



# Angus Advisor

► NOVEMBER 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 <sub>3</sub>	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](mailto:randyp@csufresno.edu)

### Fall-calving herds

The main focus is to prepare for the breeding season.

### Genetic management

**Sire selection.** Devote adequate time to sire selection because, from a long-term standpoint, it is the most important management decision that is made each year in a purebred cattle operation.

### Reproductive management

**Semen.** Get semen ordered early to avoid any last-minute problems.

**Synchronization protocol.** Evaluate available synchronization protocols and determine the best choice in your production situation.

**Heat detection.** Heat detection is often the most overlooked factor influencing the success of AI or ET programs.

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

**Semen and trichomoniasis tests.** Semen- and trich-test bulls far enough in advance of the breeding season. Therefore, if problems arise, replacement bulls can be located prior to the time they are needed for natural service.

### Nutritional management

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

**Protein supplementation.** If cows are grazing dry native forage, fall is the time of year when protein supplementation is most important. Price supplements on a cost per unit of protein.

**Energy balance.** Energy balance is the relationship between the amount of energy that is consumed vs. the amount that is used for various physiological functions such as maintenance, lactation and reproduction. It has a major effect on fertility and thus it is critical that cows be in a state of positive energy balance, or gaining weight, during the breeding season.

### Health management

**Vaccinations.** Make certain females are vaccinated at least 30 days prior to the start of the breeding period.

**Treatment protocol.** Have treatment protocols on hand for scours and pneumonia in suckling calves. It is well advised to have first- and second-treatment options for both conditions.

### Spring-calving herds

The main focus is to keep weaned calves healthy. Cows are on cruise control.

### Reproductive management

**Pregnancy check.** Cows should be pregnancy checked if not already done. Avoid holding over open cows even if they have been excellent producers, as typically the problem will recur.

### Nutritional management

**Mineral and protein supplementation.** The comments concerning mineral and protein supplementation for fall-calving cows also apply to spring-calving cows at this time of the year.

**Body condition.** Monitor the level of body condition of cows. The period from weaning until 50 days prior to the next calving is the least important from a nutritional standpoint. Therefore, if cows slip in terms of body condition, that is fine provided that body condition is redeposited before the start of the next calving period.

**Heifer and bull development.** The developmental period from weaning until yearling time and beyond to the start of the breeding period is critical in terms of influencing the future productivity of both bulls and heifers.

### Health management

**Weaned calves.** Weaned calves should be treated to control any internal or external parasites. Heifer calves should be Bang's-vaccinated if you have not already done so, and both bulls and heifers should be PI-BVD-tested if that is part of your animal health management program.

**Pregnant cows.** If late-term abortions have been a problem in the past, consider booster vaccinations for the respiratory diseases and leptospirosis at preg-check.

# Midwest Region

by **Patrick Gunn**, Iowa State University,  
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## Top 5 underutilized cow-calf practices

For those of you who follow my column or have attended one of my extension presentations, you know I often talk about management practices that have a great return on investment (ROI). Unfortunately, in many operations for which I troubleshoot, there are a host of basic management practices that are easily implemented, relatively cheap and grossly underutilized. So, here are my top five underutilized, great ROI, basic management practices that producers need to consider.

### 1. Feed & water analysis

I realize I just wrote this same exact thing a month ago, but I cannot stress it enough (because apparently it does not sink in with all producers). Forage sampling and nutrient analysis is easily No. 1 on my list. It probably goes without stating that weather, maturity, harvest and storage methods all have a dramatic impact on forage quality. However, without a forage analysis, any supplementation strategy that is implemented is purely a guess and rarely mimics the true needs of the herd. Overfeeding is an obvious waste of money, while underfeeding is a waste of production and genetic potential.

Along those same lines, an analysis of new-to-you water sources is also imperative, cheap and frequently overlooked. Not only does water quality and cleanliness need to be verified, knowing what trace minerals exist can help identify potential antagonisms and determine a plan of action for proper mineral supplementation.

