

ANIMAL SCIENCE E-NEWS

January 2008

Vol. 1, No. 1

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First Animal Science E-News

Dr. Tom R. Troxel, Professor and Associate Department Head

I would like to welcome you to the first issue of *Animal Science E-News*. The newsletter is called “E-News” because it is published and distributed only in electronic format. With the speed of communications and information gathering increasing, the Division of Agriculture, Animal Science Department wished to take advantage of electronic communication to transfer unbiased, research-based information to Arkansans as quickly as possible. *Animal Science E-News* will be published four times a year: January, April, July and October. It will be sent electronically to county Extension faculty and to

those Arkansans requesting to receive it. If you wish to receive *Animal Science E-News*, e-mail Susan Peterson (speterson@uaex.edu) and she will put you on the list serve.

Animal Science E-News will address management practices for beef cattle, dairy cattle, dairy and meat goats, forage management, equine and 4-H. It will update you on coming events, field days, etc. If you have any questions or issues you’d like to see the Animal Science faculty discuss, you can e-mail them to askbeef@uaex.edu and we will do our best to address your concerns.

Animal Science will be going electronic with its other newsletters too. *Beef Cattle Research Update*, which is published in March, June, September and December, is designed to help county agents and producers stay abreast of current issues and research involving the beef cattle industry. *Beef Champs* is published in February, May, August and November and addresses beef cattle management practices and issues. If you would like to subscribe to either one or both of these newsletters, contact Susan Peterson (speterson@uaex.edu). There is no charge to receive any of these newsletters.

Getting Your Bulls Ready for the Breeding Season

Dr. Brett Barham, Assistant Professor

The herd bull is the most important individual in your herd, so managing him correctly can make a big impact on your operation’s success. Here are a few tips to make sure your bulls are ready for the breeding season.

Buying Bulls

If you plan on purchasing bulls, be sure to purchase from reputable breeders who provide a record of their herd health program. Information about a bull for sale is only as good as the integrity of the seller, so choose who you buy bulls from carefully. Purchasing



virgin bulls may help avoid introduction of diseases into the herd.

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Obtain available records and breed registration papers from the breeder, even if you do not plan on registering any offspring from the bull you purchase. Do not let a breeder charge you extra for this information – a good breeder should be happy to provide you with this service. Inquire about additional performance information such as weights from a bull test program or carcass trait information from ultrasound scan data. The more information you can get, the better purchasing decision you will make.

If the breeder has not had a breeding soundness exam conducted on the bull, make sure to inquire about returning a bull that has fertility problems – all good breeders should give you some sort of guarantee that the bull is fertile. Some breeders provide customer service in the form of calf buy back programs – so service after the sale can be just as important as service before and during the sale.

Bulls should be bought at least 30 days prior to the start of the breeding season; this gives him time to get acclimated to his new environment. Even more time might be needed if the bull is purchased from another area with differing climates. Additionally, more time may be needed if the bull was on a high concentrate diet and needs to be transitioned into a forage-based diet.

What About the Bulls I Already Own?

Get a breeding soundness exam conducted at least 45 days (60 days is ideal) prior to the start of the breeding season. This gives you time to purchase



new bulls if there is a problem. An annual BSE is essential if you are using only one bull for your entire operation or one bull per breeding herd. Twenty percent of the beef bulls evaluated for breeding soundness throughout the U.S. are either questionable or unsatisfactory potential breeders, so don't skip here – it could cost you much more than the cost of the test in the long run.

Bulls also need to be in good body condition. Underfed bulls can have lower fertility and may have a difficult time finishing a breeding season. Overfeeding and lack of exercise can result in reduced fertility and libido as well as wasted feed and money. The target body condition score for bulls is a 6.

