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Animal Industry News

LSU AgCenter and the LSU School of Animal Science

LSU College of Agriculture

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Preparing for Kidding

Rodney Johnson LSU AgCenter Associate Agent

Kidding may occur on pasture, or you may need to provide does with a clean, dry, well-ventilated shelter, depending on the weather in your area and your preference. It is wise to watch animals carefully, in case they should require assistance. Pine shavings, or an inexpensive hay, can be used for bedding in shelters. Pregnant animals will get an enlarged udder starting one to six weeks prior to kidding. Some signs that parturition, or kidding, is approaching include hollowness on either side of the doe's tail, the doe isolating herself from the rest of the herd, and an enlarged udder and teats that begin to fill with milk.

At two weeks prior to kidding, the muscles of the ligaments on both sides of the doe will begin to soften and relax. During the last three to four days before labor, the udder will appear quite large as it fills with milk. One to two days before labor, the teats become enlarged and look full of milk; the does will begin to show signs of nervousness: pawing at the ground, acting restless, and lying down. The doe will also expel a thin mucous discharge from the vulva, which will gradually become thicker as parturition approaches. The last 12 hours of labor may consist of continuous bleating sounds by the doe. The tail may be straight out or slightly elevated. The first several vertebrae of the spine in front of the tail head may appear to stand higher and taller than usual.

A normal delivery usually takes five hours. Cervix dilation (which you cannot see) usually requires four hours, and then one hour is required for the delivery of the offspring. The kid should be right side up with the front feet first, with legs extended and the head lying between the knees and pasterns in a "diving" position. After the water sac breaks, the doe should start to give birth within 30 minutes to one hour. If the doe is pushing very hard for longer than 30 minutes and a water sac or kid does not appear, it may be necessary to assist the doe yourself or contact a veterinarian for further assistance. Generally, if the doe is still in active labor and is pushing after having a kid and does not pass placenta or another kid within 30 minutes to one hour, assistance may be needed. Some does may take longer between kids without problems. If they are up cleaning a kid and appear comfortable, longer than one hour may be acceptable. Goats may have three, or rarely, more kids. The process will repeat with each kid.

When the kid is born, try to let the cord break naturally, but if the sac is not broken, break it for the doe. Newborn kids are stimulated by the doe licking it clean. Normally, kids begin to vocalize as the doe cleans them. Normal kids attempt to stand within a few hours after birth and look for the udder to nurse. Respiration in the kid is stimulated by the doe licking the kid. If the kid appears lifeless, vigorously rub the kid with a towel to stimulate respiration, and clean out the mucus from the nose and mouth with a finger or soft cloth. Placing a piece of straw up the nose, which will trigger a sneezing reaction, can also help clear the airways. If the kid is still having problems, giving it short, firm, but gentle, compressions with the fingers in the middle of the heart until it cries may help. Once the doe has kidded, make sure she has shed her placenta. Contact your veterinarian if the placenta has not detached after 12 to 18 hours.

Difficult Births (Dystocia)

Normal presentation of the kid is two front legs and nose forward in a diving position. If there is any variation in the presentation of the kid, then the delivery will not be normal.

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Normal kidding position

Care around the time of birth

After birth, clean the mucus away from the nose, mouth, and throat. Weigh the kid, tag the ear, and dip the navel cord in 7-percent iodine to prevent navel joint disease. Make sure each kid receives its mother's first milk (colostrum) within the first 24 hours after birth (within the first one to four hours is best). The first milk is rich in antibodies that helps the kid fight diseases. The sooner the kid nurses, the more antibodies the animal can absorb. After 24 hours, the kid's ability to absorb antibodies from the colostrum is minimal, and shortly after that, none can be absorbed. In the case of orphans, provide colostrum from another doe that has just given birth, keep frozen colostrum on hand, or use a good colostrum replacer or supplement.

Kid care after birth (post-natal care)

Kids should be provided feed within the first three weeks of life to stimulate the rumen development, and for early weaning and forage consumption. Provide feed with at least 16 percent crude protein-free choice. Because mothers need extra feed for lactation, if the feeder is low enough for kids to eat, some mothers will let the kids share their food.

