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UNIVERSITY OF ARKANSAS
DIVISION OF AGRICULTURE

Cooperative Extension Service

Fertilizer Cost Went Up Again – Now What?

John Jennings, Professor

Between June and August the cost of urea fertilizer increased 30-40% after an already hefty jump from December 2007. All other fertilizer nutrients have followed the same trend. The cause is intermingled in global competition, fuel costs and probably other factors. The end result is the same – even though proper fertilization is important for good forages, the cost is becoming unmanageable for many producers. So what are the options to feed your livestock? I'll discuss some low-input and higher input options to provide a list of realistic practices to consider.

The basic management tool for fertilizing – or not fertilizing – pastures is a soil test. Think of it as a fuel gauge for forages. Fields running on empty, so to speak, need more attention and also more expense than those with higher fertility levels. Knowing the fertility level and productivity potential allows you to decide if that field is worth fertilizing. Shallow, rocky ground will not produce high yield even with fertilizer, so you might decide against spending money on it versus a more productive field.

Think about the fertilizer value of hay. Yes, hay contains

nitrogen, phosphorus and potassium that can be converted back to serve as low-level fertilizer. Based on forage tests conducted by the University of Arkansas, one 4x5 round bale of bermudagrass hay contains about \$35 worth of fertility. Rather than feeding hay in one spot all winter, allowing nutrients to stack up, consider moving hay feeding rings across a field to spread the nutrients. Or unrolling hay as it is fed is another option to spread nutrients. Some producers have used this method successfully to slowly build up fertility in "poor" fields.

Try to make livestock recycle nutrients. About 90% of the fertilizer nutrients in grazed forage are returned to the soil through manure and urine. By rotating livestock every few days, those nutrients can be spread across pastures to improve uniformity of fertility, which also improves forage growth. A fairly quick pasture rotation using four to six pastures also lets the grass rest longer and grow more before being grazed again. That makes fertilizer more effective, since healthy forages use nutrients more efficiently.

Fields that are fertilized probably don't have the same

fertility profiles. By using the soil test information, you can see which nutrients are needed or not needed. In the past, triple 17 or triple 19 fertilizers were standard pasture fertilizers, whether or not the pasture needed all the nutrients they contained. Now phosphate costs over \$1 per unit and potash is \$0.80 per unit. An application of 250 pounds per acre of triple 17 fertilizer on a field not needing phosphorus wastes nearly \$45 per acre. Fertilizer costs too much to take the easy route, just applying triple-something fertilizers without knowing the soil fertility levels.

Poultry litter can be a very valuable fertilizer – sometimes. The value depends on the distance the litter is to be hauled and whether or not you need nitrogen, phosphorus and potassium. For example, the total value of N, P₂O₅ and K₂O in one ton of good broiler litter is over \$150 compared to the cost of those nutrients as commercial fertilizer. But, if your soil fertility is high and the phosphorus and potassium are not needed, then the litter is worth only about \$30 per ton for the nitrogen. This takes into account that about 60% of the nitrogen in poultry litter is available to the pasture. Litter

is notoriously variable in nutrient content, so it is wise to get a nutrient analysis so you know what you are applying.

Culling unproductive livestock should be considered. Now it costs more than ever to keep cows that aren't having a calf every year. Keep calving records and weaning weight records for every cow. Cull those that don't have a calf first, then consider which of those not raising a good calf should go

next. Getting the stocking rate in line with the forage production you can afford is important. If you start overgrazing with less fertilization, calving rates may drop over time, taking calf-crop income with it.

Planting clover and legumes helps provide forage without adding nitrogen fertilizer. This is where soil tests are valuable again. Some legumes will grow on low-fertility sites and others need high soil fertility.

Lespedeza is commonly grown with fescue and does well on low-fertility soils. It makes good summer forage for goats, sheep and cattle. Crimson clover, hairy vetch and arrowleaf clover will grow well on medium-fertility soil. White and red clover need medium to high fertility, and alfalfa needs the highest fertility of the legumes species grown in Arkansas. Legumes can be planted in October or in February. For bermudagrass

sod, October is the preferred planting time, but legumes can be planted in fescue in fall or late winter. Legumes provide a fairly long grazing season (depending on the species), and much of the nitrogen provided will cycle through the grazing animals back onto the field. This makes rotational grazing valuable again. Many of the practices outlined here mesh well together but can be implemented one at a time.

