



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.

Reproductive management

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 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. Injectable mineral products are also an excellent option, as well.

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. Be sure to booster the respiratory complex vaccinations if that is required for the products that you are using. 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. Our target levels of performance here at the university when developing bulls and heifers from weaning to yearling is 3 lb.-3.5 lb. per day for bulls and 1 lb.-1.5 lb. per day for heifers.

Health management

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

Midwest Region

by **Patrick Gunn**, Iowa State University, pgunn@iastate.edu

New management practices for the New Year

I hope everyone experienced a great holiday season filled with family and fun. As 2017 gets started off with a bang, I have taken a moment to highlight a few best

management practices that I believe every producer should be implementing this year.

1. Ration balancing. It is safe to say margins are a bit tighter rolling into 2017, thus optimizing each dollar spent on nutrition is paramount to success. Unfortunately, many producers do not balance rations and rather supplement using the tried and true “guess-and-check” method, likely leaving money or production on the table somewhere. A little time spent with a nutritionist can save a lot of money when it comes to developing least-cost rations and supplements. Or, if you are more of a DIY-sort-of-person, might I suggest investing in the BRaNDS ration balancing program developed at Iowa State University and available at www.iowabeefcenter.org/brands.html.

2. Udder scoring. You cannot improve what you do not measure. Last year I discussed hoof/foot scoring. If you're not udder scoring currently, add a new column to the calving book. Udder scoring, although a common practice 20-30 years ago, somehow worked its way out of many herd's SOPs (standard operating procedures) through the years. Presumably, identifying cows with poor udders at calving gives producers extra data by which well-planned culling decisions can be made for the mature cow herd. Often overlooked, however, is that udder and teat qualities are heritable. Heifers born to dams with poor-quality udders should be eliminated from consideration for the replacement pen. However, if not recorded, odds are that a poor udder will be forgotten by the time you pick replacements (<http://beefimprovement.org/library-2/bif-guidelines>).

3. Nighttime feeding for daytime calving. Just because we all gained some weight from the holiday feasts does not mean those calories have to be burned calving cows all night. Although the physiology is still not well understood, multiple studies have shown that feeding cows in the evening leads to a significantly greater proportion of cows that calve during the day. Most studies have evaluated feeding cows either at dusk or 9 p.m., and in most cases the result has been approximately 80% cows calving between 6 a.m. and 6 p.m. Perhaps the best thing about nighttime feeding is that it takes almost no advanced planning to see results. Existing data indicate that cattle on a nighttime feeding regimen for as little as a week before calving have similar calving patterns as those fed in the evening for multiple weeks.

Because many operations do not feed a TMR to the cow herd, but rather supplement grain to a round bale-based diet, there can be logistical challenges. However, many

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producers have experienced success by restricting access to hay during the day and turning cows in to bale feeders from dusk to dawn. Limited access should not cause problems with total daily intake if forage quality is adequate. Research conducted at Purdue University suggests that cows can consume all of the dry forage they are going to eat in 6 hours per day.

As always, consult with the team of experts you have assembled, including your nutritionist, genetics provider, beef extension specialist and herd health veterinarian.

Mid-South Atlantic Region

by **Kevin Shaffer**, West Virginia University, Kevin.Shaffer@mail.wvu.edu

The strength of the Angus breed is the Angus cow; however, more and more Angus breeders are emphasizing terminal traits in their breeding programs. This is evidenced by the continual trend of increasing growth and carcass EPDs in the Angus sire summary. With the recent publication by the American Angus Association of the number of progeny records for each reported trait, it has become possible to make some inferences about why some bulls are more successful at generating replacement females than others.