Bull Power

A common question among producers relates to how many bulls are needed for a particular cowherd. A mature bull (3 years and older) can be safely turned out with around 25 to 30 cows. This number can vary with the size of pasture, terrain and water locations within the pasture, but for most producers in Arkansas, these factors rarely come into play. For a young bull, the rule of thumb is that he can handle one female for every month of age. This rule of thumb is good for bulls between 12 and 24 months. For example, a 16-month-old bull should be able to handle 16 females in a breeding season. Bulls younger than 12 months should never be used to breed females.

These tips can help you avoid reproductive problems in your herd. As always, it is a good idea to keep an eye on your bulls during breeding season. Make sure to watch for a rapid change in body condition. If this occurs, supplementation may be required. Additionally, make sure you observe the bull mounting cows – this may tip you off to other problems present in your herd. If you need assistance in getting breeding soundness exams, contact your local Extension office or your veterinarian. If you have other questions relating to bull management, contact your local Extension office.

Arkansas Dairy and Goat Update – Highlights for 2007

Dr. Jodie Pennington, Professor

DAIReXNET was initiated this year as a national dairy activity and is available to all dairy producers in Arkansas. The web resource (http://www.extension.org/dairy_cattle) is an Extension-driven source of information designed to meet the educational and decision-making needs of dairy producers, allied industry partners, Extension educators and consumers.

The goals of DAIReXNET are:

- To provide relevant, cutting-edge information and learning opportunities that are science-based and peer-reviewed.
- To develop educational materials and learning opportunities that address the needs of all segments of the dairy industry.
- To create collaboration among dairy industry professionals resulting in a resource that provides valuable and valued educational materials benefiting the user.
- To be a resource that responds promptly to requests for new information from the dairy industry and to changes in the industry.

Key DAIReXNET resources include:

- Answers to frequently asked questions (FAQs) and user-submitted queries on various aspects of dairy cattle production.
- Ask the Expert – Users ask dairy professionals questions when answers are not

available in the FAQs or resource material.

- Current in-depth, peer-reviewed articles covering various topics in dairy production.
- State and regional dairy newsletters, the latest news releases and highlighted news stories from across the country.
- Longer term, DAIReXNET will also provide spreadsheets, calculators, decision-making tools and online learning modules.

In 2007, major events/situations in the Arkansas dairy industry included:

- Major concerns on dairy farms included fluctuating milk prices and the high price of grain and fertilizer, contributing to cash-flow problems, especially in the first half of the year when milk prices were lower than the present high prices. From June to December, milk prices reached record levels and gave a temporary reprieve to the tight financial situation, in spite of the costs of grain. In 2008, major concerns of dairy producers in Arkansas are expected to be milk prices that remain higher than normal but lower than the relative costs of production (high feed and fertilizer prices), fairness in pricing of milk markets and methods to improve efficiency of milk production.
- Ten conventional dairy herds transitioned to organic production this year. A field day was conducted on one demonstration herd to show how quality forages could be used to minimize the purchase of high-priced

organic grain. The first dairies converting to organic production from conventional dairy production sold milk in February, and the last of the 10 started selling milk in October. Financially, the organic dairies did well in the first half of the year but faced record-high feed prices up to \$500/ton for parlor feed in recent months. Organic dairies are paid \$24.50/cwt for their milk with no hauling fees. Budgets indicate that it costs about \$5/cwt more to produce organic milk than conventional milk, primarily because of higher feed prices.

- Demonstrations for fly control on conventional and organic dairy farms included use of parasitoids, walk-through fly traps and various methods of pesticide administration to complement sanitation. On organic dairies, demonstrations with fly control showed how to decrease the fly problem and how to minimize resistance to Pyganic, the primary pesticide available for use on organic dairies. Dr. Kelly Loftin and Sheri Brazil

continue to lead these demonstrations.