Managing Cattle With Reduced Stress

By Bryan Kutz, Extension Specialist

Stress is a big factor contributing to beef product merit and many diseases which affect cattle. The stress related to extreme weather conditions most often can't be avoided. However, the manner in which we handle cattle, either when processing, vaccinating or even clipping cattle in preparation for show, can cause undue stress which can lead to illness and decreased meat quality. Therefore, proper handling, shelter and transportation are very important to the safety and welfare of beef production. Facility design, preparation and the right attitude are big steps towards proper cattle handling.

Facility Design

A good facility has been described as being horse high, bull strong and hog tight. You need to keep this in mind as you begin plans and material preparation for constructing new working facilities.

The facility needs to be designed so cattle can be easily driven into it. Design alleys and working pens so animals can be sorted easily before and after they are processed. The corral should facilitate the movement of cattle from a large area into smaller pens and working alleys, and into the crowding alley. Avoid corners where cattle will balk, and pay attention to the placement of gates. A curved crowding alley is highly recommended so animals won't balk from seeing a dead end. The installation of solid sides on the

crowding pen and crowding alley will keep the animal from being distracted or spooked by people and objects on the outside. Blinders on squeeze chutes and solid sides on AI chutes will also help keep the animals calm during processing.

Eliminate hazards in the facilities that will cause injury to animals and humans. Projections and sharp edges on gates and fences can cut and bruise animals. To help prevent injuries, floors in the working area should not have a slippery surface. Eliminate openings where animals might entrap a foot or head. Unnecessary noise in the working area provides for a very distracting atmosphere for cattle, causing undue stress. Muffle the sound of banging gates and crashing chutes with rubber or plastic stoppers. Barking dogs or screaming humans will excite and stress animals and need to be controlled. Maintain the facility; make sure hinges, latches and other mechanisms are in good repair and properly lubricated.

Working Environment

When everyone does their job efficiently in a calm, controlled manner, the task will be completed in a satisfactory time frame. Working with a good attitude positively affects other workers and can be transferred to the cattle being processed. And remember that livestock are herd animals. Understanding the importance of lead animals can

help cattle flow in crowding alleys more efficiently.

As you move into the flight zone of an animal, it will move away from you. If a handler moves too deeply into the animal's flight zone, it will either bolt and run away or turn back and run past the person. Working in proper position will minimize the stress on the animal and injury to the handler.

Isolated animals will often panic and become very difficult to control. If an animal gets isolated from the group and is out of control, move some quiet animals in with it and give them some time to settle down. All too often, handlers will shock or prod the animal in the back of the crowding alley and wonder why the animal in the front does not move forward. When facilities are well designed and handling techniques are based on an understanding of animal behavior, it is not necessary to stress or bruise the animals as they move through the working facilities. Use a flag on the end of a prod to sort cattle. This technique is more effective and less stressful.

Many handlers make the mistake of packing too many animals in a crowding pen at a time. As a result, the animals are not able to turn to line up and move forward. Work the animals in smaller groups of six to eight to allow for more room. This will help alleviate stress during processing.

Avoid working cattle in stressful weather. On hot days, early morning hours are best. Cattle can also be stressed by cold spells, particularly when they have a wet hair coat.

Working cattle in dusty conditions is an invitation to respiratory illness. Sudden changes in the ration or keeping cattle off of feed for extended periods

while they are being worked or transported can cause acidosis. Weaning is a very stressful period. Work calves several weeks prior to weaning to help avoid weaned stress.

Conclusion

Beef cattle are produced in a variety of production settings, from

pasture and range to dry lot and confinement facilities. Cattle are adaptable to a wide range of natural conditions and artificial environments. When behavioral and physiological characteristics of cattle are matched to local conditions and proper facilities and handling techniques are incorporated, undue stress, causing illness or reduced beef quality, can be avoided.

BQA: Storing Vaccines Properly

Tom Troxel, Professor

The Arkansas Beef Quality Assurance Program (BQA) is an educational program that illustrates the importance of proper handling and administration of animal health products. One BQA recommendation is to store animal health products at the proper temperature.

