



Angus Advisor

► JANUARY 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

Western Region

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

Fall-calving herds

The main focus is getting cows bred.

Heat detection and AI breeding.

Accuracy with heat detection and taking the time to be precise with the small details of AI are both very important in determining the level of success of an AI program.

Semen. Semen handling is one of the small details that is often overlooked and also can be very important in terms of influencing the success of an AI program.

Natural-service bulls. Bulls are probably already turned out or will be shortly. If females are in pastures where they are easily observed, record natural-service dates.

Nutritional management

Mineral supplementation. Mineral supplementation is important in achieving optimal reproductive performance. Although females should be supplemented on a year-round basis, the breeding season is the most critical period. Mineral supplements should be formulated to meet deficiencies specific to your region or area. Consider mineral supplements that include chelated products, especially during the breeding season.

Protein and energy supplementation. It is critical that both protein and energy requirements of females are being met during the breeding season. Females should be in a state of positive energy balance, or gaining weight, during the breeding season, as energy balance has a significant influence on fertility or conception rate.

Health management

Vaccinations. If not already done, calves should receive their first round of vaccinations. Producers should consult with their veterinarian in developing their vaccination protocol.

Treatment protocol. Treatment protocols should be on hand for both scours and pneumonia in suckling calves, and both should include first and second treatment options.

Spring-calving herds

The main focus is the calving season.

Reproductive management

Calving management. Supplies should be on hand and the proper equipment should be available to assist females with problems at calving. Be sure that your personnel are properly trained in the most current procedures recommended for assisting females experiencing calving difficulties.

In order for maximal absorption of maternal antibodies, calves should nurse within the first 6 hours after birth. A supply of frozen colostrum should be on hand and should be replaced at the start of each calving season. Extra milk from a mature cow taken shortly after calving is the best source of frozen colostrum.

Nutritional management

Mineral supplementation. Be sure that cows are receiving adequate levels of calcium, phosphorus and trace minerals that are deficient in your area.

Body condition. The target level of body condition at calving is a BCS of 5 (scale = 1 to 9) for mature cows and 6 for 2-year-old heifers. For more information visit www.cowbcs.com.

Protein and energy supplementation.

Both protein and energy requirements need to be met in order to achieve the desired level of body condition as described in the previous paragraph.

Heifer and bull development. Hopefully, both bulls and heifers are performing at levels that will allow achievement of desired average yearling weights.

Health management

Treatment protocol. Have treatment protocols and products on hand for both scours and pneumonia in suckling calves.

Midwest Region

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

Understanding feed ingredients

When purchasing feed, each producer selects a supplement differently; yet, when surveying producers the most common reason given for selecting a feed will nearly always be “price.” While price is the most common response, the reality is feed choices are often based on a number of different factors.

Dealer location and availability is a common feed selection factor because some producers prefer to support a local feed supplier regardless of cost. The ability to store and deliver a supplemental feed will also influence feed choice. However, in many cases, storage and delivery are linked to delivery volume. Energy-deficient cows may require 5 lb. of supplement, while protein deficiencies can be addressed with 1 lb. to 3

lb. of supplement. There are a variety of feed delivery methods available to suit each nutritional need and delivery preference, including blocks, tubs, lick tanks, buckets, cube feeders and vertical mixers, just to name a few.

Ironically, how the cattle perform ranks below price, purchase location, storage facilities and delivery method. In the end, if the feed cannot be purchased, handled, stored or delivered to the cattle, their performance will suffer regardless of ingredient or its cost. The feed-handling logistics can be addressed if the ingredient improves cost of gain or enhances performance. Understanding the nutritional components of a supplement will improve ingredient selection relative to the animal's requirements.

The first supplement component to consider is water or, inversely, dry-matter content. When purchasing supplements, the nutrients and price should be determined on a DM basis. If DM adjustments are not made when evaluating supplement choices, uniform comparisons cannot be made. To compare price per unit of DM, divide the price by the %DM. For example, wet distillers' grains (35% DM) costing \$38 per ton wet at the plant cost \$108.57 per ton on a DM basis. Adjusting price for moisture puts all supplements on an even comparison basis.

