Virginia Cooperative Extension

A partnership of Virginia Tech and Virginia State University

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Livestock Update

Beef - Horse - Poultry - Sheep - Swine

February 2012

This LIVESTOCK UPDATE contains timely subject matter on beef cattle, horses, poultry, sheep, swine, and related junior work. Use this material as you see fit for local newspapers, radio programs, newsletters, and for the formulation of recommendations.

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Scott P. Greiner, Extension Project Leader
Department of Animal & Poultry Sciences

Dates to Remember

BEEF

MARCH

6 VT Beef Webinar. ***Contact***: Mark McCann, (540) 231-9153; email: mmccnn@vt.edu

18 VA BCIA Southwest Bull Test Open House. Hillswinds Farm. Dublin. ***Contact:*** Scott Greiner, (540) 231-9159; email: sgreiner@vt.edu

24 VA BCIA Southwest Bull Test Sale. Wytheville. ***Contact:*** Scott Greiner, (540) 231-9159; email: sgreiner@vt.edu

February Beef Management Calendar

Dr. Scott P. Greiner
Extension Animal Scientist, VA Tech

Spring Calving Herds

- Have all calving supplies on hand and review calving assistance procedures
- Move pregnant heifers and early calving cows to calving area about 2 weeks before due date
- Check cows 3 to 4 times per day during calving season, heifers more often to assist early if needed
- Keep calving area clean and well drained, move healthy pairs out to large pastures 3 days after calving
- Ear tag and dehorn all calves at birth; castrate male calves in commercial herds
- Give selenium and vitamin A & D injections to newborn calves
- Late gestation mature cows should gain 1.0 lbs per day
- Target gain for pregnant heifers and 3-yr olds should be 2.0-2.5 lbs per day
- Keep high quality, high magnesium mineral available
- Vaccinate cows against scours if it has been a problem
- Evaluate herd genetic goals and assess bull battery, make plans to attend spring bull sales and/or order AI semen
- Frost seed clovers (mid to late in the month)

Fall Calving Herds

- End breeding season early in the month
- Remove bulls and check condition
- Begin creep feeding or creep grazing calves if desired
- Plan marketing strategy for calves
- Begin feeding high magnesium minerals to prevent grass tetany
- Continue to check calves closely for health issues
- Frost seed clovers (mid to late in the month)

Frost Seed Clover in 2012

Dr. Mark A. McCann
Extension Animal Scientist, VA Tech

An important forage option available to cattlemen is the addition of clover to cool season grass pastures. The addition of clover to grass pastures will improve the quality of forage that cattle graze, dilute infected tall fescue and also supply nitrogen via nitrogen fixation. Recently, the cost of commercial nitrogen has rearranged the priority list with clover's ability to fix nitrogen perhaps being the most economically important advantage.

Nitrogen is "fixed" in clovers through a symbiotic relationship with rhizobium bacteria that infect roots. The plant provides energy for the bacteria and bacteria provide the "machinery" necessary to convert atmospheric nitrogen to a form available to plants. Most people picture a 'conduit' that transports nitrogen directly from clover to grass. Unfortunately, almost no nitrogen is contributed in this mode. Essentially, nitrogen is supplied to grasses indirectly via the decomposition of the clover root nodules. Nitrogen must then be converted into a form available to plants. This conversion or 'mineralization' releases nitrogen slowly- more similar to a time release fertilizer than an application of ammonium nitrate or urea.

After perennial clovers are well established, nitrogen will be released to grasses at a relatively constant rate as nodules decompose. White clover can fix 50-125 pounds of nitrogen per year and red clover can fix 75-150 pounds depending on stand, soil and growing conditions. At current urea prices this practice can translate to $30-$90 per acre in added nitrogen on an annual basis.

Successfully adding clovers can be accomplished by broadcast seeding during the winter months (frost seeding). Experiences in Virginia would suggest that February is the ideal month to frost seed clover. A study conducted at the Kentland research farm by Dr. Ben Tracy in 2009 compared frost seeding and no-till planting of clover. The pastures consisted of mostly tall fescue, bluegrass and some orchardgrass. Clover had not been sown into experimental pastures in recent years. Before establishment of seeding treatments, each pasture was heavily grazed by cattle to remove standing dead vegetation. Pastures were then fertilized with phosphorus (P) and potassium (K) as recommended by soil test. Soil pH was above 6.5 on all pastures so no lime was added. On February 4, 2009, one half each pasture was sown with a mixture of red (Juliet), ladino white (Pinnacle) and white clover (Kopu II) using a broadcast seeder. On March 10th, the remaining half of each pasture was planted with the same legume mixture using a no-till drill. The seeding rate was 4, 2 and 2 lbs/ac. for red, ladino and white clover, respectively. Table 1 contains the percent ground cover of clover from April – August. The clover component in pastures increased more than 20 fold from April to August 2009. Broadcast frost-seeding and no-till drilling were equally effective for establishing clover.

Table 1. Percent ground cover occupied by clovers during 2009 growing season.

	April		June		August	
	Frost-seed	Drill	Frost-seed	Drill	Frost-seed	Drill
	----------Percent----------					
Red clover	1	1	8	12	14	13
White clovers*	3	3	28	17	26	20
Total	4	4	36	29	40	33

*White clovers included both sown Ladino and white clovers as they could not be visually separated (No significant statistical differences were found between seeding methods in any month.)

