate (21-0-0-26). All products can be used to produce a 4-1-1 ratio fertilizer. However, the analysis will be completely different.

A 4-1-1 using Ammonium Nitrate will have an analysis of approximately 27.77-6.92-6.92. The same ratio using Calcium Nitrate will have an analysis of approximately 23.8-5.5-5.5. The 4-1-1 using Ammonium Sulfate will have an analysis of approximately 19.05-4.76-4.76.

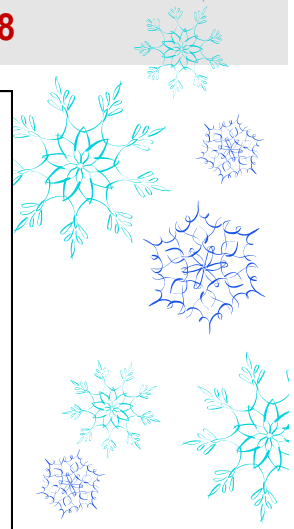
This information can be used to help determine which product will provide the cheapest cost per acre or per pound of plant food.

The ratio using Ammonium Nitrate will provide more actual overall plant food per ton of fertilizer.

MAKE SURE YOU HAVE ALL THE INFORMATION YOU NEED TO MAKE THE CORRECT DECISION WHEN YOU PURCHASE FERTILIZER THIS YEAR.

DECEMBER SPECIALS

75,000 BTU Forced Air Kerosene Heater.....	\$199.99
10 Pack Hand Warmers.....	\$4.99
12 ft. Medium Duty Booster Cables.....	\$9.99
500 Watt Halogen Worklight.....	\$11.75
True Test E-2 Weight 5 Complete Scale.....	\$1,679
25lb Galvanized Dog Feeder.....	\$21.29
Heated Pet Bowl.....	\$22.59
Jersey Gloves.....	\$0.70 a pair
Bunn Coffee Makers (Black or White).....	\$89.99
Milk House Heaters.....	\$22.95
Mr. Heater.....	\$75
Birds Blend Suet.....	\$.89
Edenpure Heaters.....	\$259.95



BE SURE TO CHECK OUT OUR CARHARTT SPECIALS



Thank You For Your Business!

Ozark MFA
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 Ozark, MO 65721
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 Keith McDaniel-General Manager

Marshfield MFA
 221 E. Commercial
 Marshfield, MO 65706
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 Marlana Clopton-Manager

Ash Grove MFA
 300 West Main
 Ash Grove, MO 65604
 417-751-2433
 Dustin DeVore-Manager

Springfield MFA
 1947 E. Trafficway
 Springfield, MO 65802
 417-869-5459
 Jim Tomnitz-Manager

\$50 OFF

ANY POWDER RIVER LIVESTOCK EQUIPMENT PURCHASE

COUPON IS VALID ON IN-STOCK ITEMS ONLY



OR

\$20 OFF

WHEN YOU SPEND \$100.00 OR MORE



COUPON



OFFER VALID ONLY AT PARTICIPATING MFA AGRI SERVICES LOCATIONS. COUPON IS ONLY VALID FOR ONE OF THE ABOVE LISTED DEALS; OFFERS CANNOT BE COMBINED. COUPON IS NOT VALID FOR PURCHASING FERTILIZER, BULK FEED, QLF, OR ANY OTHER SALE ITEMS. **COUPON EXPIRES DEC. 31, 2012.**