



Angus Advisor

► APRIL 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

Plan to implement estrus-synchronization systems for heifers and cows. Some systems require initial management steps as early as 31 days in advance of the targeted initial breeding date. Purchase AI supplies, acquire semen, and check facilities and equipment. Don’t forget to find and test the thawing bath before the first cow walks into the chute for breeding. An excellent resource for this planning process is the Estrus Synchronization Planner at www.iowabeefcenter.org/estrus_synch.html.

Consult your veterinarian about vaccinating cows a minimum of 30 days prior to breeding and prepare for spring turnout or branding vaccinations, calthood implants and other herd health tasks related to the new calf crop.

Conduct breeding soundness exams for all herd sires.

Fall-calving herds

Consult your veterinarian to plan the vaccination program for fall-born calves and to purchase the necessary supplies. An ideal situation is to vaccinate two to six weeks prior to weaning and again at weaning. Implant any steer calves and heifers not intended to be kept as replacements. Remember that implants cost around \$1.25-\$2 and return \$15-\$30 of additional sale weight.

Determine your preferred timing for weaning and prepare facilities. Inventory veterinary and feed/supplement supplies for the weaning program.

General recommendations

1. As of late February, much of the Southern Great Plains region is once again in the “abnormally dry” to “severe drought” condition categories (yes, just like last year), according to the U.S. Drought Monitor. Pasture forage and hay production may be limited once again this summer depending on when or if it rains this spring. Much of the forage produced during the growing season is determined by early spring soil moisture conditions. In other words, mid- to late-spring rains will help, but generally do not completely offset early-season deficits. Split fertilizer applications are a very good

management tool if forage growth is limited by lack of moisture. If it rains more later in the spring and summer, you can always fertilize more.

2. Introduced warm-season forages, such as Bermuda grass and Old World bluestem, should be fertilized in late April through mid-May. Approximately 50 lb. of nitrogen (N) is required to produce about 1 ton of forage. Efficiency of nitrogen use is improved with multiple applications (generally two or three).

3. High-magnesium mineral supplements should be provided for cattle grazing cool-season forages through the month of April.

4. A moderate- to low-phosphorus (P) mineral supplement (10% phosphorus or less) is recommended for most classes of cattle and forage types during the lush spring growing season.

5. Plan a fly- and tick-control program. Check spraying equipment, dust bags and oilers, and purchase needed chemicals or tags for fly and tick control. New-generation ear tags are highly effective if they are not applied until the 200-flies-per-animal threshold has been reached. Check with your veterinarian to determine what tags are working well in your area. Feed-through insect growth regulator (IGR) products are highly effective in reducing the horn fly population. These products can and should be incorporated into mineral supplements early in the spring.

6. Establish new stands of lovegrass in April and May. Spray weeds in Bermuda grass pastures in late April or May. Be sure to read the herbicide label for the most effective rate and timing of application.

Midwest Region

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

Selecting Mineral Supplements for the Cow Herd

Mineral nutrition is an often discussed topic among producers and feed suppliers with the discussion ranging from mineral source and level to any number of additives designed to prevent and/or cure disease. Mineral requirements vary with production stage of the cow, while mineral supply is dependent on forage source and supplemental feeds. Because mineral supplements are the one feed typically offered every day, producers should have a goal in mind when developing a mineral program.

This article will provide basic information on required macrominerals.

A fundamental goal for any operation's mineral program is to offer the mineral source on a regular basis. The most common mineral problem observed is not selection of the wrong mineral, but an acceptable mineral offered too infrequently. Set a goal of making sure mineral is available every day to minimize intake variation and ensure timid and young cows are not pushed away from a mineral feeder when mineral is offered. If mineral has not been consistently offered, begin by offering plain white salt to cows to prevent overconsumption of trace minerals in an effort to consume salt.

The most common mineral deficiency in cattle consuming forage is sodium. To address this requirement, mineral supplements contain salt. A cow needs 1-1.2 oz. of salt daily to meet her sodium requirements. In a mineral with a daily intake recommendation of 4 oz. per cow, 25% salt should meet her requirement.

Salt serves as a good example to illustrate the relationship between mineral intake and concentration. If mineral intake exceeds 4 oz. per head, then the salt level or percent in mineral can be lower; alternatively, if the mineral is labeled for 2 oz. of intake, then salt percent will need to be greater to meet sodium requirements. If the mineral you are considering has a lower labeled intake, the mineral concentrations should increase relative to a mineral with a greater labeled intake.

After salt the most common mineral deficiency is phosphorus. Phosphorus is one of the more expensive nutrients in a mineral supplement, so matching the mineral level to phosphorus requirement and supply is beneficial. Poor-quality and dormant forages generally require phosphorus supplementation. When feeding a 4-oz. mineral supplement, a 6%-8% phosphorus mineral should provide adequate phosphorus.