Dr. Tracy suspects the successful clover establishment was related to a combination of factors:

- Heavy, mob grazing in winter that reduced standing dead vegetation and helped seedling emergence.
- Timely frost seeding during the first week of February.
- Aggressive rotational grazing in spring that simultaneously reduced grass competition and allowed clovers to grow enough to establish.
- Good soil fertility (adequate phosphorus, potassium, and pH) to stimulate clover growth.
- Rainfall, which was abundant during the 2009 growing season.

Cattlemen interested in adding clovers to their cool season pastures need to plan ahead for success.

1) Select pastures which are closely grazed to insure good seed contact. This typically works well to follow behind strip grazed areas of tall fescue.
2) Select pastures with low levels of weed pressure. Most herbicides will eliminate clovers.
3) Soil test to insure that pH, potassium and phosphorus are adequate for clover establishment.
4) Plant a combination of white, red and native clover to insure a diverse stand. Different clovers will produce more growth at different times.
5) There are more grazing tolerant varieties of ladino clover available in the market if persistence has been an issue.
6) Broadcast seed in early February - March when soil is still freezing and heavy to insure good incorporation
7) Manage the spring growth of grass in overseeded pastures to reduce grass competition with the establishing clover

For more details refer to VCE publication ***Winter Seeding Methods to Establish Clover in Permanent Pasture*** **(**http://pubs.ext.vt.edu/418/418-022/418-022_pdf.pdf). The addition of clover is an economical method to increase the productivity and quality of fescue pastures.

Virginia Cattle - How Do We Stack Up?

Dr. Scott P. Greiner
Extension Animal Scientist, VA Tech

The Virginia Retained Ownership Program (ROP) offers Virginia cow-calf producers the opportunity to retain ownership on a portion of their calf crop (as few as 5 head). This program, and others like it across the country, allow producers to pool their calves and feed them together in order to gather objective data regarding the feedlot performance, carcass merit, and health of their cattle. This information can be used to make herd decisions regarding genetics and management, with an objective of herd improvement and enhanced profitable regardless of how the calf crop is marketed in future years. For the last several years, Virginia ROP has collaborated with the Tri-County Steer Carcass Futurity Cooperative (TCSCF). The TCSCF consists of a group of Southwest Iowa feedyards which prescribe to standardized animal management and data collection protocols for the purpose of working with retained ownership programs in several states, including Virginia. The TCSCF is administered through a board of directors, along with Iowa State University Extension personnel.

A subject often of interest to Virginia producers is how their cattle compare to others originating from other states. The TCSCF recently summarized data through their program which compared cattle of "Southeast" origin to those of Midwest origin. Cattle included in the Southeast were from 12 states (Georgia, Virginia, Alabama, South Carolina, Mississippi, Tennessee, Florida, North Carolina, West Virginia, North Carolina, Louisiana, Kentucky), whereas the Midwestern cattle originated from herds in 7 states (Iowa, Missouri, Indiana, Illinois, Nebraska, Kansas, Minnesota). The information which follows provides a summary of the results from over 47,000 fed steers and heifers participating in the TCSCF program from 2002-09 which were fed in 18 different TCSCF feedyards.

Table 1 presents comparison of performance and health parameters for Southeast vs. Midwest calves. Calves originating from SE herds were 20 pounds heavier on arrival at the feedyard, which was associated with 65 a day difference in age between the groups. Feedyard ADG and final weight of calves was similar, and as a result of heavier initial weights SE calves were on feed slightly fewer days. Health of SE calves was superior with 6.5% less of the SE calves being treated, which resulted in lower treatment costs per head. Mortality rate was low for both groups, with 0.46% less death loss in cattle of SE origin.

Table 1. Effect of region of origin on feedlot performance and health.

Item	Southeast	Midwest
No. of Head	31,155	16,371
Arrival Wt., lb	649[a]	629 [b]
Delivery Age, days	320 [a]	255 [b]
Final Wt., lb	1174 [a]	1177 [b]
Days on Feed	167 [a]	174 [b]
Overall ADG, lb	3.18	3.18
Feed to Gain	6.92 [a]	6.76 [b]
Morbidity Rate	15.8% [a]	22.1% [b]
Treatment Cost, $/hd	$5.53 [a]	$8.49 [b]
Mortality Rate	1.35%[a]	1.81% [b]

[a,b] Means within a row with unlike superscripts differ $P < 0.05$.

Source: Darrell Busby, TCSCF (adapted from J. Anim. Sci. Vol. 86, E-Suppl. 3)

Presented in Table 2 is the carcass merit comparison for the two regions of origin. While carcass weights, ribeye area and yield grades were similar for the two groups, the Midwestern calves excelled in cutability with a larger proportion of Yield Grade 1 & 2 carcasses and fewer discounted Yield Grade 4 & 5. In general, marbling scores and yield grades were comparable. However, calves of SE origin had a higher qualification rate for CAB compared to Midwestern calves (18.4 vs. 16.9%).

Profit was also calculated for each calf, and determined by assigning an initial value to each calf entering the feedlot based on USDA market reports. All expenses are included in the analysis, including trucking to the feedyard and the expense of mortalities was included in the profit determination. Results revealed that SE calves generated $13.55 more profit per head, mostly as a result of their superior health.

Historical data gathered through the Virginia Retained Ownership Program and elsewhere establish the following common variable for successful retained ownership:

- Excellent health (minimal sickness and low treatment costs)
- Strong growth performance, which equates to heavy live weights and carcass weights at harvest
- Desirable carcass merit with high percentage low Choice or better

Collectively, these factors equate to low costs of gain and optimum gross returns. Risk management strategies for feed and slaughter cattle prices are also important components of successful retained ownership ventures.