The first nutrient most producers supplement is protein, shown on a feed tag as crude protein or CP%. Crude protein is simply the amount of nitrogen times 6.25. The microbes in the rumen convert feed and forage nitrogen to microbial protein. When cows are consuming poor-quality forage, nitrogen is typically limiting microbial growth, forage intake and, ultimately, cow performance. Forage with less than 7% CP is poor-quality and will require protein supplementation to allow for optimum microbial growth.

Feed energy is not listed on the feed tag, nor is it part of a guaranteed analysis. True feed-energy estimates are only determined by animal feeding. To estimate feed energy, fiber components are determined because as forages mature, fiber content increases and available energy declines. Cows can use body-condition reserves to substitute energy during high energy-demand periods or when inadequate energy is supplied from forages.

Protein and energy are the two major nutrients found in feeds; both are required in pounds compared to minerals and vitamins, which are required in grams. Supplements high in phosphorus can replace the need for phosphorus mineral supplements. For example, 3 lb. of distillers' grains provide about the same amount of phosphorus as ¼ lb. of a 10% phosphorus mineral. In this

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case, an energy and protein supplement can eliminate the need for a more expensive phosphorus-based mineral.

Vitamins A, D and E are the vitamins of greatest need during the winter feeding period. During winter, forages are dormant, and sunlight is minimal, so providing trace mineral salt with vitamins A, D and E is essential to meeting requirements. During the summer, vitamins A and E are found in green growing forage, and vitamin D is in excess due to long day length and vitamin D synthesis in the skin. Salt is a common mineral deficiency in cattle as salt or sodium is minimal in forages and feedstuffs. Cows need about 1-1.2 oz. of salt daily. If cows are deficient in salt or mineral, begin by feeding salt only so cows get caught up before feeding more expensive mineral supplements.

Combine these nutrients together to design a supplement to support desired cow and/or calf growth. When developing a supplemental program, start with a forage test to determine forage quality limitations. With a strong cattle market and declining feed prices, taking the time to develop a diet designed to address deficiencies should be worthwhile.

Mid-South Atlantic Region

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

January typically means that winter feeding has become part of the daily farm chores. Pick one of the month's milder days and think ahead to the warmer and greener days of spring. Winter soil sampling allows plans to be formulated for addressing identified nutrient needs in pastures and hay fields. Likewise, it is time to make plans for frost-seeding clover in February. The addition of clover to pastures is an economical management practice that easily pays its way.

Clover addition to tall-fescue pastures results in improved diet quality and dilution of the toxins associated with endophyte-infested fescue. Clover is also valued for its nitrogen-fixing abilities. During the past decade of high fertilizer costs, the financial benefit of this low-cost method of adding nitrogen to pastures has increased at the same pace as nitrogen. Be sure to check with your local extension office for variety and planting tips.

Spring-calving herds (January-March) General

- ▶ Prepare for calving season by checking inventory and securing necessary supplies

(ob equipment, tube feeder, colostrum supplement, ear tags, animal health products, calving book, etc.). Review calving assistance procedures.

- ▶ Move pregnant heifers and early-calving cows to calving area about two weeks before due date.
- ▶ Check cows frequently during calving season. The 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 paddock (reduce commingling of newborn calves with older calves).
- ▶ Identify calves promptly at birth. Record birth weight, calving ease score, teat/udder score, and mothering ability of cow.

Nutrition and forages

- ▶ Evaluate the body condition of cows that you identified as thin and gauge if nutrition management changes are having an impact.
- ▶ As fetus size and fetal growth rate increase, cow nutrition requirements increase proportionately. If low- to average-quality hay is being fed, supplementation may be warranted.
- ▶ Continue strip-grazing accumulated fescue growth as needed.

- ▶ Continue to manage first-calf heifers separately; give them the best forage. Thin, mature cows could be added to this group.
- ▶ Feed lower-quality hay to dry cows, saving the best hay for calving season.
- ▶ Continue to feed high-selenium trace-mineral salt. A forage/hay analysis can reveal what other minerals should be supplemented.
- ▶ Postcalving, nutrient requirements will increase; be prepared to supplement forages based on their nutrient content.
- ▶ Be mindful that harsh environmental conditions (cold, wind, ice, mud) will increase nutrient needs.