When considering mineral supplements, remember minerals are present in many feeds. Distillers' grains provide a good example where 3 lb. of supplemental distillers' grains provides as much phosphorus as 4 oz. of a 10% phosphorus mineral. Supplemental feed is typically offered when forage quality is low to meet protein and energy needs, and, as a result, may provide for mineral deficiencies.

Calcium is the macromineral considered in combination with phosphorus. In forage-fed cows, a 4-oz. mineral with 12% calcium should meet requirements. If producers are feeding a legume hay such as alfalfa, a cow's calcium requirements can be met by the

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forage. When protein supplementation is provided by high-phosphorus feeds such as distillers' grains or corn gluten feed, calcium supplementation should be increased to maintain a calcium-to-phosphorus ratio of 2:1.

Sulfur is required by rumen microbes to synthesize sulfur-containing amino acids; however, sulfur is rarely limiting in beef cow diets. Sulfur is more likely in excess when cows are supplemented with high levels of corn coproducts such as corn distillers' solubles, distillers' grains or corn gluten feed. Excess sulfur can also come from water sources where well water contains excessive sulfur. Sulfur is an example where dietary mineral intake should consider feed, forage and water.

Potassium is a required macromineral, but is typically only deficient in weathered forages such as stockpiled fescue or rained-on hay. To meet potassium deficiency, offer a 4-oz. mineral with 0.5% potassium. Alternatively, feeding byproduct protein supplements will often meet potassium requirements. As spring green-up approaches, potassium supplementation offers an example of a common mineral interaction where an excess of one mineral increases the need for another.

Grass tetany is considered a magnesium deficiency, yet excessive potassium in spring forage prevents magnesium uptake, contributing to tetany. To prevent grass tetany, offer high-magnesium mineral supplements, 10% magnesium or greater with no potassium, 30 days before green-up to make sure cows are consuming adequate magnesium. Grass tetany demonstrates the variability in mineral requirements due to cow age or production level, as tetany commonly affects older cows unable to mobilize bone magnesium or heavy-milking cows with increased requirements. Grass tetany can be difficult to prevent because high-magnesium mineral intake is typically low due to the poor palatability of magnesium oxide.

This article is designed to serve as a guide to further discussions with feed suppliers or nutritionists. Next month I will discuss key microminerals and vitamins A, D and E. In the meantime, make sure the mineral feeders are full.

Western Region

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

Spring-calving herds

The main focus is to prepare for the breeding season.

Genetic management

Sire selection. Sire selection is one of the most important management decisions made each year in a purebred cattle operation. The challenging and difficult aspect concerning sire selection is predicting industry cycles and trends. What kind of cattle are going to be the most sought after in three to five years? Those who are able to forecast or predict these trends will always be in the driver's seat from a genetic standpoint.

In addition, I think it is most important that we use sires that are going to produce daughter progeny that we can build a herd around. Many times we use sires because we believe they will produce bull progeny that we can market from a phenotypic and genetic standpoint. That is fine; however, it is hard to justify the time and expense associated with AI if the daughter progeny are not the kind of females that will improve our cow herd.

Reproductive management

Semen. Get semen ordered early to avoid last-minute problems. Do not try to save money on semen — cheap semen is the most expensive item you will ever buy.

Synchronization protocol. If you are going to use estrus synchronization, now is the time to decide which protocol is going to work best in your production situation.

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Avoid programs that require excessive amounts of animal handling and trips through the chute prior to breeding. These programs are expensive from both a labor and product standpoint. In addition, animals are stressed each time that cows and calves are gathered and sorted for processing. (The Newsroom at www.appliedreprostrategies.com provides a wealth of information on the various protocols.)

Heat detection. Heat detection is often the most overlooked factor influencing the success of AI programs. Effective heat detection is achieved by developing the skills or ability to be able to recognize all the subtle signs of heat and being able to detect the females that never do exhibit standing estrus.

AI equipment. Have extra AI supplies on hand and thoroughly clean all breeding equipment (including the thaw thermos) prior to the start of the breeding period.

Semen and trichomoniasis test. Semen- and trich-test bulls far in advance of the breeding season. If problems arise, replacement bulls can be located prior to the time they are needed for turnout.

Nutritional management

Mineral supplementation. Be sure

females are receiving adequate levels of calcium, phosphorus and trace minerals that are deficient in your area. Mineral boluses or injectable products can be used in addition to loose or block mineral products. Consider products that include chelated minerals, especially during the breeding season.

Protein and energy supplementation.

Normally, by late spring forage resources are at their peak from both an energy and a protein standpoint. Therefore, usually supplemental feeding is not needed at this time of year.

Health management

Vaccinations. Make certain that females and service sires are vaccinated at least 30 days prior to the start of the breeding period. I recommend vaccinations that include fetal protection against PI-BVD.

General management

Late spring is a good time to start spraying fencelines and to be certain that irrigation lines and ditches are in good repair prior to the start of the irrigation season if your operation includes irrigated pasture or hay fields.