Table 2. Effect of region of origin on carcass merit and profitability.

Item	Southeast	Midwest
No. of Head	31,155	16,371
Hot Carcass Wt., lb	723 [a]	725 [b]
Fat Cover, in	0.450 [a]	0.435 [b]
Ribeye Area, sq in	12.33 [a]	12.46 [b]
Calculated Yield Grade	2.86 [a]	2.80 [b]
% Yield Grade 1 & 2	57.28 [a]	62.42 [b]
% Yield Grade 3	40.20 [a]	35.84 [b]
% Yield Grade 4 & 5	2.52 [a]	1.74 [b]
Marbling Score	Small 26	Small 25
% Prime	1.08% [a]	0.80% [b]
% Choice & Choice +	14.94% [a]	14.34% [b]
% CAB	18.43% [a]	16.91% [b]
% Choice	50.32% [a]	52.93% [b]
% Select	30.99% [a]	29.41% [b]
% Standard	2.68% [a]	2.52% [b]
Profit $/Hd	$37.34 [a]	$23.79 [b]

[a,b] Means within a row with unlike superscripts differ $P < 0.05$.
Source: Darrell Busby, TCSCF (adapted from J. Anim. Sci. Vol. 86, E-Suppl. 3)

The Virginia Retained Ownership Program ships steers and heifers multiple times each year (September, November, December, March). Producers can participate with as few as five head. A 45-day weaning and backgrounding period is required prior to shipment. There is a minimal consignment fee of $5, and all expenses are financed through the program (deducted from proceeds- no interim feed payments required). An advance of $300 per head is available to producers sending ten or more head. For detailed information, including consignment forms, on the Virginia Retained Ownership Program visit the Virginia Tech Beef Extension site at http://www.vtbeef.apsc.vt.edu/ or contact Joi Saville at 540-231-2257 or Scott Greiner at 540-231-9159.

Antibiotic Use in Livestock Under Increased Scrutiny

W. Dee Whittier, DVM, Jason Carter and Rodney Leech
Virginia Cooperative Extension

Antibiotics have been powerful tools in the development of livestock systems that produce a marvelous quantity of economical, safe and nutritious food in the United States. These products are not without risks and drawbacks, however. Increasing opinion mounts to further regulate the ways in which antibiotics are used in livestock.

Why the Concern?

The most scientifically based concern over antibiotic use deals with the development of the resistance of bacteria to antibiotics. Whenever an antibiotic is used in an animal or a human, there is a good chance that some of the target bacteria will escape being killed by the antibiotic. These bacteria that are more resistant to the antibiotic then become a larger part of the surviving pool of bacteria. With continued treatment the likelihood that future illnesses caused by this bacteria will respond to future treatments with that bacteria decrease.

The concern that livestock treatment with antibiotics will have an impact on human health is based on the concern that bacteria which develop in livestock settings will make their way into human populations. They do this in a natural way as humans interact with livestock. They also get to humans when livestock products that are contaminated with bacteria are consumed by humans in what we sometimes call "food poisoning". In the end, there is increasing public concern in the US that use of antibiotics in livestock will mean that sick people will be less able to receive successful treatments.

Other concerns about antibiotic use in humans stem from a concern that livestock products (milk, meat and eggs) will be contaminated with antibiotics. Some humans are very allergic to antibiotics so that even tiny amounts of antibiotic can cause an allergic reaction. Many people in the US just don't want any antibiotic from any source to be taken into their bodies.

What's New in Regulation?

Regulation of antibiotic use and prescription has been controlled for many years by both voluntary and legislative measures. Most notably on the legislative side in 2003, the Food and Drug Administration's Center for Veterinary Medicine issued Guidance 152 that stated the FDA believed ingestion of antimicrobial resistant bacteria from animal derived foods is significant and the risk for antibiotic resistance should be assessed for drugs significant for human treatment. Since many classes of antibiotics approved for use in livestock were developed and approved prior to Guidance 152, concern has grown about how the sub-therapeutic (low level as in feed additives) use of antibiotics is potentially aiding bacterial resistance to many antibiotics. Most recently the FDA has sought to amend Guidance 152 by adding the word "judicious" in association with using drugs that are medically important for humans in livestock.

In January 2011, the FDA has proposed to prohibit certain uses of Cephalosporin antibiotics, off or extra-label, in major food producing animals including cattle, swine and poultry. Extra-label use means using a drug for any condition, in any species or at any dose or regime other than according to the label. Cephalosporin drugs are commonly used in human medicine to treat

infections affecting diabetics or treatment of pneumonia. In the livestock sector, Ceftiofur, a drug within this antibiotic family and marketed by Pfizer as Naxcel™, Excenel™ and Excede™, is typically used in the treatment of bovine respiratory disease complex. If approved, actions such as this proposed by FDA will limit off label dosage recommendations or using these drugs for prevention of disease. As beef producers, it is important to remember, however, that extra-label use of any drug is prohibited by law unless directed under prescription by a veterinarian, even in treatment of disease.

What Should Beef Producers Do?

Appropriate husbandry and hygiene, routine health examinations and proper vaccinations of beef cattle go a long way in preventing problems that would require antibiotic use. Producers should consult with their veterinarian on the selection and use of antibiotics when a need is recognized. Those medications that are important for treating strategic human or animal infections should be avoided as the first line therapy. The uses of narrow spectrum antimicrobials are recommended and avoid combination antibiotic therapy when possible for treatment regiments.