At six weeks of age, and again three to four weeks later give the kids a *Clostridium perfringens* vaccination and tetanus vaccine (toxoid). If wethers are to be sold, castrate them by at least 45 days old

Criteria for Culling Does

- Have single births more than once.
- Have kids with the lowest weaning weights in the herd or flock.
- Produce unthrifty kids.
- Poor mothering ability.
- Produce kids with birth defects.
- Do not produce enough milk to wean kids.
- Recurring health problems.
- Get pregnant late in the breeding season.
- Have structural anomalies that prevent them from properly nursing their kids.
- Can't maintain their condition.
- Reproduction performance is declining over time.
- Always sick.

Bull Selection

Dr. Tim Page, LSU AgCenter Extension Specialist

This time of the year I get a lot of calls and requests from agents and producers for assistance in locating and purchasing quality bulls for the spring breeding season. Bull selection is one of the most important management decisions on any beef cattle operation. Bull selection is responsible for 80-90% of genetic improvement in a herd. Bulls produce more offspring than the cows. Calving percentage and ultimately weaning percentage are critical for profitability. In today's industry, calving percentage must be at least 80-85% and above.

When I get these requests for help I usually start asking a lot of questions because every operation is different and therefore their goals are different. What are your performance goals? Do you have performance goals? How much is a quality bull worth to your herd? What criteria do you emphasize when purchasing bulls? What breed do you want to purchase? Why? How much does a quality bull cost? Where should you look for quality bulls? How many bulls do you need?

That last question may be one of the most important questions. Personally, I want plenty of bull power. I want more bulls than what the 'book' says. The 'book' says 1 bull per 20-25 heifers and 1 bull per 25-30 cows. I sincerely believe you need more bulls than that. If calving and weaning percentage are the most crit-

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ical issues to profitability, then I want a little extra bull power to get those percentages as high as I can get them. This also relates to length of calving season as well as breeding season. The tighter you want your calving season, the more bull power you will need.

Other critical steps in the bull selection process are purchasing bulls that have passed a Bull Breeding Soundness Exam including a clean trichomoniasis test, have EPDs and I strongly recommend virgin bulls. Even if a BSE and trich test cost you $100 per bull, it is well worth it. It is great insurance for weaning a big calf crop. In fact, for that price and what you get in return, you can look at it actually being free. Also, all bull purchases should be on your operation 60 days prior to breeding.

The next big question is what breed you want. What is your preference? What kind of cows do you have? What do you want to accomplish (heavy weaning weights, heavy yearling weights, quality beef, yield, etc.)? How much ear do you want in your calves? Is there a discount for eared calves? Does color matter? Is there a discount on non-black calves? Why are all breeds becoming black? We now have black Limousin, black Simmental, black Beefmaster, black Braford, and even black Hereford just to name a few.

Where are you going to purchase new bulls? Most bulls are purchased direct from seedstock farms either private treaty or at the farm sale(s). Some producers buy their bulls in Breed Association Sales, Performance Test Sales, and even neighbors. I could not believe it but a few months ago I saw 9 aged bulls go through a sale barn with no information about age, EPDs, or anything and 5 of the 9 were bought by producers to take home and use for breeding. Right then and there I decided that I have failed as a Beef Cattle Specialist because I have not taught everyone in Louisiana to NOT purchase their breeding bulls through sale barns.

We need to use every tool we have to select new bulls. Of utmost importance in today's industry are EPDs, accuracies, individual performance records, and ultrasound data. But, we can never forget about phenotype. All bulls must be evaluated on structural soundness. If they cannot walk they cannot breed. Frame size and growth need to be considered along with muscle, balance and temperament. Always evaluate bulls from the ground up. If they do not have the wheels to walk and breed, nothing else matters.

How much should you spend on bulls? There is no one correct answer for this question. You need to spend enough to purchase quality bulls. A rule of thumb that I was taught at a young age and still holds true, "You should be purchasing bulls for the amount that 5 calves are worth". When you purchase bulls, use all the available information that is available such as breed, phenotype, age, EPDs, ultrasound data, performance records and clean BSEs. If a farm does not have EPDs at least, I do not purchase from that farm. I have not answered a lot of these questions, but hopefully, I have included some ideas that will benefit you in your next purchase of quality bulls.

Bull Breeding Soundness Evaluations (BSE)

Dr. Christine Navarre, LSU AgCenter Extension Veterinarian

Dr. Soren P. Rodning, Auburn University Extension Veterinarian

Breeding season for most producers is right around the corner. Bulls must be tested each year. Just because a bull passed a breeding soundness evaluation last year does not guarantee it will still be a satisfactory breeder this year.