- Dairy Herd Improvement program rolling herd average for pounds milk per cow for Holsteins was 16,933 and for all breeds was 16,359 in December 2007.
- In 2007, a milk stabilization board was established by the Arkansas legislature, and Extension provides research-based information to the board. The purpose of the legislation was to take such steps as are necessary to assure the continued viability of dairy farming in the state and to assure consumers of an adequate, local supply of pure and wholesome milk. The board has met monthly since September and hopes to decide by February or March which strategies to use to stabilize the dairy industry in the state.

The strategies to stabilize the dairy industry include several options adopted from other states, primarily related to volume and quality production incentives, tax credits (rebates if no income taxes paid), investment tax credits

and perhaps low-interest loans. Milk production and the number of dairy farms in the state continue to decline, but processing capacity has remained steady as most of the milk utilized by processors is imported from out of state. In total, the dairy industry has \$400 to \$500 million in economic impact on the state.

Goat Industry

The goat industry continues to expand in the state, but goat numbers seem to be leveling. Area and statewide meetings, primarily for goat producers but also producers of other small ruminants, are conducted periodically throughout the year. The next major meeting will be the 2008 Arkansas Goat Conference in Conway on Saturday, February 16, starting at 9 a.m. Speakers will include Dr. Jim Miller and Dr. Bruce Olcott from the Louisiana Veterinary School plus Extension agents from Arkansas. Topics will include feeding the commercial goat, parasite control, basics of goat management, forages for goats, marketing and showing and fitting goats.

Grass Tetany, a Problem in Late Winter and Early Spring

Dr. Jeremy Powell, Assistant Professor

Once cool-season forages begin to reemerge in your grazing pastures, grass tetany can become a potential problem. Grass tetany is known by several names such as winter tetany, wheat pasture poisoning, lactation tetany and magnesium deficiency. This disease normally occurs in Arkansas in the months of February, March and April. It is due to an abnormally low level of magnesium in the cow's body.

Ruminant animals absorb magnesium from the intestinal tract much less efficiently than other species. Furthermore, magnesium (Mg) can become low due to Mg losses in the milk of a lactating cow or due to an increase in the cow's potassium intake. High



potassium levels occur in young, rapidly growing forage and can be a problem in cool-season grasses such as fescue or in winter annual cereal grains like wheat and oats. High potassium levels directly interfere with the cow's digestive ability to absorb magnesium.

Spring fertilizer application can further increase high potassium levels in the forage. Heavy fertilization of grazing pastures with potassium (pot ash) can in turn further inhibit magnesium absorption in a cow's gastrointestinal system. Therefore, many factors such as heavy lactation from late winter or spring calving, fertilization of pastures, rapidly growing forage and a dietary deficiency of magnesium are all likely occurring at the same time in the late winter and early spring, leading to the reason grass tetany is normally found during that time of the year.

Grass tetany typically occurs in mature, lactating cows. It more commonly affects cows that are slightly

over-conditioned and would likely be referred to as the “best” cows in the herd. However, it can also affect cows with a very poor body condition score that are excessively thin. Younger animals in the herd rarely have problems with this disease.

Weather is another factor that can play a role in grass tetany. It is usually cloudy, misty and/or cold when this disease occurs. These weather conditions decrease the plant’s ability to utilize magnesium, making it even less available to the grazing animals. Other stressors on the cattle such as hauling, penning, or heavy lactation can also promote the disease.

Early in the disease, cattle affected by grass tetany may show very subtle signs of illness such as decreased appetite, decreased milk production, frequent urination, separation from the herd, increased excitability as well as a stiff or unsteady gait. These early signs may occur for as little as 2 to 3 hours, making early detection difficult. As the disease progresses, an affected cow will lose normal muscle control. This forces the affected animal to lie down, and it will become unable to get up. The cow will usually exhibit muscle tremors and spasms. Other signs can include a

profuse salivation, protruding third eyelid, increased pulse and respiratory rates and eventually death if untreated. If your cattle are not checked often, a dead cow can commonly be the first sign of a problem.