Producers should limit antibiotic use to sick or at-risk animals and treat for the recommended time period in order to help minimize the potential for bacteria to become resistant to antimicrobials. Always follow the product label directions, especially dosage and withdrawal times. Drug withdrawal time is the period of time that must pass between the last treatment and the time the animal will be harvested, marketed or milk can be sold. Extra-label treatments may only be administered by a licensed veterinarian or under the supervision of a licensed veterinarian and within the scope of a valid Veterinarian-Client-Patient relationship.

Beef Quality Assurance guidelines for judicious use of antibiotics in livestock is an important element of production practices for producers to follow. Ensuring a safe, wholesome beef product is a responsibility of every producer in the industry.

BCIA Stands Behind Its Breeding Soundness Exams

Joi D. Saville
Extension Associate, VA Tech

As a third party administrator of the Central Bull Test Program, the Virginia Beef Cattle Improvement Association (BCIA) works to serve its two purposes of: 1) to foster the improvement of beef cattle in Virginia through improved genetics and management with major emphasis placed on selection criteria for traits of economic importance, and: 2) to carry on educational and promotional work in connection with the production of improved beef cattle.

With the above mission in mind, BCIA sets forth strict requirements for bulls to be tested in one of their programs. Some of the eligibility requirements include: bulls meeting evaluated YW EPD requirements based on breed VQA requirements; minimum frame score of 5.0; structural and reproductive soundness; disposition; and pre-weaning and vaccination programs.

The bulls will be on test for 112 days. During this testing period, weights will be taken as well as hip height measurements, ultrasound data collection, and semen testing. At the end of the test, the top two-thirds of the bulls on test will be selected for the sale. This selection takes into account basic requirements listed above along with the bulls own performance and EPDs for several traits.

"For many years we didn't do semen checks on yearling bulls at the test stations to avoid disqualifying bulls that would not pass just because they were immature. Reproductive exams on bulls included measuring scrotal circumference and an examination of the reproductive tract including a rectal exam," stated Dr. Dee Whittier, Extension Veterinarian for the VA/MD Regional College of Veterinary Medicine.

In the 2008 – 2009 test year, as a result of a bull buyer survey, the BCIA test program made enhancements towards its bull buying program. Some of those improvements include: a full semen evaluation on all senior bulls (conforming to the Society of Theriogenology guidelines), genetic defect testing, and breeding guarantees. However, this testing did have a big issue. Whittier explained that "One of the problems with doing breeding soundness exams on yearling bulls is that some of them are just not mature enough. This results in too high a number of abnormal sperm cells to pass the test. Some bulls that fail at 12, 13 or 14 months will pass fine at 15, 16 or 17 months."

At the end of each test, all bulls receive a breeding soundness exam and all senior bulls receive a full semen evaluation. Every bull must pass a breeding soundness evaluation off-test. The exam includes semen evaluation for Senior bulls, internal palpation, scrotal circumference measure and penile inspection with electro-ejaculator. Minimum scrotal measurement is 32 cm for bulls less than 15 months of age, and 33 cm for bulls 15 to 18 months of age. This is 2 cm more stringent than the Society for Theriogenology recommendations. Senior bulls are given a minimum of two opportunities to pass the semen evaluation (off test and again pre-sale).

Based upon this suggestions from bull buyers, the BCIA test committees has set forth high standards for bulls to complete in order to sell (see Table 1 for complete requirements). Bulls not meeting the minimum requirements are scratched from the sale.

Table 1 Requirements for being classified as a satisfactory potential breeder bull by the Breeding Soundness Examination system of the Society for Theriogenology.

Minimum Recommended Scrotal Circumference	
Age	SC (CM)
< 15 Mo.	30
>15 < 18 Mo.	31
>18 <21 Mo.	32
>21 < 24 Mo.	33
> 24 Mo.	34

Minimum Recommended Motility is 30% of Fair (F)		
Mass Activity (Gross)	Rating	Individual
Rapid Swirling	Very Good (VG)	> 70%
Slower Swirling	Good (G)	50-69%
Generalized Oscillation	Fair (F)	30-49%
Sporadic Oscillation	Poor (P)	< 30%

Minimum Recommended Morphology is 70% Normal Cells.
To be classified as a Satisfactory Potential Breeder requires a satisfactory Physical Examination and minimum values for Scrotal Circumference, Motility and Morphology. Any bull not meeting minimums is classified as either an Unsatisfactory Potential Breeder or classification may be deferred at the discretion of the evaluator.

Dr. Dee Whittier, Professor of Large Animal Clinical Sciences at the Virginia Maryland Regional College of Veterinary Medicine, administers the breeding soundness exams for the BCIA bull test stations. Dr. Whittier explains what is evaluated in the breeding soundness exam below:

The BSE is performed at a single examination, although repeated examinations may be required in some cases. The BSE consists of the following procedures.

- **Physical examination**- The bull is examined in a systematic way for any problem that would hamper his ability to impregnate cows. This examination may be rather brief or more detailed if there is a reason to suspect that there is a problem with any body system. Common areas for problems are abnormalities of the feet and legs or the eyes. A bull cannot locate and mate cows unless his feet and legs are sound. Structural faults, such as sickle hocks and post legs, can cause sore feet and stresses on tendons and joints that affect the bull's mobility. Legs and joints should be free from any swelling or old injuries. Cracked hooves, corns and long hooves also slow the breeding ability of bulls. Long hooves and corns should be dealt with four to six weeks prior to the breeding season. This will give the bull time to recover and have sound feet before he is turned out for breeding. Eyes should be clear and free of injuries or diseases. Pink eye or cancer eye may hinder a bull's vision and reduce his breeding effectiveness. Such problems may

also allow him to be dominated by other bulls and diminish his ability to cover the desired number of cows.

