



Angus Advisor

► FEBRUARY herd management tips

Guide to abbreviations and acronyms

To make the "Angus Advisor" more concise and consistent, we have used the following abbreviations or expressions:

\$Values	dollar value indexes
ADG	average daily gain
AI	artificial insemination
AIMS	Angus Information Management Software
BCS	body condition score
BLV	bovine leukemia virus
BMP	best management practices
BQA	beef quality assurance
BRD	bovine respiratory disease
BRSV	bovine respiratory syncytial virus
brucellosis	Bang's disease
BSE	bovine spongiform encephalopathy
BVD	bovine viral diarrhea
Ca	calcium
CHAPS	Cow Herd Analysis and Performance System
CP	crude protein
cwt.	hundredweight
DM	dry matter
EPD	expected progeny difference
ET	embryo transfer
FMD	foot-and-mouth disease
GnRH	gonadotropin-releasing hormone
IBR	infectious bovine rhinotracheitis
ID	identification
IM	intramuscular
in.	inch
lb.	pound
LCT	lower critical temperature
lepto	leptospirosis
Mg	magnesium
MiG	management-intensive grazing
MLV	modified-live virus
N	nitrogen
P	phosphorus
PI	persistent infection
PI ₃	parainfluenza-3 virus
preg-check	pregnancy-check
Se	selenium
sq. ft.	square feet
SPA	Standardized Performance Analysis
TB	bovine tuberculosis
TDN	total digestible nutrients
THI	temperature-humidity index
trich	trichomoniasis
Zn	zinc

Southern Great Plains

by **David Lalman**, Oklahoma State University, david.lalman@okstate.edu

Spring-calving herds

- Maintain cows on fresh, clean pasture or in a dry, clean calving facility if they are confined. Dust could be the greatest challenge this calving season, especially with many cow herds confined to sacrifice pastures or drylots.
- Consult your veterinarian in the event that calf scour problems develop.
- Check first-calf heifers several times daily for possible calving difficulties.
- Visit with your veterinarian to develop a *written* protocol before the calving season starts. This protocol should include what to do, when to do it, who to call (if someone besides your veterinarian is to be called), phone numbers, how to know when the veterinarian should be called, etc.
- The process of parturition (calving) is generally divided into three stages:
 - Stage 1 is the dilation of the cervix and occurs 4 hours to 24 hours before the actual birth.
 - Stage 2 is the delivery process and begins when the fetus enters the birth canal. The beginning of Stage 2 is usually identifiable when membranes or a water bag appears at the vulva. Published research indicates that Stage 2 averages about 30 minutes in mature cows and about one hour in first-calf heifers. Intervention should be considered (refer to your protocol) if there has been no progress in the birthing process after 30 minutes in mature cows or one hour in first-calf heifers.
 - Stage 3 includes expulsion of the placenta and involution of the uterus.
- Feed during evening hours to encourage daytime calving.
- During early lactation, energy and protein requirements increase dramatically. Assuming above-average genetic potential for milk production, these cows would require about 19 lb. of TDN and 3.4 lb. of protein. This is roughly equivalent to a diet containing about 59% TDN and 11% protein.

Fall-calving herds

- Fall-calving purebred cows with above-average genetic potential for milk production should receive about 7 lb. of a supplement containing 20%-24% protein daily when the following conditions exist: Abundant dormant native range (3%-5% protein) is available and cows are at a BCS 5 or less and/or winter weather conditions are severe. A second alternative that works well under these conditions is to feed around 4 lb. of a protein supplement containing 20%-24% protein with 5 lb. of good-quality alfalfa hay.
- With moderate- to high-quality grass hay (minimum of 9% protein and 54% TDN) as the forage base, 5 lb. of a 12%-14% concentrate supplement will supply adequate protein and energy for 1,200-lb. purebred cows with above-average genetic potential for milk production.
- Hopefully, by the time this is published, we will have received some moisture in the Southern Great Plains to allow some growth of cool-season annual (small-grains) forages. A high-calcium, high-magnesium mineral supplement should be provided to lactating cows grazing small-grains forage.
- Continue to monitor calves for the possible development of BRD.

General recommendations

- Consult a forage specialist in your area as you consider the fertility and management program for both native and "improved" cool- and warm-season grass pastures and rangeland. This will be especially important in 2013 as pastures and rangelands have been subjected to two years of severe drought stress.