Refrigeration is required for most animal health products (antibiotics, pharmaceuticals, biologicals, vaccinations, etc.). Biological products should be kept under refrigeration between 35° to 45°F (2° to 7°C) unless the inherent nature of the product makes storage at a different temperature advisable. Storing animal

health products < 35°F can be more damaging than storing animal health products > 45°F because the antigen can separate from the adjuvant.

Producers are very good about storing animal health products in a refrigerator. These refrigerators are often older models and are located outside, in a tack room, near the working chute, in barns and/or out in the elements (Figure 1). Given these situations, maintaining proper temperature for animal health products becomes a genuine concern.

In order to determine if animal health products were

being stored at the proper temperature, a WatchDog data logger was used to monitor and record the refrigerator temperature every 10 minutes for 48 hours. Results from this demonstration clearly showed temperature of refrigerators storing animal health products should be monitored very carefully. In addition, following a simple refrigerator general maintenance plan can help ensure the refrigerator is working properly.

BQA: Refrigerator Demonstration Results

WatchDog data loggers were used to record the temperature at 10-minute

intervals for 48 hours in 180 refrigerators of producers (76%), retail stores (18%) and veterinarian clinics (6%). The most common refrigerator tested was a refrigerator with the freezer on top (46%), followed by side-by-side refrigerators (19%), mini-refrigerators (19%), other types of refrigerators (16%) and freezer-on-bottom refrigerators (0.6%). The refrigerator ages were listed as ≤ 5 yr = 23%, 6 to 10 yr = 34%, 11 to 15 yr = 22% and > 15 yr = 21%. The “other” category (55%) was the most common category for refrigerator location, followed by kitchen (20%), barn (14%), mud

Figure 1. Examples of refrigerators where animal health products were stored.



room (6%), tack room (4%) and porch (1%). The “other” category locations included within a store (29%), office (21%), workshop (17%) and garage (14%).

Of the 5,016 animal health products stored in refrigerators, 4% were expired and 10% were opened. For most animal health products, an expiration date is printed on the label. Any expired animal health product should not be used and should be disposed of properly. Review the manufacturer insert for proper disposal methods or unique disposal concerns regarding human health. Mixed modified live vaccines should be disposed of one hour after mixing. Killed vaccines should be disposed of approximately 10 days after opening.

Table 1 illustrates the importance of monitoring refrigerator temperature to ensure animal health products are stored at the correct temperature. Of the 180 refrigerators tested, only 49 (27%) recorded temperatures within 35° to 45°F greater than 95% of the time over a 48-hour period. To illustrate the seriousness of the situation, 45 refrigerators (25%)

recorded temperatures within 35° to 45°F less than 5% of the time over 48 hours. It is recommended animal health products be stored in refrigerators that maintain the temperature within 35° to 45°F 95% of the time. Given this recommendation, 73% of the refrigerators tested are unacceptable for storing animal health products.

BQA: General Refrigerator Maintenance

All refrigerators require general maintenance, and it is important to keep the refrigerator coils clean. Refrigerator coils are located in the rear of the refrigerator and can be cleaned by vacuuming the vents and coils. Dusty coils have to work harder to cool down

the interior and contents of the refrigerator.

The drip pan, located beneath the refrigerator, should also be cleaned. In automatic defrost models, the water from the defrost process flows out a drain in the floor of the refrigerator and into a pan where it sits until evaporating. Food particles can be carried along and clog the drain or be left behind to rot. You can clear out the tube that carries particles to the pan by removing the stopper at the opening. Stick a pipe cleaner or similar device into the opening to push any particles through to the pan. Flush with soapy water and then empty and clean the pan.

The gaskets are the seals that keep cold air in and the room air out of the

refrigerator, and the gaskets should last the life of the refrigerator if properly cared for. Gaskets should be washed with soapy water, and the “paper test” can be used to test the condition of the gasket. You should not be able to slide a piece of paper between the rubber seal and the wall of the refrigerator. If the piece of paper slips between the seal and the wall, the seal is not tight enough and the gasket requires replacement.

Consider the location of your refrigerator and/or freezer. Do not position them in direct contact with hot appliances as this will make the compressor work harder. Regularly defrost manual-defrost freezers, never allowing frost to build up more than 0.25 inch.