Summer heat, especially in the South, can cause temporary or permanent infertility in bulls. If a bull is classified as "deferred" and it appears to be due to heat stress, the bull can be retested again in 60 days. Some bulls will recover. If after 60 days, the bull still fails a breeding soundness evaluation, it is likely the damage is permanent, and the bull should be culled.

A bull breeding soundness evaluation is a uniform method of assessing a bull's likelihood of accomplishing pregnancy in an appropriate number of open, healthy, cycling cows or heifers in a defined breeding season.

Bulls can be classified as satisfactory or unsatisfactory potential breeders. A classification of unsatisfactory does not mean a bull is completely sterile but that it can be considered sub-fertile. A sub-fertile bull eventually may get cows pregnant, but he will take longer than a fertile bull to settle a group of cows. The re-

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sult is that sub-fertile bulls produce fewer calves as well as calves that are born late in the calving season, which are therefore younger and lighter at weaning. The net effect is fewer pounds of beef per exposed cow.

Bull breeding soundness also impacts female reproduction. Bulls with larger scrotal will have female offspring that reach puberty sooner. Selecting for large scrotal circumference is particularly important in the later maturing Brahman influenced breeds.

Performing breeding soundness evaluations on herd bulls is a sound investment for beef cow-calf operations. Such an evaluation includes these four components:

- **Physical exam**
  Evaluates the physical characteristics of a bull necessary for mobility and athleticism in the pasture, structural soundness, overall internal and external reproductive tract development, etc.

- **Scrotal circumference**
  Evaluates testicular size and health, as well as estimating the bull's sperm-producing capacity. Bulls must meet minimum scrotal circumference measurements based on age in order to pass a breeding soundness evaluation.

- **Sperm motility**
  Ensures the bull is producing sufficient numbers of live sperm. Bulls must have at least 30 percent motility to pass a breeding soundness evaluation.

- **Sperm morphology**
  Ensures the bull is producing sperm that are properly shaped and capable of fertilization. Bulls must produce at least 70 percent normal sperm to pass a breeding soundness evaluation.

The recommended minimum requirements for scrotal circumference, sperm motility and sperm morphology are outlined by the Society for Theriogenology. Additional factors influencing the number of cows a bull can breed in a season include pasture size and terrain, physical soundness, age of the bull, libido, number of bulls in the group and so forth.

Based on the results of the breeding soundness evaluation, a bull is assigned to one of three classifications:

- **Satisfactory potential breeder (fertile)**
  This classification indicates the bull:
  Passed a physical exam.
  Met the minimum requirements for scrotal circumference.
  Has at least 30 percent sperm motility.
  Produces at least 70 percent normal sperm.

- **Unsatisfactory potential breeder (sub-fertile or sterile)**
  The bull did not pass at least one of the four components of the breeding soundness evaluation.

- **Deferred**
  The bull did not pass at least one of the four components of the breeding soundness evaluation because of a condition that may resolve itself over time. A "deferred" bull should be rechecked at a later date.

A breeding soundness evaluation does not evaluate a bull's libido, nor does it ensure that a bull will remain a satisfactory potential breeder the entire breeding season. If a bull suffers injury to its feet, legs, reproductive tract or other area, such an injury may render it incapable of breeding your cows. Therefore, it is still extremely important to observe bulls regularly during the breeding season.

A breeding soundness evaluation also does not guarantee bulls are free of infectious diseases, so a veterinarian should be consulted to determine what other diagnostic tests may be appropriate for each herd.

Minerals for Beef Cattle

Jason Holmes LSU AgCenter Regional Livestock Specialist

Minerals are an essential part of the diet of all animals and play a significant role in the well-being of a beef herd. Practically all metabolic functions of an animal require minerals. About 5 percent of the total body weight of an animal is comprised of minerals. Minerals are usually classified as 1) major and 2) minor or trace. The major or macro-minerals include calcium, phosphorous, sodium, potassium, magnesium, chorine and sulfur. These generally are required in relatively large amounts. The minor or trace minerals include manganese, copper, iron, zinc, selenium, iodine and cobalt. The terms “minor” or “trace” should not be thought of as an indication of lack of importance. Rather, these terms indicate relative amounts required in the diet of any animal.

