



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

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.
- 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 around 60 to 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

- As of Thanksgiving 2012, 99% of

Oklahoma's and 49% of Texas' land areas were classified as in severe to exceptional drought by USDA. This compares to 85% and 96% for Oklahoma and Texas in 2011 around Thanksgiving time. Currently, water availability is as much of an issue as forage availability is for many producers.

Since 1900, Oklahoma and Texas have endured six drought periods, each lasting about 10 years. The last of these long-term droughts ended in the early 1980s. Consequently, our younger generation of agricultural producers has never experienced long-term drought. The current drought began in fall 2010. While not a lot of fun to consider, historical patterns suggest the possibility of another 8 (+/-) years of drought. This necessitates a radical change in management for many beef cattle producers in South-Central states.

Forage management is increasingly important in drought. A conservative approach would be to manage and plan as if 2011 and 2012 were the norm, rather than the exception.

- 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.

Southeastern Region

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Hay supplementation strategies for small producers

As we move into January, many are in the middle of their winter feeding program. Some may be questioning the economics of their current hay supplementation strategy. Recently, I was asked the question, "You write good material on feeding byproducts to cattle, but what should the small producers do who can't buy these feeds?" This was a good question and was aimed at looking at liquid, block and cube supplements.

Table 1: Influence of inadequate dietary nutrient intake on reproduction in beef cattle

Nutrient consumption	Reproductive consequence
Inadequate energy intake	Delayed puberty, suppressed estrus and ovulation, suppressed libido and sperm production
Inadequate protein intake	Suppressed estrus, low conception, fetal resorption, premature birth, weak newborns
Vitamin A deficiency	Impaired sperm production, anestrus, low conception, abortion, weak newborns, retained placenta
Phosphorus deficiency	Anestrus, irregular estrus
Selenium deficiency	Retained placenta
Copper deficiency	Depressed reproduction, impaired immune system, impaired ovarian function
Zinc deficiency	Reduced sperm production

Source: Bearden and Fuquay, 1992.

Therefore, it would be interesting to look at different strategies for small-scale producers looking to supplement hay during the winter.

As discussed in a previous article, the first step is to test hay to determine the nutrients available to start with. Also, look at the requirements of the cow to see what, if any, nutrients are deficient. Finally, the most economical supplement should be chosen based on price per pound of nutrient needed.

Now a strategy needs to be evaluated that will work for an operation with limited capabilities due to small herd size.

Cooperative commodity feeding.

Many producers do not have the facilities or machinery to handle large amounts of commodity or byproduct feeds. A possible solution is to form a cooperative agreement with others in the area. Bulk feeds can be purchased and divided (the weight capacity of a front-end loader is not hard to calibrate).

Liquid or dry protein supplements.

There are three major advantages to liquid, block or tub-based protein supplements: convenience, reduced labor and increased forage intake. These products are fed in addition to low-quality hay to increase forage intake. They can be an excellent source of protein when a small amount is needed to bridge the gap with marginal hays, especially with dry cows. However, like with any other feed, they need to be analyzed to ensure they are meeting the nutritional needs of the animals in a cost-effective manner. Another positive for many of these is the addition of essential vitamins and macro- and trace minerals.

Whole cottonseed. This is an excellent source of protein and energy, but has been priced out of usefulness in recent years. Current prices have cottonseed back as a competitive choice in areas where it is available.

Another major consideration is weighing the consequences of not meeting

the nutrient requirements of your herd, especially during breeding season. Table 1 outlines some of the consequences of a deficient feed program.

The common production system in the South is calving in winter/spring. Therefore, most producers are calving and breeding through the winter while feeding hay and a supplement. What often is perceived as cattle doing well, eating plenty of hay and eating a little supplement, may actually turn into several open cows when pregnancy-checked in late summer. Just because the cows are eating plenty of hay does not mean they are receiving enough nutrients.

The truth is, it may be more of an art than a science when it comes to developing a strategy. The best indicator is cow condition and conception rates each year. When evaluating the conception rate of your herd this summer, if conception rates are low, think back to your winter feeding program before you blame your bull. No matter the size of your operation, always start by understanding the available nutrients in your forages, and then develop your supplementation strategy around maintaining production in an economically feasible manner.

Midwest Region

by **Twig Marston**, University of Nebraska, tmarston2@unl.edu

Cow herd management

- ▶ Historically, cull cow prices will increase during the next two or three months. Feeding cull cows can be an efficient and profitable management decision.
- ▶ Continue feeding or grazing programs started in early winter. Weather conditions may require wrapping up grain sorghum and cornstalk grazing. Severe winter weather may begin to limit utilization of crop residues, so be prepared to move to other grazing and feeding systems.

- ▶ Research indicates winter protein supplementation has a positive fetal programming effect on subsequent offspring growth, reproduction and carcass traits.
- ▶ Supplement to achieve ideal BCS at calving.
- ▶ Control lice; external parasites could increase feed costs.
- ▶ Provide an adequate water supply. Depending on body size and stage of production, cattle need 5-11 gal. of water per head per day, especially in cold weather.
- ▶ Sort cows into management groups. BCS and age can be used as sorting criteria. If you must mix age groups, put thin and young cows together to feed separately from the mature, properly conditioned cows.
- ▶ Use information from forage testing to divide forage supplies into quality lots. Higher-quality feedstuffs should be utilized for replacement females, younger cows and thin cows that may lack condition and that may be more nutritionally stressed.
- ▶ Continue mineral supplementation. Vitamin A should be supplemented if cows are not grazing green forage.
- ▶ Plan to attend local, state and regional educational and industry meetings. Be active in your industry.
- ▶ Develop replacement heifers properly. Weigh them now to calculate necessary ADG to achieve target breeding weights. Target the heifers to weigh about 50%-65% of their mature weight by the start of the breeding season. Thin, lightweight heifers may need extra feed for 60-80 days to "flush" before breeding.
- ▶ Bull calves to be fed out and sold in the spring as yearlings should be well onto feed. Ultrasound measurements should be taken around one year of age and provided to your breed association.
- ▶ Provide some protection, such as a windbreak, during severe winter weather to reduce energy requirements. The LCT is the temperature at which a cow requires additional energy to simply maintain her current body weight and condition. The LCT for cattle varies with hair coat and body condition. Increase the amount of dietary energy 1% for each degree (including wind chill) below the LCT.

Western Region

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Fall-calving herds

The main focus is getting cows bred.

Heat detection and AI breeding.

Accuracy with heat detection and taking the

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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.

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.