Implications

This demonstration assisted producers in determining if they are storing animal health products according to labeled instructions. When animal health products are stored incorrectly, their effectiveness may become compromised. All animal health products that are past their expiration date or opened should be disposed of properly.

Table 1. The number and percentage of refrigerators categorized by the percentage of data points within 35° to 45°F.

Category ^a	Number of Refrigerators	Percentage of Refrigerators
Greater than 95% ^b	49	27%
66% to 95%	36	20%
36% to 65%	28	16%
5% to 35%	22	12%
Less than 5%	45	25%

^a 288 data points were recorded over a 48-hour period.

^b Of the 288 data points, greater than 95% of the data points were within 35° to 45°F.

Protecting Water Quality and Good Grazing Management Go Hand In Hand!

Dr. Dirk Philipp, Assistant Professor

Yes, that’s correct: If pastures are managed in a way that provides profit for the livestock operation, then you are a good steward of natural resources as well.

Unfortunately, there is the perception that protective measures for the quality of our rivers and lakes come at a high cost to producers. The truth is, with relatively simple measures, water quality can be protected, making the operation more competitive.

Water quality may get compromised when an essential plant nutrient – phosphorus (P) – gets transported away from the farm and ends up in surface waters. There, it can stimulate algae growth to such an extent that there is almost no oxygen left for other forms of life, and the affected rivers or lakes become uninhabitable for most other plant and animal species.

Historically, P was not much of a problem in animal operations. Farms

with low soil P had little P loss, resulting in recycling of nutrients on the same land. With increased intensification, however, livestock operations have become a net source of P. This element is brought onto farms as part of concentrated feed or chemical fertilizer. Especially in Northwest Arkansas, P is brought in as part of the feed for poultry operations. Animals do not utilize P efficiently, so most of the P fed is excreted and present in relatively large

concentrations in manure or litter. Grazing cattle redistribute plant nutrients very unevenly, and high concentrations of P are deposited in heavy-use areas of the farm or spot-like across a pasture. During rain events, P located on the surface of pastures or high-traffic areas can easily be transported away from the farm site and transported to nearby waterways.

However, by implementing a few best-management practices (BMPs), farmers can maintain an environmentally sound operation and save money. First, adjust the stocking rate according to the land's carrying capacity. Several factors affect carrying capacity, including available forage, animal age, species composition, soil type and physical characteristics of the pasture. A common mistake is a stocking rate that exceeds the carrying capacity of the pastures. Overgrazed pastures tend to be prone to erosion, have increased runoff potential, and are sensitive to soil compaction. At the same time, forage growth is poor with negative implications such as a low canopy that restricts forage intake and stressed plants that have few resources left for regrowth. If pastures are better managed in those cases and stocking rates adjusted, farmers will experience increased gains per animal, a greater amount of available forage and, ultimately, increased longevity and health of their pastures. At the same time, runoff potential is reduced through

increased soil cover, and a taller canopy that breaks the impact of rain can hold back sediments during large storm events.

An effective way to link water quality protection with an improved live-stock operation is the management of riparian zones. Whenever cattle have access to streams, they damage stream-banks and linger in the water, while defecating and urinating at the same time. This behavior essentially wastes money by allowing the cattle to transfer plant nutrients to the stream. Once the nutrients are floating downstream, they are gone. Moreover, cattle health is compromised by allowing the cattle to drink water from sources contaminated with their own excrement, which will surely result in poor animal health over time. This applies especially to retention ponds that offer nothing else than muddy, luke-warm water to cattle. An easy solution is to fence your stream (or pond) with poly-wire about 50 to 100 feet away from banks and allow controlled access for grazing as part of a rotational grazing scheme. This will not only keep vegetation lush to filter runoff but also maintain forage with high quality that will give the cattle an additional boost when they graze these areas.

Another solution for keeping cattle away from streams is to provide them with watering sources right on the pasture. These devices can be cutting-edge,

such as gravity pumps feeding into concrete troughs, or less sophisticated but reliable and cost-effective, such as old tractor tires cut in half and fed through a water line. A picture is included with this article. By installing off-stream watering sources, the cattle are provided with clean, fresh and cool water, all of which they prefer over any stream or pond they have to climb into. To reduce heat stress in cattle during hot summer months, provide natural shade or other structure on your pastures.