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 and pneumonia; have treatment supplies on hand.

Genetics

- ▶ Make plans for spring bull-buying season.

Evaluate current herd bulls for progeny performance and soundness. Establish herd genetic goals, and selection criteria for AI sires and new herd bulls.

- ▶ Schedule ultrasound technician, and collect yearling performance data (weight, height, scrotal, ultrasound) in seedstock herds.

Fall-calving herds (September-November)

General

- ▶ Calving records should be complete and up to date.
- ▶ Monitor calves for scours.
- ▶ Continue breeding season.

Nutrition and forages

- ▶ As the breeding season continues, remember that maintaining or gaining weight has a major impact on pregnancy rate. As available forage becomes scarcer and of lower quality, be prepared to supplement as needed.
- ▶ Offer high-magnesium mineral. Generally, fall-calving cows are not as predisposed to grass tetany. As cows transition from grazing to hay or silage, hi-magnesium minerals can be discontinued.
- ▶ Use strip-grazing as a tool to increase the efficiency of utilization of cool-season pastures by cows postcalving.

- ▶ Be mindful that harsh environmental conditions (cold, wind, ice, mud) will increase nutrient needs of all cattle.

Herd health

- ▶ Monitor calves closely for health issues, particularly scours and respiratory disease.
- ▶ Consult with veterinarian concerning vaccination protocol for calf crop.
- ▶ Evaluate lice-control program and consult your veterinarian for recommendations.

Reproduction

- ▶ Remove bulls from replacement heifers after 45-day breeding season.
- ▶ Make plans to pregnancy-check heifers as soon as possible after bull removal. This will allow options in marketing open heifers.
- ▶ Manage bulls properly during the breeding season. Observe frequently to confirm breeding activity and soundness, and monitor cows for repeat estrus. Avoid commingling mature and young bulls, as older bulls will be dominant. As a rule of thumb, yearling bulls should be exposed to number of cows equal to their age in months (i.e., 18-month-old bull with 18 cows).

Genetics

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

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performance and soundness. Establish herd genetic goals and selection criteria for AI sires and new herd bulls.

Southern Great Plains

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

Spring-calving herds

Years of research show that reproductive success is highly dependent on the plane of nutrition during the critical third trimester of pregnancy. Due to rapid fetal growth, energy and protein requirements are approximately 25% greater during late gestation compared to mid-gestation. The nutrition program should be adjusted accordingly. A 1,200-lb. Angus cow in good body condition requires a minimum of about 13 lb. of TDN and 2 lb. of protein per day during late gestation.

Consequently, hay or other forages should contain a minimum of 54% TDN and 8% protein to meet requirements for maintenance prior to calving. If the forage does not meet these standards, then a complementary supplementation program should be employed.

Prepare calving facilities and equipment.

Purchase and organize calving supplies such as tags, navel dip, tattoo equipment and ink, calf scales, etc.

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.

Check first-calf heifers several times daily for possible calving difficulties. Feed during evening hours to encourage daytime calving.

Fall-calving herds

Removal of bulls toward the end of January or early February is necessary to maintain a controlled breeding season of 60-70 days. If a creep-feeding program is desired, consider limit-feeding a high-protein (30%-40%) supplement as recommended in the Oklahoma Silver program. In this program, intake of protein supplement is limited by including 10%-12% salt in the creep feed and adjusting as necessary to target consumption of around 1 lb.-2 lb. per head per day. When available, small-grain winter pasture is an excellent creep-grazing resource for fall-born calves. A mineral supplement with elevated concentrations of calcium and magnesium should be provided to lactating cows grazing small-grain forage.

General recommendations

Distribute hay feeding as much as possible to minimize perennial grass stand damage and to evenly distribute nutrients from manure and wasted hay. Test soil to determine phosphorus, potassium and lime needs for spring legumes, such as lespedeza, sweet clover, red clover and white clover. Plan the financial management program for the year, including cash flow, deadlines for payment of interest and quarterly tax payments.