Since minerals affect general health and ability to grow and reproduce, beef cattle need to be fed supplementary minerals. Mineral deficiencies are commonly problems related to soil composition and the

Mineral Requirements and Maximum Tolerable Concentrations — NRC, 7th Revised Edition

Cows — 1,200 Lb. mature weight producing 20 Lb. milk per day during lactation

Mineral	Unit	Gestating	Early Lactating	Maximum Tolerable Concentration
Calcium	%	0.21	0.30	—
Chlorine	%	—	—	—
Chromium	mg/kg	—	—	1,000.00
Cobalt	mg/kg	0.10	0.10	10.00
Copper	mg/kg	10.00	10.00	100.00
Iodine	mg/kg	0.50	0.50	50.00
Iron	mg/kg	50.00	50.00	1,000.00
Magnesium	%	0.12	0.20	0.40
Manganese	mg/kg	40.00	40.00	1,000.00
Molybdenum	mg/kg	—	—	5.00
Nickel	mg/kg	—	—	50.00
Phosphorus	%	0.15	0.19	—
Potassium	%	0.60	0.70	3.00
Selenium	mg/kg	0.10	0.10	2.00
Sodium	%	0.06-0.08	0.10	—
Sulfur	%	0.15	0.15	0.40
Zinc	mg/kg	30.00	30.00	500.00

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availability of soil nutrients to plants. In some areas, several minerals may need to be supplemented. In other areas, only a few may need to be provided. When making decisions about mineral supplementation strategies, first know the animal's mineral needs. The mineral requirements of cattle are reported by the NRC (Nutritional Requirements of Beef Cattle). These requirements, given in Table 1, are expressed as a percent or mg/kg (ppm) of the diet. Producers can use these values to calculate an animal's required daily mineral intake. The second step is to estimate the animal's mineral consumption from all sources other than the mineral supplement. To accomplish this, an understanding of total feed and forage dry matter intake, mineral composition of the feed and forage, and mineral digestibility is important. Finally, provide for mineral deficiencies with an economical mineral supplementation strategy.

Although type of animal and reproductive status of an animal can influence mineral requirements, the previous table illustrates a general recommendation of mineral levels for beef cows.

If mineral levels in the ration or forage fall below the suggested levels, deficiency symptoms will become evident. Specific symptoms for each mineral are possible, but many symptoms may be similar for several minerals. These may include loss of or an abnormal appetite, poor growth rate, poor reproductive performance, skeletal problems, dull and rough hair coat and an overall unthrifty condition. Levels of minerals above the maximum tolerable levels can result in toxic situations, generally resulting in eventual death.

The most satisfactory way of providing supplemental minerals to animals is to use a "complete" mineral mixture (contains macro and trace-minerals) offered free choice in a single compartment feeder. The calcium to phosphorus ratio should be about 1.5-2:1 under most conditions in Louisiana.

Alternatively, producers can choose to mix their own mineral mixtures or have special mixtures formulated based on the individual requirements of the beef herd. Regardless of the method of supplementation, it should meet the dietary requirements and be the most cost-effective method.

Provide clean, fresh minerals continuously, and monitor consumption. Mineral intake should remain in the range of two to four ounces per head per day. Intake will vary because of the type and quality of forage and feed available. Place mineral feeders in areas readily accessible to cattle. Such areas include water tanks, shaded loafing areas and areas of best grazing. The number of feeders should be adequate to accommodate the maximum stocking rate of the pasture. Check feeders at least weekly to monitor intake and assure a clean, fresh supply of minerals.

Overall productivity of a beef herd can be significantly affected by a deficient mineral supplementation program. Supplying beef cattle with adequate levels of both major and minor minerals is required to attain maximum productivity from your herd. An analysis of your mineral program may go a long way in solving several problems continuously encountered.

Preparing Stallions for Breeding Season

Dr. Neely Walker LSU AgCenter, Extension Specialist

A breeding soundness exam is a useful tool that stallion owners and managers can use to evaluate the reproductive status of their stallion. The objective of a breeding soundness exam (BSE) is to determine if a stallion has the mental and physical ability to produce viable offspring without spreading infectious disease. While this type of evaluation is critical to determine the number of mares a stallion can successfully cover in a given year, most often this step is overlooked until there is a problem. While the specifics of a BSE may vary between veterinarians, each evaluation should include:

- **Reproductive History-** needs to be complete in order to avoid inaccuracies. The following information should be collected; age, present numbers of mares covered including their pregnancy rate, foaling rate,

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or infection. Data from previous evaluations, lameness, illness, fertility issues, current medications, health status, and intended method of breeding.