Tire tank used for watering cattle.
Picture provided by Kenny Simon, Program Associate-Forages; University of Arkansas/Division of Agriculture Cooperative Extension Service.

If you are interested, contact your local Extension office, search the Extension web site or seek advice from farmers who have successfully improved their pasture management towards increased profitability and protection of water quality.

Records Can Help in Making Tough Decisions

Brett Barham, Assistant Professor

There is no doubt, with the increase in fuel, feed and fertilizer prices, that farm profits will be affected. The increase in these costs has many producers wondering how they will cope with the increasing costs to produce a calf. How a producer adapts his or her management strategy may determine if the balance statement is in the black or red at the end of the year. Producers will have to make some tough decisions to adapt to these changing times. Do I fertilize all

my fields, some or none? Do I need to continue to cut my own hay or purchase it? Do I need to adjust my stocking rate to account for changes to my fertilization and pasture management changes?

These are all difficult questions, and the answer will not be the same for everyone. They become easier to answer if you have some records to look at. When it is time to cull cows, sometimes the choice is easy – maybe she is open or

maybe she is too old to continue a productive life. What if you need to cull more than the easy choices give you? If you have to cull additional cows, it would be nice to be able to cull the least productive cows and leave the better producing cows in the herd. Without records that task becomes very difficult.

Your local county extension agent can help with collecting this type of information through the Cow Herd Performance Testing

Program. As in any record-keeping program, identification of cows and calves in the Cow Herd Performance Testing Program is a must. You have to be able to tell what calf belongs to what cow for the records to be helpful. Then there are just a few simple things for producers to record throughout the year. These include calf birthdates along with weaning weights and the date of weaning. Recording birth weights and calf sires would be beneficial, but not a requirement. Once

these records are compiled, the local agent can help producers find cows that are below average in their producing ability. Research conducted in Arkansas shows that cows that are in the lower one third of the herd for productivity stand a very high chance that they will be in the bottom third year after year. In another words, cows that are low performers in any given year will probably always will be low performers. Additionally, these records from the cow herd performance program can help producers retain heifers that have the greatest genetic potential to be productive cows. If sire information is known, this data can help producers identify a bull that

may be producing calves with lighter weaning weights.

The more records you keep, the more informed you will be about your operation. Some of these records can be budget related. How much did you spend on feed and minerals this year? Once you put together some rough financial records, it is easy to find places you may be spending more money than you need to. Others could be related to pasture usage and management. How many head-days did cattle graze each pasture? How many bales did you cut from this pasture and how much did they weigh? Some of these may seem trivial, but once a producer starts looking at the bigger picture, he or she

might be able to find trouble spots. It might cost you more to bale your own hay than what you could have purchased it for.

Keeping records also may help on the income side of the business. There are many programs available to producers that reward them for keeping records on their cattle. One of these type programs is the Arkansas Age and Source Verification program. If you are able to identify calves and have records on their birthdates, you will be eligible to receive a premium at the time of sale for certifying your calves as source and age verified. For more information on the requirements for this program, contact the

Arkansas Livestock and Poultry Commission.

Another way that keeping records will help in the marketing of calves will be in compliance with Country of Origin Labeling (COOL). COOL is a mandatory program that is scheduled to be implemented September 30, 2008. While it is still unclear what kind of records will be necessary to comply with the rules of COOL, keeping the basic records such as cow and calf IDs and birthdates would go a long way in meeting any requirements. For more information on record-keeping ideas for cattle producers, please visit with your local county extension agent.

Accurate Feeding Management for Your Horse

Steven M. Jones, Associate Professor

There are a number of considerations in the husbandry or "art" of feeding horses. Once a horseman understands the nutrient requirements of various classes of horses, a certain amount of skill and sound judgment must be employed in developing a feeding management program. After feeds are selected to meet the nutritional requirements, it is important to adhere to certain principles to accurately feed the horse. These principles include a) feed horses by class; b) feed horses according to body weight; c) feed adequate long-stemmed forage; and d) feed by weight, not volume.

Horses require differing amounts of nutrients in their daily diets depending on their nutritional class or status in life. Dividing horses into classes relative to nutrient requirements is the first step in designing a workable feeding management program. This approach helps a horse owner meet each horse's nutrient requirement in the most manageable and economic fashion. Weaned foals, lactating mares and hard-working horses have the highest nutrient requirements. Mature, idle horses have the lowest nutrient requirements.