Southeastern Region

by **Scott Greiner**, Virginia Tech, sgreiner@vt.edu; and **Mark McCann**, Virginia Tech, mark.mccann@vt.edu

Spring-calving herds (January-March) General

- Prepare for calving season by checking inventory and securing necessary supplies (obstetric equipment, tube feeder, colostrum supplement, ear tags, animal health products, calving book, etc.).
- Move pregnant heifers and early-calving

cows to calving area about two weeks before due date.

- ▶ Check cows frequently during calving season. Optimal interval to check calving females is every 4 hours.
- ▶ Utilize calving area that is clean and well-drained. Reduce exposure to scours by moving 2- to 3-day-old pairs out of calving area to separate pasture (reduce commingling of newborn calves with older calves).
- ▶ Identify calves promptly at birth to comply with age- and source-verification requirements. Record birth weight, calving ease score, teat/udder score and mothering ability of cow.

Nutrition and forages

- ▶ Evaluate growth of yearling heifers with goal of reaching 60%-65% of mature weight by breeding. Depending on forage quality, supplementation may be needed to meet weight gain target.
- ▶ Feed better-quality hay during late gestation and early lactation. If quality is unknown, submit sample for nutrient analysis (local extension office can assist). Target quality is 11%-12% crude protein and 58%-60% TDN. Supplement protein and/or energy as needed.
- ▶ Frost-seed clovers mid- to late month. Four lb. red clover and 2 lb. of ladino is recommended. Best success will be achieved by choosing areas with little or no plant residue.

Herd health

- ▶ Ensure colostrum intake in the first few hours of life in newborn calves. Supplement if necessary. Newborn calves need 10% of body weight in colostrum in the first 24 hours of life.
- ▶ Provide selenium and vitamin A and D injections to newborn calves.
- ▶ Castrate commercial calves at birth.
- ▶ Monitor calves closely for scours; have treatment supplies on hand.
- ▶ Evaluate lice control program and consult your veterinarian for recommendations.

Genetics

- ▶ Make plans for spring bull-buying season. Evaluate current herd bulls for progeny performance and soundness. Establish herd genetic goals, and selection criteria

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Meet our new columnists

Scott Greiner is a professor and extension animal scientist in the Department of Animal and Poultry Sciences at Virginia Tech. Greiner was raised on a diversified livestock farm in Eastern Iowa. He attended Iowa State University (ISU), where he earned a bachelor's degree in animal science in 1989.

His graduate studies include a master's from Michigan State University and a doctorate from ISU. His graduate work at ISU was fundamental in the incorporation of ultrasound as a genetic improvement tool in beef cattle, including the initiation of centralized processing of images.

In 1998, Greiner joined the faculty at Virginia Tech. As an extension animal scientist, he designs and delivers educational programs in beef cattle and sheep to adults and youth, and conducts applied research. This objective is accomplished by providing research-based education to livestock producers, extension agents, and allied industry professionals.

Specific responsibilities include design and delivery of educational programs and materials related to beef and sheep genetics and associated production and marketing issues, including animal identification; providing leadership for statewide programs in beef cattle and sheep; and maintaining strong working relationships with the beef and sheep industries and allied organizations.

He resides in Christiansburg, Va., with wife Lori and daughters Kaylee and Leah. The family is very active in 4-H youth livestock activities.



Scott Greiner

Mark McCann is an extension beef specialist and professor in Virginia Tech's Department of Animal and Poultry Sciences. Before coming to Virginia Tech, he served on the faculty in the Department of Animal and Dairy Science at the University of Georgia from 1986-2001, where he developed an integrated extension/research program focused on beef cattle nutrition and forages. His cattle research was instrumental in the release of Alfagrace alfalfa, Jesup tall fescue and Max Q tall fescue.

At Virginia Tech he has served as department head of Animal and Poultry Sciences from 2001-2005 and as associate dean and director of Virginia Cooperative Extension from 2005-2009. He has rejoined the department as a faculty member where he conducts research on phosphorus requirements and the effects of metabolic imprinting of early-weaned calves, as well as cooperating on forage research. McCann received his bachelor's and master's degrees in animal science at North Carolina State University before earning his doctorate in agriculture from Texas Tech University.