- **Physical Exam**- while a breeding soundness exam mainly focuses on the reproductive health of stallions, the general health of the animal should not be overlooked. It is important to positively identify the stallion to prevent legal complications, then focus on the body condition score of the animal. Attention should be paid to any abnormality (physical or genetic) that may inhibit the animal's ability to mate successfully without passing on negative heritable conditions, including lameness or back pain.
- **Reproductive Genitalia Exam-** an evaluation on the reproductive anatomy is also important. The stallion's penis, sheath, testes and epididymis should be anatomically correct, functional and free from injury or disease. Size, shape and consistency of the testes and epididymis should be noted. A veterinarian may choose to use a set of calipers or an ultrasound to determine the overall volume of each testicle, which is a valuable measurement that helps determine the stallion's daily sperm output.
- **Sexual Behavior-** some stallions may have an aversion to displaying natural breeding behavior based on previous training. For example, stallions that are used as performance animals and show are expected to behave and not display breeding behavior. The training used to teach them to control this natural behavior may create difficulties in the breeding shed. During a breeding soundness exam, a stallion should have immediate interest and interaction with a mare in heat, should obtain an erection within 2 minutes, display a readiness to mount within 5-10 seconds following erection, and should ejaculate on first mount. The total breeding time should not take longer than 5 minutes. A young stallion or a one who does not display normal breeding behavior may need additional training by an experienced handler.
- **Semen Evaluation**- specialized equipment is used to evaluate the volume, concentration, motility and morphology of a semen sample. The color and consistency of the sample along with contents such as debris, urine, or blood. This evaluation determines the number of viable sperm cells available which indicates the number of mares a stallion can breed per collection. In special circumstances additional testing to rule out any reproductive dysfunction may be needed.

Semen evaluation under a microscope

While a breeding soundness exam can give stallion owners an indication of potential reproductive soundness, it does not measure fertility. In order to "pass" a breeding soundness exam, a stallion's second ejaculate, that is collected one hour after the first must contain at least "1 billion progressively motile, morphologically normal spermatozoa." Advanced breeding technologies exist to help extend the breeding career of stallions. Therefore, managing your stallion's overall health and reproductive soundness with your veterinarian can extend its overall career and impact on the equine industry.

Equine Identification Requirements for out of state travel

Dr. Neely Walker, LSU AgCenter Extension Specialist

In an attempt to improve the ability to trace all livestock in the event of a disease outbreak, the USDA has instituted its Animal Disease Traceability Program (ADTP). Under the new federal regulations, horses moving out of state must be accompanied by an Interstate Certificate of Veterinary Inspection (ICVI). Starting on March 11, 2013; this new regulation applies to all horses, mules, and donkeys crossing state lines.

What is an Interstate Certificate of Veterinary Inspection? It is a document of official identification. This document will include a description of the animal sufficient to identify the individual. Descriptions should include, name, age, breed, color, gender, markings, unique and permanent forms of identification (brands, tattoos, scars, cowlicks, blemishes, or biometric measurements), electronic identification (microchip number), digital photographs that are detailed enough to identify the horse, or in the case of animals being transported for slaughter a UDSA backtag is required.

Don't worry; you are not required to have another piece of paper to travel out of state with your horse. This document is basically your health certificate. Up until this regulation was put into effect every state could have different requirements regarding the paperwork required for interstate travel. The USDA has now made it a national requirement for all horses, mules and donkeys, to have a current interstate certificate of veterinary inspection (aka Health Certificate). Currently to enter Louisiana you must have a health certificate including each animal's temperature that was issued within 30 days of travel, as well as a negative Equine Infectious Anemia (EIA or Coggins Test) that was issued within 365 days (1 year) of travel.

There are some exceptions to this new regulation.

- Horses that are used as mode of transport (horseback, horse and buggy) for travel to another location and plan to return directly to the original location.
- Horses moved from a farm or stable for veterinary treatment that are returned to the same location without change in ownership.
- Horses moved directly from a location in one state through another state to a second location in the original state.
- Moving between shipping and receiving states or tribes with another form of identification as agreed upon by animal health officials in the shipping and receiving states or tribes.

Because the USDA has created a few exceptions to the regulation it is best to contact the destination state prior to traveling and ask for current import requirements.

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