As part of the physical examination a body condition score is assessed. The system used is the 9-point-scale system. Bulls that are either overconditioned or underconditioned would be expected to have lower fertility.

- **Reproductive tract examination**- The bull reproductive tract consists of the scrotum, testicles, penis, prepuce and their associated structures. These structures can be examined externally both visually and by manual palpation. However, examination of the penis and entire prepuce typically requires the extension of the penis using an electroejaculator. There are also a number of internal portions of the reproductive tract which require an exam per rectum. The arm of the examiner is inserted through the anus of the bull into the rectum. Because of the flexibility of the rectum the internal portions of the penis, the internal parts of the vas deferens and the accessory sex glands (the prostate and seminal vessicles) can be manually examined.

- **Measurement of Scrotal Circumference (SC) -** Measuring scrotal circumference is a crucial part of the BSE. Scrotal circumference has been determined to be the measurement that best predicts the output of sperm cells for bulls when multiple collections by artificial vagina are not available. The measurement technique involves the use of a circular tape. This measure is useful because there is a correlation between the scrotal circumference and the volume of semen-producing tissue that the bull possesses. Since SC increases with the age and weight of the bull the circumference must be interpreted in light of the bull's age. Scrotal Circumference has been determined to be the one of the best predictors of bull fertility.

- **Semen collection and examination -** Although semen could theoretically be collected using an artificial vagina, in most cases the difficulty in training bulls to use this system makes it impractical. Instead, the semen sample is collected using a device called an electroejaculator. This device employs a probe that is inserted rectally into the bull. The probe has electrodes that conduct tiny amounts of electricity to the nerves that run through the bottom of the bull's pelvis. This stimulation results in the bull achieving an erection and finally ejaculating semen. An experienced veterinarian or reproductive physiologist should determine semen quality. An examination of the reproductive tract may indicate possible abnormalities in semen quality. Bulls exhibiting normal physical capabilities may still be incapable of settling cows because of poor quality semen.
    - Motility: Motility can be estimated by observing the mass movement of a concentrated sample of semen. Semen graded as very good has vigorous swirls; that graded good has slow swirls. Poor semen motility indicates limited or no motility. Semen should have a minimum of 30 percent vigorous, motile sperm when diluted and viewed through the microscope. It is important that motility is not hindered prior to the motility score

observation. Temperature, shock and other factors can greatly interfere with motility scores.

- Morphology: There is considerable evidence that increased abnormalities of sperm cells are associated with poor conception rates. Abnormalities are classified as primary and secondary conditions.

Bulls which fail to pass the BSE are assumed to be subfertile. Certainly they may sire some calves but would not be expected to perform well in a typical breeding setting. Bulls who fail the BSE at one point may later be capable of passing. Evaluators usually attempt to predict such outcomes and thus classify bulls as Unsatisfactory or a Deferred status.

"Now the bull breeders have decided they are willing to deal with the consequences of eliminating some bulls on semen checks just because of immaturity. This practice will also eliminate, of course, bulls that truly are infertile. In fact, the bull breeders have chosen to sacrifice some on their part to provide bull buyers with a more fertile product," discussed Whittier.

The BCIA Bull Test Program and its consignors want the bull buyers to know and understand what the expectations and requirements are of each of the bulls that are eligible for sale. Because of these standards, BCIA only sells the top 2/3 of the bulls that meet or exceed these requirements.

BCIA and the Central Virginia Bull Test Program would like to invite everyone to its 33rd Annual Southwest Virginia Performance Tested Bull Sale on March 24th, 2012 at the Umberger Sale facility in Wytheville, VA at 12:00 noon. For additional information on the bulls currently on test, please visit our website at www.bcia.apsc.vt.edu or call the BCIA office at 540-231-9159.

March Beef Webinar Focuses on "Optimizing Forage Production to Increase Profits"- March 6th , 6:30pm

Dr. Mark A. McCann
Extension Animal Scientist, VA Tech

Dr. John Andrae, Extension Forage Specialist at Clemson University, will be the featured speaker for the Beef Webinar sponsored by Virginia Cooperative Extension and scheduled for 6:30 p.m., Tuesday, March 6th. Dr. Andrae has extensive experience with forages, grazing strategies and beef cattle management. Dr. Andrae will be providing a discussion on **"Optimizing Forage Production to Increase Profits".**

Participants in the on-line meeting will have the opportunity to ask questions through an on-line chat box or over the telephone using a number provided during the program. Check with your Extension Agent about accessing the program at your local office. Producers with high speed internet service can access the meeting at home. The web link to join the meeting is posted on the VT Beef Extension webpage http://www.vtbeef.apsc.vt.edu/ . From the VT Beef Extension site, you can click on the meeting link and go directly to the meeting. The links to the recording of the nutrition program from December and the market outlook program from January can be accessed through the VT Beef Extension page. If you have questions, please contact Mark McCann at 540-231-9153.

2012 Southwest Bull Test: Sale, Open House, & Bred Heifer Sale

Dr. Scott P. Greiner
Extension Animal Scientist, VA Tech

An open house will be hosted at the Virginia Beef Cattle Improvement Association's Southwest Virginia Bull Test on Sunday afternoon, March 18th from 1:00 to 4:00 PM. Cattle producers and others interested are invited to attend. The Southwest Bull Test Station is located at Hillwinds Farm, owned and operated by Tim Sutphin of Dublin, Virginia. The station is located just outside Dublin. From Dublin, travel south on Route 11 just over two miles, and turn right on Thornspring Road/Rt. 643 (Cougar Express convenience store on corner). Proceed on Thornspring Road a little over a mile and the facility is on the left.