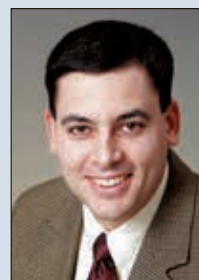
Mark McCann

Justin Sexten joined the faculty of the Division of Animal Sciences at the University of Missouri (MU) in July 2007 and is responsible for beef cattle nutrition and forage management programming. Sexten's extension program focuses on developing systems for efficient land, labor, forage and feed resource use.

Sexten earned a bachelor's degree in animal science at the University of Kentucky in 1998 and a master's and doctorate in ruminant nutrition at the University of Illinois at Urbana-Champaign in 2001 and 2004, respectively.

He grew up on his family's cow-calf and row crop farm in southwestern Ohio. Sexten's extension programs benefit from his experience in cow-calf, stocker and feedlot segments of the beef industry and a strong production agriculture background.

In addition to extension responsibilities, Sexten maintains an applied research program focused on forage use efficiency and supplementation systems. Sexten oversees the MU Beef Research and Teaching Farm feedlot and commercial cow herd in addition to his own small stocker cattle operation managed by his wife, Julie, and daughters Macie, Morgan and Millie.



Justin Sexten

for AI sires and new herd bulls. Order semen.

- ▶ Collect yearling performance data (weight, height, scrotal circumference, ultrasound) in seedstock herds.

Fall-calving herds (September-November)

General

- ▶ Monitor cows closely during breeding season for signs of return to estrus. Contact veterinarian to evaluate fertility of bull if many cows repeat cycle. Remove bulls to maintain controlled calving season (60-90 days).
- ▶ Begin planning marketing strategy for calf crop.
- ▶ Plan to pregnancy-check heifers as soon as possible postbreeding.

Nutrition and forages

- ▶ Begin creep-feeding or creep-grazing calves if desired.
- ▶ Once breeding concludes, supplementation should be adjusted to mid-lactation nutritional requirements.
- ▶ Frost-seed clovers mid- to late month. Four lb. red clover and 2 lb. of ladino is recommended. Best success will be

achieved by choosing areas with little or no plant residue.

Herd health

- ▶ Monitor calves closely for health issues, particularly respiratory disease.
- ▶ Administer seven-way clostridial vaccine and respiratory vaccinations (especially if killed products are used; booster dose given at preweaning) to calves.
- ▶ Evaluate lice control program and consult your veterinarian for recommendations.

Genetics

- ▶ Make plans for spring bull-buying season. Evaluate current herd bulls for progeny performance and soundness.

Midwest Region

by **Justin Sexten**, University of Missouri, sextenj@missouri.edu

Managing calf health and cow nutrition

Scour onset is a function of environment, host animal and disease agent. Bacteria, virus and/or protozoa can serve as the scour-causing disease agent. Vaccination of dams against scours has not always proven effective due to the variety of disease agents.

Cows serve as the scour agent source from year-to-year and also provide maternal antibodies to calves against these agents via colostrum.

The first step in controlling scours is ensuring all calves consume colostrum immediately following birth. Passive immunity from the dam is a function of colostrum quality and quantity — both produced and consumed. Calves from heifers will be at a greater risk than calves born to mature cows due to improved colostrum quality and quantity, and generally greater mothering ability, in mature cows. Cows receiving marginal nutrition this winter due to poor forage quality will also have lower-quality colostrum.

Calves are most susceptible to scours at 7 to 14 days of age as their maternal antibodies decline and their immune system becomes functional. As the calving season progresses, the “dose” of scours-causing agents increases. This is due to a greater number of calves multiplying and shedding the organism and environmental accumulation over time. The increased dose load is one reason why scours most often affects calves born later in the calving season.

The observation of scours generally affecting calves later in the calving season led Nebraska veterinarians to develop the Sandhills Calving System, a system designed to keep susceptible calves sorted from older calves while moving gestating cows to clean calving pastures.

Implementing the Sandhills Calving System requires planning, multiple calving pastures and willingness to sort cows. As calving begins, the late-gestation cows are housed together in a common calving pasture. Producers who have cows pregnancy-checked can keep shorter-bred cows in a different pasture and add them later. Remember, the goal is to minimize exposure to disease agents and environmental accumulation, so the fewer the cows, the better.