Treatment

The most important part of treating this disease is to correct the magnesium imbalance in the affected animal’s body. This can be accomplished by administering 500mL of an IV electrolyte solution (CMPK). If administered too quickly, this solution can be lethal. Therefore, it must be administered very slowly, and both the heart and respiratory rates should be monitored closely.

Before treating with the IV solution, administer one tube of CMPK gel orally or give another 500mL bottle of solution intraperitoneally (inside the abdominal cavity) to decrease the incidence of relapse, which can be common 3 to 6 hours after treatment. If clinical signs are mild, then Mg imbalances can be corrected by treating with approximately 150cc of a 20% Mg sulfate solution given subcutaneously in several injection sites. Be cautious when administering treatment to animals affected by

grass tetany because they may act very aggressively and are easily excitable.

Prevention

Prevention of grass tetany can be achieved by dispensing a salt-mineral supplement containing at least 10% Mg that can be utilized daily by animals grazing tetany-associated pastures. The goal is to achieve 2 ounces of Mg oxide supplementation per animal per day. It must be made available on a daily basis because the animal’s body has no readily available stores of Mg. The increased Mg supplement would act as a prophylactic method of preventing Mg deficiency caused by the previously discussed factors. Several mineral feeders should be made available if stocking rates are higher for the herd. The mineral feeders should also be conveniently located in the pasture so cattle have adequate access to them. It may also be important to review fertilization practices in order not to make this disease more prevalent. Fertilization should be based on recent soil samples taken from the farm. Alternatively, grazing young animals on high-risk pastures can be another method of controlling this disease. For more information about cattle diseases, contact your county Extension office.

Squeezing Every Penny Out of a High Feed Market

Dr. Shane Gadberry, Assistant Professor

Cost of gain, whether on pasture or in a dry lot, is expensive these days. Currently, high wheat seed, off-road diesel and nitrogen are adding about \$0.10 in additional cost per pound of gain compared to just a couple of years ago. Stocker producers putting gain on cattle in dry lots are reporting common commodity feedstuffs arriving at the farm \$20 to \$40 per ton higher, with freight adding up to \$40 per ton to the feed bill. In addition, growing diets for confined cattle developed in Arkansas are often reported to contain 30% to 40% hay. Although Arkansas had some drought relief this year, the demand for hay in-state and out-of-state, plus the

additional cost of producing a bale of hay, is resulting in late fall prices reported as high as \$40 per bale.

Whether on pasture or in a dry lot, feed conversion is important. The more gain achieved on less feed, the lower the break-even on selling price. Several practices that help improve rate of gain, thus improving feed conversion, include evaluating dietary energy density, intake and gain, implanting cattle and feeding ionophores.

As energy content of the diet increases, intake is expected to increase; however, this is not linear at greater levels of energy intake. As a result, increasing diet energy

density by reducing roughage consumption could enhance growth rates and reduce feed conversion. For example, a group of steers consuming 2.5% body weight of a 57% concentrate mixed ration could be expected to convert about 7.5 pounds of feed to a pound of gain. A feed cost of \$125/t puts the feed cost of gain at \$0.47. Hypothetically, if we increased the concentrate portion to 67% by replacing hay with a more energy dense ingredient, we increase the diet cost to \$130/t, yet the additional energy and predicted increase in weight gain reduces feed conversion to 6.8 and a \$0.44 feed cost per pound of gain. Don’t take this approach without formulation

guidelines. In some instances, feed cost can outweigh the benefit of a reduced feed conversion.

Whether putting gain on pasture or in a dry lot, two proven management tools that enhance calf performance are implants and ionophores. Implants cost around \$1.50 per head and will generally provide 20 pounds of additional body weight, returning at least \$20 per head return above cattle that have not been implanted. Likewise, ionophores can increase feed efficiency by 10%. Using the Oklahoma State Stocker Planner, implanted calves fed an ionophore are expected to return an extra \$16 per head at today’s market value.