Approximately 140 bulls will sell at the Virginia BCIA Southwest Bull Test Sale on Saturday, March 24, 12:00 noon at the Danny Umberger sale facility, just outside Wytheville. These bulls include 52 fall-born senior bulls and 92 spring-born junior bulls. Breeds include 91 Angus, 5 Charolais, 6 Gelbvieh & Gelbvieh Balancers, 8 Polled Hereford, 1 Red Angus and 33 Simmental & Simmental Hybrids. Only bulls which meet stringent BCIA criteria will sell. BCIA has made some significant changes to the program which has been brought about through feedback from commercial bull buyers. Highlights include complete breeding soundness exams (including semen evaluation) on fall-born bulls, volume buyer discounts, and an enhanced soundness and fertility guarantee on all bulls selling.

The BCIA-Influenced Bred Heifer Sale will be held in conjunction with the bull sale. A select group of approximately 30 fall-calving bred heifers from leading producers will be offered immediately following the bulls. All heifers will be certified through the Virginia Premium Assured Heifer Program, which verifies health, genetics, and management procedures. Service sires for the heifers will be Angus bulls selected for predictable calving ease and performance.

Again this year, we will feature video clips of the bulls available for the 2012 Southwest Performance Tested Bull Test Sale. These clips feature each of the bulls available for sale. The clips are grouped in 10 lots. These video clips give the buyer a good opportunity to preview the bulls prior to sale day.

For video clips as well as catalogs and detailed information on the bulls visit the website http://www.bcia.apsc.vt.edu or phone VA BCIA at 540-231-9159.

What Not to Eat: Pretty…and Poisonous

Shea Porr, PhD, Assistant Professor, Equine Sciences
Virginia Tech MARE Center

Horses aren't exactly known for reading warning labels, and their inquisitive nature sometimes leads them to nibble on things better left alone. Therefore, it's usually safer to make sure they don't have access to toxic plants. Here are a few tips to follow:

Give them plenty to eat. If they have a choice, most horses will not eat most toxic plants. Toxic plants usually taste and smell bitter or offensive, warning the horse to eat something else. If the pasture forage is sparse (which usually means weedy), make sure to give them some hay to keep them occupied. Otherwise, they may nibble on whatever is available or even reach over a fence to find something greener on the other side.

Also, if you make sure your horse has had access to feed and water before turning them out, they will be more selective in their grazing. Hungry horses are more prone to eating the first things they find, which can sometimes include toxic plants.

Inspect your pastures. Know what poisonous plants look like and walk your pastures and fence lines regularly. If you find toxic plants, they should be removed. This can either be done by using selected herbicides or, if the number of plants isn't extreme, by pulling the plant up by the roots and disposing of it. Check beyond your fence line, as trees can fall into your fields and shrubs can grow into your fence. Horses will reach for things, and some of them have long necks!

Manage your pastures. Unwanted plants (weeds) can be managed by mowing, proper grazing management, or judicious use of herbicides. Pasture management also includes appropriate application of lime and fertilizer. If the soil isn't optimal for grasses, it's probably optimal for weeds. A soil test will help you determine the amounts you need.

Don't put ornamental plants where horses can reach them. You want to make your home or barn look attractive, and many people use ornamental plants around buildings and fences to 'dress them up'. However, most of the ornamental plants are toxic to horses and other livestock. Some particular plants to be concerned with include:

- The yew family – common evergreen, with flat needles about 1" long and tapering to a blunt point, often having red berries; extremely toxic, with as little as 6 ounces causing sudden death in horses.
- Rhododendron/Great Laurel – another common evergreen with oblong leaves and single-colored flowers; symptoms include salivation, difficulty swallowing, and colic.
- Hydrangea – woody shrub 3-5' tall with dense clusters of white, pink, or blue flowers; cyanide poisoning and colic-like symptoms can occur if horses graze this plant.
- Holly trees/bushes – although the leaves of most holly trees are spiny, horses will occasionally eat them when there's little else to eat; colic, tremors, and seizures can result from ingestion.

- Privet – shrub or small tree with leaves that are darker green on top than on bottom; colic and kidney damage can result in death.
- Boxwood – evergreen shrub with off-set leaves; consumption of a small amount (approximately a pound) can cause colic and death.

Again, horses will avoid eating toxic plants if they have an alternative forage source, but boredom and curiosity can get the better of them. Following these tips will help you keep your horses safe!

For more information on equine health care and management, contact your local extension office or the Virginia Tech MARE Center!

Management of Newborn Lambs

Dr. Scott P. Greiner
Extension Animal Scientist, VA Tech

At no other time during the year is the investment of time and sound management practices more influential for a sheep producer than during lambing time. The financial success of a sheep operation is largely dependent upon maximizing pounds of lamb weaned per ewe exposed, while minimizing costs of production. Realizing pounds of lamb weaned per ewe is largely dependent on saving the lambs that are born, as the largest percentage of lamb deaths occur at or shortly after birth. The three primary causes of death of lambs around lambing time are difficulty during the birthing process, starvation, and hypothermia. Management practices at lambing time are essential for the economic viability of the sheep operation.