As cows begin calving, keep pairs and gestating cows together for two weeks. After the first two weeks, sort gestating cows and move them to a new, clean pasture. The pairs remain in the pasture of birth. After another week of calving, the gestating cows are again moved to a new calving pasture. This process repeats each week so each calving group is within 7 days of age. Once the youngest calf in a group is 4 weeks old, they are considered low-risk for scours and groups can be combined.

The Sandhills Calving System is directly opposite of the system many producers use during calving. Many producers prefer to move pairs out of the calving pasture and leave gestating cows in the calving pasture near the house or barn. This results in young calves born on contaminated pastures with accumulation of scour agent from all the calves born earlier in the season.

Moving gestating cows calving on clean pastures and keeping calves separate until the youngest calf is 30 days old are the keys to the Sandhills calving system. Producers with just a few calving pastures can still implement the system with slightly longer times for groups to form, such as move gestating cows to new pastures every 10 to 14 days rather than 7.

Using the Sandhills Calving System allows producers to better manage the nutritional demands of the cow herd. As a result of scour prevention management, the cows are separated into groups capable of being fed according to nutrient demand.

Western Region

by **Randy Perry**, California State University, Fresno, randyp@csufresno.edu

Fall-calving herds

Cows and calves are on cruise control.

Reproductive management

Natural-service bulls. Bulls should be

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turned out and hopefully are doing their job.

Watch for return heats from natural-service dates. If a high percentage of females are coming back into heat, switch sires if that is an option.

Nutritional management

Mineral supplementation. It is important that minerals are supplemented on a year-round basis. Supplements should be formulated to meet deficiencies specific to your region or area.

Protein and energy supplementation. Most fall cows in the West graze native foothill pastures during the winter months.

As is the case in any environment, timing and amount of rainfall are two of the critical factors that determine the pattern and amount of forage production. In most years in California, mid-February marks the start of the good forage production period in the foothills. Therefore, cattle should not need any supplemental energy or protein during this time of the year.

Health management

Treatments. This is the time period of the year when fall-calving cows and calves should have very few problems with animal health.

General management

Early spring is an excellent time of the year to work on general repairs such as repairing and building fences and other

facilities. Also, if irrigated pastures comprise part of the pasture resources during the summer months, this is the time to make repairs to irrigation lines or ditches before they are needed later in the spring.

In addition, I would encourage producers to spend some time in the office working on setting long-term and short-term goals for their operations. Most producers spend the majority of their time providing the physical labor associated with the operation. However, time spent with a blank piece of paper developing some strategies for how to improve an operation can be very beneficial. Development of a marketing plan is an excellent example of one of these activities.

Spring-calving herds

The calving season is the main focus.

Genetic management

Sire selection. Although the start of the breeding season is still months away, now is the time to start finalizing a list of potential sires.

Reproductive management

Calving management. Females should have already started calving or should be shortly. Supplies should be on hand and personnel should be properly trained or advised as to how to assist females with calving problems. In addition, any females that experience retained placentas should be treated promptly.

Nutritional management

Mineral supplementation. It is important that females receive adequate levels of calcium, phosphorus and trace minerals

that are deficient in your area. Many of the nutritional companies now have mineral supplements that are tailored to different times of the year and forage conditions.

Body condition. The target level of body condition at calving is a BCS of 5.0 (scale = 1 to 9) for mature cows and 6.0 for 2-year-old heifers. Although difficult to achieve, this level of body condition should be maintained during the breeding season.

Protein and energy supplementation. The period from calving through the end of the breeding season is by far the most important period in terms of meeting protein and energy requirements of beef cows. If cows are going to maintain a yearly calving interval (which is the goal of most beef producers), then they must conceive by 80 days postpartum. This goal is extremely difficult to achieve if nutritional

requirements are not being met.

The most practical way to monitor energy status (the relationship between energy consumed vs. energy requirements) is to evaluate body condition score. The most practical way to monitor level of protein intake is to evaluate an animal's fecal output. If the stool is loose and the cow pies flatten out on the ground, the animal is receiving an adequate level of protein intake. If the fecal output is extremely firm and the cow pies do not flatten out on the ground, then the animal is most likely protein-deficient.

Health Management

Treatment protocol. Treatment protocols and products should be on hand for both scours and pneumonia in suckling calves.