Winter Horse Care Tips

Steve Jones, Associate Professor

Horses, unlike ATVs, can't be put in the garage for the winter just because they're not being used. Horse health care is a year-round process, and vaccination schedules, parasite control programs and other care should be continued throughout the winter. Here are some reminders about horses' winter needs for good ventilation, nutrition, hoof care and exercise.

Fresh air and/or good ventilation are major requirements for horses. Judging from their own perception of what's comfortable, humans tend to close barns up too tightly. Horses can tolerate considerable cold if they can move around and are dry. Avoid drafts, but allow sufficient air exchange to move stale air, humidity and ammonia out of the horse's environment. Keeping stalls clean is necessary to keep ammonia levels low. Studies at the University of Illinois have shown that ammonia concentrates at about 18 inches above the surface of the bedding, approximately where the horse's head is located when it lies down. This simply emphasizes the need to keep stalls cleaned regularly and not let manure packs build up if horses are enclosed for long periods.

Horses should be allowed outside where they have an area for adequate exercise and access to a run-in shed, free-choice quality hay, loose salt and minerals and water. Horses not in competition need not be kept in a restrictive environment. Let their hair coat grow out if they are going to be turned out. The combination of a cold wind and rain or sleet is probably the worst case scenario for a horse. Under those conditions, without shelter, he can quickly become chilled. Older horses, in particular (from their late teens on up), tend to have difficulty maintaining their internal temperatures in such circumstances. The effects of falling temperatures, wind and wet conditions will put an enormous requirement on the horse's body for heat production. How much body condition a horse loses depends on the severity and duration of the cold season and the amount of energy the horse receives from its feed.

Most horses will not require grain if the hay is of good quality. Hay generates more heat than grain does during digestion and thus is more helpful in maintaining body heat during cold weather. Check your feeding system and ration. This will depend a great deal on the

amount of work your horse gets and his stage of maturity. Let us assume the animal is mature and under light work. You may add a grain concentrate if your hay does meet your horse's energy and/or protein requirements. If your horse starts losing condition, increase the energy content of his ration – not the protein. Energy is calories, and that is where the horse will draw the fuel to maintain body heat.

Several studies have shown that warming water to at least 60 degrees F will increase water consumption by 40 percent to 100 percent. Dehydration (lack of water) is the number one cause of impaction colic in horses. Reduced water consumption due to cold weather combined with a diet of dry feed is a recipe for impaction colic. Warming the water is much more effective than feeding bran, linseed meal or other so-called laxative diets.

Growth of the hoof wall is determined by nutrition, and during cold months, this goes toward maintaining body condition, not excessive hoof growth. Consequently, many owners believe they can forget the farrier until spring arrives. This is not in the best interests of your horse. The hoof will probably grow at least a small amount

and need balancing to keep its proper shape and avoid any unnatural wear. Pull their shoes if you can, but trim their hooves regularly, every 6 weeks.

Attempting to maintain some level of physical fitness will decrease the time needed to get the horse in shape for the coming season. When working horses in cold weather, warm horses up slowly and thoroughly before asking for serious work. In cold weather most horses are more "cinchy" when being saddled, so be sure to move them before mounting.

Hot horses need to be cooled out thoroughly then brushed to stand the hair up again before turning them back out. Fluffy hair traps air and keeps the horse warm; hair plastered down flat or wet lets body heat escape.

Winter does not have to be a time of little riding and much work. If you anticipate weather changes and adapt the work schedule, turnout schedule and feeding programs accordingly, there is no reason not to enjoy your horses throughout the year. Instead allow nature to progress and continue a top management program. Then saddle up and have a good ride.