When determining body weights, the most accurate method is to weigh the horse on a scale. The least accurate method is visual appraisal or "guess." One study reported that 88% of horsemen, many of them professionals, underestimated the weight of five horses by an average of 180 pounds. In another field study, 37% of horse owner estimates were 150 pounds below actual weights. Probably the most commonly used "accurate" technique for estimation of body weight is a heartgirth tape. Heartgirth tapes are available at feed dealers or livestock supply companies. When used according to instructions, these tapes are reasonably accurate. Another method for estimating a horse's body weight is use of a body weight equation. One accurate formula utilizes heartgirth circumference, body length and an adjustment factor. This equation is:

$$\frac{(\text{heart girth} \times \text{heart girth} \times \text{body length})}{330} = \text{weight in lbs.}$$

Measurements should be taken and recorded in inches with a tape at least 75 inches long. A plastic tape is preferred over a cloth tape. Cloth tapes can

stretch, and metal tapes may scare horses. Heartgirth is a measure of the circumference, taken by running the tape all the way around the horse using the highest part of the withers. Body length is measured from the point of the shoulder, straight along the horse's side, and to the point of the buttock. In two demonstrations conducted at Texas A&M, this equation averaged being within 24 pounds of actual weight. On an 1,100-pound horse, this is close enough for making nutritional decisions.

Long-stemmed forage for horse is a necessity, not a luxury. A horse requires at least 1% body weight of long-stemmed forage to maintain normal digestive tract function. Horses grazing abundant good-quality pastures consume enough green, growing forage to meet their daily roughage requirements. Horses maintained in dry lots or stalls receive only what roughage is fed to them by their owners. When adequate long-stemmed forage is fed, horses appear satisfied and stall behaviors are normal.

Horsemen should feed by weights of feed, because standard volumes of feedstuffs do not weigh the same. For

example, the horse owner's universal measuring dispenser is the 3-pound coffee can (if you can still find one). When full of 32 lb/bu oats, the can weighs 2½ pounds; 38 lb/bu oats weighs 4 pounds; pelleted feed about 4 pounds; and whole corn may weigh 5 pounds or more. Concentrates do not weigh the same! There is even a difference in weights of hay due to type of forage and

dry matter in the bales. Always check feed weights, especially when new or different feeds or hays are purchased. Mark cans and other feed dispensers to standardize amounts of feed being fed.

The basic concept of designing a horse feeding program is to know the nutrient requirements of the various classes of horses and the nutrient

contents of the available feedstuffs. After these elements are established, then we combine "art" and science by feeding horses according to body weight, feeding adequate long-stemmed forage, and feeding by weight, not volume. This is the most economical method for feeding horses, plus it's the best method for the horse and its health.

Getting Started With New Beef Cattle Projects

Steven M. Jones, Associate Professor

Deciding which type of beef project to exhibit can sometimes be the most difficult decision the 4-H member is asked to make. Haltered show steers and heifers demand time, discipline, expense and work. Market steer and commercial heifer programs are outstanding beef training projects. These projects educate 4-H members on economic strategies to feed and manage animals to market or for commercial cow-calf production.

After deciding on a type of project, it is time to begin the selection process. Practice, patience and experience will help the 4-H member properly select the project. It is a good idea to evaluate several young projects before deciding on one. It is very important for each 4-H member to ask someone else to accompany and assist them during the selection of projects. Usually, county extension agents, agricultural science teachers, ranchers, breeders and experienced exhibitors offer the best advice.

There are selection criteria each 4-H member should consider during the process of selecting market steers or commercial heifers for show. Before selecting the steer or heifer for show,

consult your county extension agent for county, regional, state or national rules governing the exhibition of your project. Then age, frame size, weight and breed are all important to coordinate for specific shows and dates for the show. Rules of the intended show should be studied carefully for specific guidelines, such as ownership dates, minimum and maximum weights and ages and class divisions. Important selection criteria are age, weight, frame size and breed or breed types.

Age: Actual age and birthdates are very important. The age of a steer or heifer when placed on feed will vary from 6 months to 10 months. Most calves are weaned at approximately 6 to 7 months of age. Steers can reach slaughter point from 14 to 20 months of age, and heifers should reach puberty to breed between 14 to 16 months of age.