Data were utilized on bulls listed in the top 25 for progeny registrations for fiscal years 2013, 2014 and 2015. Additionally, bulls believed to be universally accepted as “maternal” were added to the database as positive controls. These bulls included N-Bar

Emulation EXT, DHD Traveler 6807, Leachman Right Time, N-Bar Prime Time D806, Bon-View New Design 878, BT Right Time 24J and HA Image Maker 0415. All bulls utilized in the analysis had daughters in production and at least 2,500, 2,500 and 500 progeny records for BW, WW and YW, respectively. Daughter retention rates were estimated via two methods:

1. Weaned Daughters = No. MkD ÷ (No. WW Progeny ÷ 2)
2. Yearling Daughters = No. MkD ÷ (No. YW Progeny – No. SC Progeny)

Although each method yielded different numerical results, both methods yielded similar results in terms of sire rankings with the same bulls ranked in either the top or bottom half of the population regardless of method. Bulls were then classified for each method by being > 0.5 SD above the mean (> 56.5% daughters retained), ± 0.5 SD around the mean (27.3%-56.5% daughters retained), or < 0.5 SD below the mean (< 27.3% daughters retained) utilizing method 2.

Because the EPD basis changes over time, it was necessary to adjust for age by using it as a covariate in the model; however, there was a significant interaction between retention classification and age for traits where the model was significant. Therefore, it was necessary to adjust the resulting EPD means for each classification according to age. As a result, the reported means for each trait are estimated within the model by adjusting all bulls to the designated age (see Table 1).

Of the 19 EPDs reported by Angus, only

two were significantly different statistically based on daughter retention classification. Bulls that had less than 25% of their heifer calves make cows over time possessed 45% and 33% greater WW and YW EPDs, respectively, than bulls that had > 25% of their heifer calves calve at least once. Means for WW and YW EPDs, as well as the breed average over the range of sire ages utilized, are presented (see Table 2).

So what does this mean? I believe this indicates that we have maximized the growth rate our environment can sustain. Because these females have the growth potential and subsequent maintenance requirements beyond the capacity of the natural environment, they fail reproductively at a significantly higher rate. Furthermore, it indicates a flawed prioritization of traits in selection by genetic services companies that own or lease these sires, as well as the difficulty in selecting for fertility in young 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 12.9 lb. of TDN and 1.9 lb. of protein per day during late gestation. Given similar body condition and stage of production, a 1,500-lb. Angus cow requires approximately 15.3 lb. of TDN and 2.2 lb. of protein to maintain her body condition and fetal growth.

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

Table 1: WW EPD by age and daughter retention class

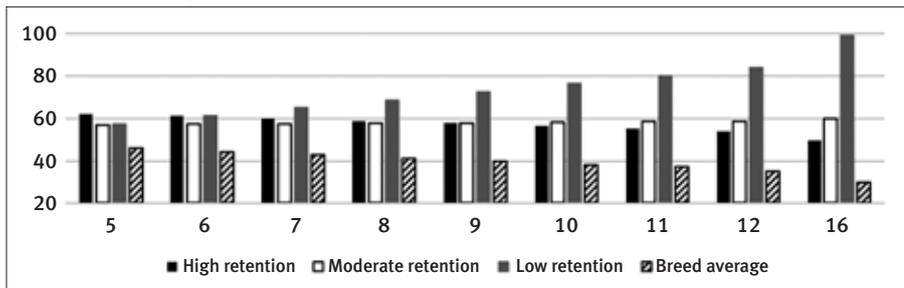
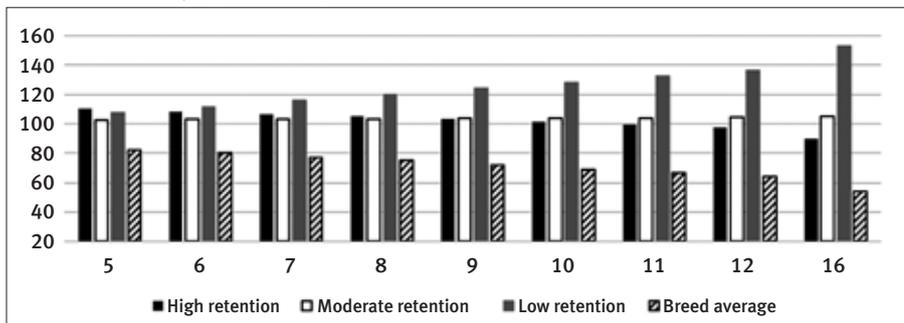


Table 2: YW EPD by age and daughter retention class



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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. Completely remove and discard plastic "net wrap" and plastic twine from hay prior to being fed. 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.