Fall-calving herds

Hopefully, cows and calves are on cruise control. If fall-calving cows and calves are

grazing native foothill rangeland, normally late spring is the time of the year that cattle require very little attention or management. Plans should be developed to administer preweaning vaccinations to bull and heifer calves two to three weeks prior to weaning.

Mid-South Atlantic Region

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

As calving comes to a close in the region, it is a reminder that breeding is just around the corner. Whether for the entire breeding season or for cleanup purposes, it is imperative bulls are able to settle cows. Nothing is more frustrating than spending the time and financial investment toward a promising herd sire, only to find out at a later date he was infertile or subfertile. Semen and/or physical problems can both be sources for reduced conception rates in a herd.

Past performance is a poor predictor of future performance when it comes to bull fertility. The current market value of calves only heightens the economic incentive of ensuring the bull's fertility through a breeding soundness exam (sometimes referred to as a BSE).

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In an effort to make BSE exams more economical, neighbors or county groups can facilitate bringing bulls to a central location for evaluation. This usually reduces the cost per bull because it is much more time efficient for the veterinarian performing the exams. Lastly, after your bull has passed a breeding soundness exam and is turned out with the cows, be sure to monitor his activity and libido during the breeding season.

Spring-calving herds (January-March)

General

- ▶ Calving season is winding down. Continue to observe late-calving cows frequently.
- ▶ Tag, tattoo, record birth weight, calving-ease score, teat/udder score and mothering ability of the dam. Keep accurate records at birth to comply with age- and source-verification requirements.
- ▶ Monitor young calves for scours. Keep calving area and paddocks with pairs clean and well-drained. Move pairs to new pastures or locations and reduce commingling of newborn calves with older calves to help reduce exposure and transfer of scours.

Nutrition and forages

- ▶ Continue to offer a high-magnesium mineral to prevent grass tetany. Monitor intake to ensure cows are consuming the recommended amount. No other source of salt or minerals should be available.
- ▶ Evaluate growth of yearling heifers with the goal of reaching 60%-65% of mature weight by breeding. Depending on forage quality, supplementation may be needed to meet weight gain target.
- ▶ Offer medium-quality hay as cows are turned out on pasture and use hay disappearance as a barometer of dry-matter needs of the herd.
- ▶ New forage growth is very digestible, high in protein and high in moisture content.

Herd health

- ▶ Consult with your veterinarian concerning a prebreeding vaccination schedule for the cow herd, yearling heifers and bulls. Plan early to allow a 30-day vaccination window prior to breeding season.
- ▶ Monitor calf health closely, particularly for signs of scours and pneumonia. Have treatment supplies on hand.
- ▶ Observe newborn calves to ensure colostrum intake in the first few hours of life. Provide selenium and vitamins A and D injections to newborn calves. Castrate commercial calves at birth.

Reproduction

- ▶ Finalize plans and protocols for breeding season. Establish a calendar to map the timing of the synchronization program to be used during breeding season. Have supplies and semen on hand.
- ▶ Breed heifers 2-4 weeks ahead of mature cows to allow for a longer postpartum interval prior to the second breeding season.
- ▶ Schedule and conduct breeding soundness

exams (sometimes referred to as BSEs) on herd sires, including annual vaccinations.

- ▶ Manage newly acquired herd sires properly to prepare them for the breeding season. Yearling bulls often lose 100 lb. or more during their first breeding season. Adjust them to the feed and environment of their new home, and commingle bulls of same age/weight for a period of time prior to turnout. Ample exercise, in combination with a proper nutritional program, is essential to make them physically fit for the breeding season.

Genetics

- ▶ Finalize genetic goals and selection criteria for the upcoming breeding season (both AI and natural-service sires).
- ▶ Collect remaining yearling performance data (weight, height, scrotal, ultrasound) in seedstock herds.

Fall-calving herds (September-November)

General

- ▶ Schedule and conduct pregnancy diagnosis with veterinarian 45-60 days following breeding season.
- ▶ Evaluate potential options for marketing of the calf crop, including timing of weaning to meet operational goals. Calculate breakevens on various marketing options and consider risk-management strategies.
- ▶ Reimplant commercial calves.

Nutrition and forages

- ▶ Begin creep-feeding or creep-grazing of calves if desired.
- ▶ Cows are entering the latter portion of lactation; above-average to good-quality hay should meet nutritional requirements.
- ▶ Although pasture green-up is beginning, hay should continue to be offered until consumption declines significantly.
- ▶ Reserve high-quality hay and a pasture area for calves postweaning.

Herd health

- ▶ Consult with a veterinarian on a vaccination protocol for the calf crop. Design your vaccination and weaning program around your marketing goals and objectives.

Genetics

- ▶ Collect weaning weights on calf crop at optimum time (AHIR® age range 120-280 days), along with cow weights, hip heights and body condition scores (cow mature size data taken within 45 days of calf weaning measure).