4-H Fun and Facts

Ann Bowman, Program Associate

2007 Beef Quiz Bowl

The 2007 Beef Quiz Bowl was open to senior high school students who competed in four-member 4-H or FFA teams. The contest boasted 20 teams entered and 18 who actually competed for the honors. The quiz bowl was a double

elimination competition. Rounds consisted of 30 questions derived from sources provided to each team. The first four questions were toss-ups in which any member of either team could buzz in and answer. If the answer given was incorrect, the question was offered to

the opposing team. The team that answered the fourth question in a series correctly was eligible for a bonus question. The level of competition at which these students performed was exceptional. The knowledge exhibited by the students was, of course, just the

proverbial "tip of the iceberg." Questions were randomly organized from the study material, so the students actually learned much more than they were able to demonstrate. In fact, I'm confident that the learning is not just confined to the students, but also includes their

parents and instructors as well as their siblings. Each year it is so rewarding to work with and watch the performance of this elite group of kids.

While the Beef Quiz Bowl formally recognized the top three placing teams, every participant got a tee shirt to commemorate the event. Along with their tee shirts, each individual member of the placing teams received an attractive engraved trophy medal and a University of Arkansas cap as well as the team taking home a large team trophy to display in their school. The members of

the winning team also were rewarded individually with \$500 scholarships to the Animal Science Department at the University of Arkansas in Fayetteville.

The participating schools and counties included Hot Spring County, Greene County, Bigelow High School, West End High School, Benton County, Washington County, Perry County and Wickes FFA.

The winning teams were:

3rd place – West Fork High School FFA
2nd place – Wickes High School

1st place – Greene County 4-H

I would like to thank all the students, their coaches, their parents and all others involved in the training of these young people. I would also like to thank the Arkansas Beef Council for supporting this educational activity as well as the faculty of the University of Arkansas Animal Science Department and the graduate students. The guys in Extension in the Little Rock office also deserve my thanks and a special thanks to Kathy England and Troy. I was especially pleased to

have Travis Justice from the Arkansas Farm Bureau and the representative of the Arkansas Beef Council there to give out the awards.

The particulars of the 2008 Beef Quiz Bowl will be announced in March or early April, so watch for that information on this website!

For all you livestock judges, the PLR Judging Contest will be held at the University of Arkansas at Fayetteville on January 26, 2008. Contact Dianna Watson, 479-575-4845, for registration and contest information.

Shop Around to Manage Fertilizer Costs

Dr. John Jennings, Professor

Fertilizer prices have reached an all-time high due to high fuel costs, production of grain for biofuel and foreign market competition. Many forage producers are questioning how much fertilizer they can afford even if it is available. Keep in mind that even though forage production has gotten higher, it is still more economical than purchased feed.

Fertilizer prices (per ton) at the time of this writing are around \$425 for ammonium nitrate, \$525 for urea, \$575 for diammonium phosphate

and \$450 for muriate of potash, and all are predicted to increase by spring. At those prices, the value of fertilizer nutrients in a ton of grass hay in 2008 will be at least \$48 (or about \$16 per 4x5 round bale).

Steeper fertilizer costs are a real concern, but don't declare a moratorium on buying fertilizer without taking a look at the amount of nutrients needed to run your forage operation. Cutting fertilizer application could lead to cutting livestock numbers or purchasing more hay.

To manage fertilizer costs, you need a fertilizer plan to direct your fertilizer dollar to do the most good. Any farm plan is like a road map. It is only useful if you know where you are and where you want to go. Plans based on sound research improve the odds of getting a good return of forage for your fertilizer dollar.

Comparing Fertilizer Sources

Guidelines for the dates and rates for applying fertilizer are provided on

Arkansas soil test reports based on the forage and yield level you selected at the time of submitting the sample. Information on comparing fertilizer sources is shown in the table below. Always compare fertilizer sources according to the cost per pound of nutrient. Comparing sources solely on the price per ton will not give an accurate assessment of the true cost per acre. For example, of the N sources listed, ammonium sulfate has the lowest cost per ton but has the highest cost per lb of N.

Comparison of common fertilizer sources for price* and nutrient content.