Most steers are exhibited at 16 to 20 months while heifers may be shown to 24 months of age.

Weight: Steers intended to be exhibited at major fall shows (those from September to November) are normally placed on feed in December to February, weighing

approximately 400 to 600 pounds. This should allow the steer to reach 1,100 to 1,300 pounds in October, accounting for reduced weight gain and shrink due to training, fitting, conditioning and hauling. Show steers are normally on feed approximately 270 days and gain between 2.0 and 3.5 pounds a day. This rate of gain and growth can be slightly controlled by regulating the feed ration and amount fed for faster or slower gain.

Frame Size: A numerical frame size is generally correlated with growth and can be used to predict final height that correlates with definite mature weight ranges.

On average, steers grow approximately ¾ inch in height per month from weaning to finishing, and gain ranges from 2.0 to 3.5 pounds per day. The 4-H member can predict the final height of a steer by knowing the exact age and height of the animal at any given time. Referring to a Beef Cattle Frame Chart, match up the age in months with the hip height in inches. The most popular frame sizes are 4 to 6 for ideal show cattle height on show day.

The following tips should be helpful in develop-

ing future champions in the show ring:

1. Cattle are creatures of habit and have good memories. Develop a routine and follow it each day. A daily routine makes chores much easier. For example, exercise the calf, show it by setting it up, and make it stand properly, then brush it and feed it last.
2. Weigh the calves periodically to monitor gain. Decide on the weight class (steers) in which you want to show your calf and shoot for that weight. Old class breakdowns from previous shows are very helpful in determining desired weights.
3. To be a good showman you need a well trained calf. A calf should be taught to stop and lead, with his head up. A good daily practice is to pull the calf's head up to a stop so both front feet are placed squarely under the front end.

Using a show stick with a blunt point on the end, teach the calf the use of a show stick by stroking its underline while tied.

Stroke the animal, then place the foot in the correct place. After the calf sets its feet properly when tied, then it is ready to be led and have its feet placed while being held by the

exhibitor. Teach the calf to keep its top line level and to lead and walk freely.

4. When training calves or working and brushing hair, it is best to tie the

calves to a high rail rather than placing them in a blocking chute. Working cattle in this manner makes them easier to handle and more accustomed to strange movements at the show.

Before washing the calf, remove dirt and manure from the hair with a comb or brush. An electric blower will help in this process.

Activities Calendar

November 1—North Arkansas Meat Goat Conference, Harrison, contact Mike McClintlock, Boone CEA, 870-741-6168

October 15—Washington County Area Dairy Meeting, Evansville, contact Johnny Gunsaulis, Washington CEA, 479-444-1755

October 16—Clover Field Day, Drasco, contact Michelle Mobley, Cleburne Extension Agent, 501-362-2524

October 23—Clover Field Day, Shirley, contact Danny Griffin, Van Buren Extension Agent, 501-745-7117

October 21—Program – “Marketing 2008 Calves in Today’s Corn Environment” by Dr. Harlan Hughes, Batesville Livestock and Forestry Branch Station, contact Don Hubble, 870-793-7432

October 24—White County Area Dairy Meeting, Beebe, contact Brian Haller, White CEA, 501-268-5394

November 6—Tri-County Area Dairy Meeting, Center Ridge, contact Danny Griffin, Van Buren CEA, 501-745-7117

December 9—Carroll County Area Dairy Meeting, Green Forest, contact Leon Duncan, Carroll CEA, 870-423-2958

January 20 and 22, 2009—ABIP workshop, contact Danny Griffin, Van Buren County, 501-745-7117

January 27 and 28, 2009—ABIP workshop, contact Joe Moore, Sharp County, 870-994-7363

February 7, 2009—State Beef Quiz Bowl, contact your county agent

February 17 and 19, 2009—ABIP workshop, contact Steven Stone, Lincoln County, 870-628-4247

March 3 and 5, 2009—ABIP Workshop, contact Bob Rhodes, Franklin County, 479-667-3720

March 10 and 12, 2009—ABIP Workshop, contact Mike Andrews (Randolph County, 870-892-4504) or Bryce Baldrige (Lawrence County, 870-886-3741)