Dystocia (lambing problems) has been shown to be a significant cause of lamb mortality. Losses due to stillbirths and dystocia can be reduced by frequent visits to the lambing barn and timely assistance of ewes. Pregnant ewes should be checked every 3-4 hours. If ewes are checked at 11 p.m. or midnight it is not necessary to check again before 5 or 6 a.m. Ewes that will lamb between these times usually show signs at the late night observation. Ewes close to lambing will be restless and may try to claim other newborn lambs. Ewes in labor will normally separate themselves, and frequently choose a corner or area along a wall or feedbunk to nest and deliver. The lambing area should be dry and well bedded, and sources of cold drafts that will chill newborn lambs should be eliminated. It is not necessary to have a heated lambing barn- a dry, draft-free area is more important. The lambing process can vary considerably between ewes. Ewes in labor should be left undisturbed. However, once the ewe begins forceful straining and the water bags are passed, delivery should normally take place within 45-60 minutes. Once the front legs are visible, lambs should be born within 30-45 minutes. After the first lamb is born, subsequent lambs are normally delivered within 30 minutes. Prolonged delivery beyond these times may indicate lambing difficulty, and the ewe should be examined and assisted if necessary. Prior to assisting the ewe, the examiner should wash the ewe's vulva with mild soap and water. Likewise, the shepherd should thoroughly wash their hands and arms and wear an OB sleeve when assisting or examining a ewe. When assistance is required to deliver one lamb, the uterus should be examined for additional lambs. For lambs that are pulled, a piece of straw may be gently inserted into the nostril as an irritant to help stimulate breathing. Lambs that are delivered rear legs first should be gently shaken upside-down by holding the rear legs to allow fluid to drain from the lungs.

When possible, ewes should be allowed to give birth where they initially bed down. Moving ewes to individual pens when they start lambing may prolong the birthing process and cause other complications. Additionally, allowing ewes to complete the lambing process before moving them to jugs will keep the jugs drier and help prevent injury to lambs in multiple birth situations. Lambing jugs should measure at least 5 ft. x 5 ft., with a maximum slat spacing of 3 in. Large breeds and multiple births may require larger jugs. The environment of the jug is critical to newborn lamb health and survival. The jugs should be kept well bedded, dry, and free of drafts. For facilities with cement floors, a base of lime or sawdust/shavings is recommended under straw. Cement floors can be cold and damp, and therefore a source of chilling and

pneumonia in newborn lambs. When feasible, lambing jugs should be cleaned between ewes. Feed troughs and water bucket should be suspended out of the reach of newborn lambs.

The first 24-48 hours after birth are a critical time for the ewe and her lambs. During this time, bonding occurs between the ewe and her lambs. The jugs also assist the shepherd in keeping a close eye on the ewe and lambs during this time. Upon moving the ewe into the jug, the lambs' navels should be immersed in a 7% iodine solution. Iodine helps prevent infection and promotes drying of the navel.

Colostrum is the milk produced by the ewe up to 18 hours after birth. It has important nutritional value for the newborn lamb. Colostrum also contains essential antibodies that provide protection against certain diseases for the newborn lamb, and provides energy to keep the lamb warm. Newborn lambs are susceptible to hypothermia due to their large body surface area in relation to body weight, and relatively low energy reserves.

Lambs should receive adequate intakes of colostrum within 30-60 minutes after birth. To help insure this, the ewe's teats should be stripped to remove the wax plugs that frequently obstruct the teat. In some cases, lambs that appear to be nursing may not be getting milk due to these plugs. Stripping the teats will also confirm the ewe has milk. Lambs should be monitored closely to make sure they nurse. Lambs that have nursed will have a full stomach upon palpation. Crutching ewes prior to lambing will enhance the lamb's ability to access the udder, particularly with long-fleeced ewes. Lambs that have not nursed should be assisted. Most lambs have a strong suckling reflex shortly after birth, and will nurse when presented a teat. It may be necessary to close the lamb's mouth on the teat and/or squirt milk in the lamb's mouth to initiate suckling. An effort should be made to help the lamb nurse the ewe before other methods are used to get colostrum into the lamb.

In some cases, the lamb is unable to nurse the ewe even with assistance. These lambs may be small, weak, chilled, rejected by the ewe, or injured. In these cases, stomach tube feeding is necessary to get colostrum into the lamb. Lamb stomach tubes that attach to syringes are available commercially, and should be on hand for all shepherds. Lambs should receive 20 cc colostrum per pound of body weight. As a reference, 30 cc equals approximately 1 oz. Therefore, a 10 lb. lamb should receive 200 cc or about 7 oz. of colostrum in the first 30 minutes after birth. After the initial tube feeding, many lambs will respond and begin to nurse on their own. If not, the lamb may need to be tube fed 2-3 hr. after the initial feeding.

Source of colostrum for these cases is another important consideration. The first choice would be from the lamb's mother. If colostrum is not available from the ewe, another ewe that has just lambed may be a source. It is a good idea to freeze colostrum for future use from ewes that lose their lambs or ewes with singles that are heavy milkers. Colostrum should be pre-measured and frozen using ice cube trays or freezer bags. Frozen colostrum should be thawed with indirect heat (water bath), and not a microwave or direct heat as antibodies will be destroyed. In an emergency, goat or cow colostrum may be used. There are also artificial colostrum substitutes available commercially.

The ewe and her lambs need to be monitored closely the first few days after birth. Healthy lambs are content, and will stretch when getting up and wag their tails when nursing. A gant and weak appearance may be indicative of starvation. Check the ewe to be sure she has milk. In the case of multiple births, the smallest lamb may not be able to compete for the milk supply. Constipation can be a problem in newborn lambs if feces dry and mat down on the tail. Cleaning the area with a damp rag will alleviate this problem.