Fertilizer Source	N-P ₂ O ₅ -K ₂ O (%)	Nutrients/ton (lbs)	Price/ton (\$)	Price/lb of nutrient (\$)	Cost to apply 100 lbs nutrient/acre
Ammonium Nitrate	34-0-0	680 lbs N	\$425	\$0.63/lb N	\$63.00
Urea	46-0-0	920 lbs N	\$525	\$0.57/lb N	\$57.00
Ammonium Sulfate	21-0-0- 24S	420 lbs N	\$334	\$0.80/lb N	\$80.00
Calcium Nitrate (CAN)	26-0-0	520 lbs N	\$365	\$0.70/lb N	\$70.00
Diammonium Phosphate (DAP)	18-46-0	360 lbs N 920 lbs P ₂ O ₅	\$575	\$0.63/lb N \$0.38/lb P ₂ O ₅	\$38.00 for P ₂ O ₅ (Add \$25 for value of N)
Potash (KCl)	0-0-60	1,200 lbs K ₂ O	\$450	\$0.38/lb K ₂ O	\$38.00

*December 2007 retail price

Pelleted Lime vs. Ag Limestone

Pelleted limestone is being marketed aggressively across the state as an alternative to ag lime. Many of the pelleted lime products are very good quality, while some are not much better than standard ag lime. However, marketing claims being made imply that a rate of 300-400 pounds per acre of pelleted lime is equal to one ton of ag lime. You can use the Limestone Quality Calculator (http://www.aragriculture.org/forage_pasture/limestone.htm) on the U of A Extension

website to compare price and quality of pelleted lime to ag lime. The table below shows actual comparisons of price and the liming value (Effective Calcium Carbonate Equivalent or ECCE) of two pelleted lime products with a standard quality ag lime. Pelleted Lime #1 was very high quality, but the cost per pound of ECCE was more than three times that of standard ag lime. About 1,235 pounds of it would be required to equal the ECCE value in one ton of ag lime. Due to the lower quality of Pelleted Lime #2, its cost per

pound of ECCE was over four times that of ag lime, and 1,714 pounds would be needed to equal one ton of ag lime.

Beware and Always Compare

Beware of scams and “miracle” products that sound too good to be true. Scammers use deceptive logic to convince you that their product is designed to cure all of your production problems at a fraction of the conventional cost. You may hear claims that a product is the result of years of study of

ancient secrets and is in harmony with the environment. Some will claim that a gallon or two per acre of their XYZ formula unlocks bound up soil nutrients, but you must apply it for two to three years to see these great results. When you hear these or similar lines, be skeptical. Ask for unbiased university research data to back up the claim. Check to make sure that the product is registered as a fertilizer or lime product by the Arkansas State Plant Board. Don't buy products based on testimonials without supporting research data.

Comparison of cost and effective calcium carbonate equivalent (ECCE)* of ag limestone with two sources of pelleted lime.

Fertilizer Source	% CCE	lbs ECCE/ton	Cost/ton ¹	Cost/lb of ECCE	lbs needed to equal ECCE in 1 ton of ag lime
Ag Lime	90	1,053	\$30	2.9¢	----
Pelleted Lime #1	87	1,705	\$150	8.8¢	1,235
Pelleted Lime #2	90	1,228	\$150	12.2¢	1,714

*Limestone Quality Calculator (http://www.aragriculture.org/forage_pasture/limestone.htm)

¹Spreading cost not included

Coming Events

Contact your local county agent for details.

River Valley Beef Cattle Conference – February 13, 2008, Dardanelle Community Center, Dardanelle, AR

2008 Goat Conference – February 16, Conway, AR

ABIP Workshop (Izard and Sharp Counties) – February 19 and 21, 2008

ABIP Workshop (White County) – March 11 and 13, 2008

Livestock and Forestry Branch Beef and Forestry Field Day – April 18, 2008, Batesville, AR