Time spent in the jug will depend largely on the number of jugs available and rate at which ewes are lambing. Strong, healthy singles may be removed from the jugs in 24-36 hr. after birth, and twins 48 hr. Triplets and ewes with weak lambs may need to stay in the jug for 3 days or more. Ewes and lambs should be removed from the jug as quickly as possible, as chances of pneumonia and diarrhea are greater the longer they are kept confined to the jugs. Labor requirements are also much greater when ewes are confined to the jugs.

Before turning out of jugs, pertinent information on the ewes and lambs should be recorded. Appropriate identification of the lambs (ear tags, paint brands, ear notches, etc.) should also be done at this time. The ability to match a ewe with her lambs can be very beneficial as a management tool. Thin, poor-doing lambs may indicate a health problem in the ewe (mastitis) or inferior milking ability.

Virginia is largely a Selenium deficient state. Deficiency of Selenium and/or Vitamin E causes white muscle disease in lambs. For prevention of this disease and all-around flock health and performance, the ewe flock should be provided a high-selenium complete mineral mix specifically formulated for sheep during gestation (fed free-choice). Additionally, lambs should receive supplemental Vitamin E and Selenium in the first few days after birth.

Upon removal from the jugs, ewes and lambs should be put into a mixing pen with 3-4 other ewes and their lambs. This will help acclimate them, and they should be closely observed to identify abandoned and rejected lambs. After a day or two, the ewes can then be put into larger groups. Lambing jugs should be cleaned and rebedded after each ewe and her lambs are removed. Even though the area may look clean, urine and manure in the pen will release ammonia, which is harmful to the newborn lamb's lungs and can lead to pneumonia.

Winter Sheep Management Tips

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2-4 Weeks Before Lambing

1. Shear the wool from around the head, udder and dock of pregnant ewes. If covered facilities are available, shear the ewes completely. Sheared ewes are more apt to lamb inside, the inside of the barn stays drier because less moisture is carried in by the ewes, more ewes can be kept inside, and it creates a cleaner environment for the lambs and the shepherd. Sheared ewes must have access to a barn during cold, freezing rains, and they must receive additional feed during periods of extremely cold temperatures.
2. Vaccinate ewes for overeating disease and tetanus. These vaccines provide passive immunity to baby lambs through the ewes' colostrum until they can be vaccinated at 4 to 6 weeks of age. Work with your veterinarian regarding feeding of antibiotics for prevention of abortion diseases.
3. Check and separate all ewes that are developing udders or showing signs of lambing. Check and remove heavy ewes once a week during the lambing season. Increase the grain on all ewes showing signs of lambing to 1 lb daily, and feed all the good quality grass/legume hay they will clean up.
4. Observe ewes closely. Ewes that are sluggish or hang back at feeding may be showing early signs of pregnancy disease. If so, these ewes should be drenched with 2 ounces of propylene glycol 3 to 4 times daily.
5. Shelter heavy ewes from bad weather.
6. Get lambing pens and lambing equipment ready. There should be one lambing pen for every ten ewes expected to lamb.
7. Stock lambing supplies such as iodine, antibiotics, frozen colostrum, stomach tube, selenium and Vitamin E, OB lube, lamb puller, ear tags, etc.

At Lambing Time

1. Check ewes on a frequent basis (every 3 to 4 hours), as feasible.
2. After lambs are born, move the ewe and her lambs to a lambing pen with a minimum dimension of 5' X 5'. Check the ewe's udder to see that she has milk, strip each teat to remove the waxy plug that may be present at the end of the teat, and make sure lambs nurse within 30 minutes.
3. Colostrum is critical for baby lamb survival. For ewes without milk or for lambs that fail to nurse, lambs must be given colostrum via a stomach tube. If sheep colostrum is not available, cow or goat colostrum should be used. Colostrum can be frozen in ice cube trays or stored in plastic storage bags. Colostrum should be thawed using indirect heat. Thawing by direct heat destroys the antibodies that are present. Lambs should receive 20 ml (cc) of colostrum per pound of body weight. It works best if feedings can be 4 hours apart.
4. Only use a heat lamp if lambs are weak and chilled. Avoid danger of fire by hanging heat lamps 3' above the bedding and in the corner of the lambing pen. Block off the corner so that the ewe cannot get under the lamp.
5. Check on the health of the ewe and her lambs at least three times daily. Lambs that are lying down should be made to get up. Those that fail to stretch after getting up may have

a problem that requires further examination. The biggest cause of baby lamb mortality is starvation.

6. Virginia is a selenium deficient state. If selenium deficiency has been a problem, lambs should be given an injection of 0.25 mg selenium per 10 lb of body weight immediately after birth. A good quality mineral provided to the ewe flock on a year-round basis has been shown to be the best way to prevent selenium deficiency.
7. A general rule of thumb is for the ewe and her lambs to stay in the lambing pen one day for each lamb. Weak or small lambs may require a longer stay.
8. Ewes should receive fresh water and high quality hay the day of lambing. Don't feed grain until the second day. One pound of grain plus 5 lbs of good quality hay will take care of their needs until moving to a mixing pen.
9. If ewes were not treated for internal parasites within 3 weeks of lambing, they should be treated prior to removal from the lambing pen.
10. Keep records on all ewes, noting those that had problems. Individually identify lambs so they can be matched with the ewe. The ability to match ewes and lambs is important to monitor performance, and individual identification is critical for making selection and culling decisions.
11. All lambs should be docked and castrated by the time they are 2 weeks old.