### 2. Estrous synchronization and AI

It is staggering that the U.S. beef industry still only implements AI in about 10% of the females. As many of you who read this column are purebred seedstock producers, I realize you see value in genetic gains that can be realized through the use of AI. However, don't overlook the financial gains that can be realized by coupling this with estrus synchronization.

If nutrition is not a limiting factor, progesterone-based synchronization protocols can jump-start later-calving and non-cycling females. This in turn helps keep the calving season front-loaded, with fewer tail-end cows that quickly work their way out of the herd. Particularly in a commercial setting, old cows that are fully depreciated pay a lot of bills. Estrus synchronization can help keep them around a while longer.

**3. Pregnancy detection**

Similar to synchronization and AI, pregnancy detection is grossly underutilized in the United States. Although a new survey should be conducted in the next year, the latest

estimates from USDA in 2007 indicate less than 20% of all herds in the United States assess pregnancy via palpation or ultrasound. In our central region, this number is still less than 30%. More than 40% of large herds with more than 200 head fail to conduct a pregnancy exam. In most instances, the reason stated for not doing this is labor and cost. However, the real cost is

not identifying open cows and feeding them through the winter. In most herds it doesn't take but one or two open cows' feed savings to pay for the whole vet bill.

**4. Reproductive tract score and pelvic exams**

It seems fewer and fewer producers implement a prebreeding exam on heifers that includes a reproductive tract score (RTS) and pelvic exam. Using an RTS can help identify reproductive problem heifers or females that have not optimized their development environment. Getting such females out of the breeding pen before they waste grazing resources and monopolize bull power is always a plus.

While the vet is in there, conducting a pelvic exam can prevent a lot of headaches at calving. Even if exact measurements are not taken, experienced palpators can identify females with abnormally shaped, tilted and small pelvises. Take the opportunity to sell these females when they can still capture value in the feedlot, instead of as open first-calf heifers after a stressful calving session.

**5. Soil testing**

With ever-increasing land prices and pasture rental rates, maximizing productivity of that land is essential. Particularly as feed costs account for more than 50% of the variation in profitability amongst operations. Fertilizer costs are high enough already; why risk wasting nutrients by guessing on what may be needed? Soil sampling every three years allows for tailored fertilizing programs and increased grazing days.

As always, for more information on developing a best-management practices production calendar, consult with the team of experts you have assembled, including your beef extension specialist, herd health veterinarian and nutritionist.

**Southern Great Plains**

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

**Spring-calving herds**

**1. Wean calves as soon as possible.** Cow milk production is at its lowest point in the lactation curve, and forage quality rapidly declines through the fall months. As a result, adjusted weaning weights generally decline for calves that are weaned late in the season. Furthermore, under most circumstances, cows will continue to

**Mid-South Atlantic Region**

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

We are now in the heart of fall shipping season across the region, and it brings to mind a question I was asked recently: "Why don't you place greater emphasis on weight, particularly weight per day of age (WDA), in selecting bulls when commercial producers sell by the pound?" The following is my response.

Because there is a limit to the amount of milk production/weaning weight the natural environment can sustain, hard work and superior management are instrumental in generating heavier weaning weights and a greater weight per day of age; however, neither hard work nor management are heritable traits in cattle. From a seedstock perspective, the principal marketable product is DNA, not pounds, so the focus must be on identifying and selecting for heritable traits.

Weight per day of age can serve as a means to select for heritable growth performance within a herd; however, it has little value in comparing animals across herds or even contemporary groups because the vast majority of observed differences in WDA at a year can be attributed to preweaning differences. Look at the correlations between WDA at weaning and delivery to a central test station with off-test WDA and final ADG in Angus bulls participating in the Wardensville Bull Test in 2015 (see Table 1). There are significant, strong correlations between WDA at weaning and delivery with off-test WDA, but absolutely no relationship to growth performance on test when environment and management are the same. Therefore, WDA is primarily a function of preweaning environment/management, and is not a good indicator of genetic merit for growth performance across herds or contemporary groups.

**Table 1: Correlation between WDA at weaning and test station delivery to off-test WDA and ADG in non-creep-fed and creep-fed Angus bulls**

	Non-creep-fed (n = 103)				Creep-fed (n = 23)			
	Off-test WDA		ADG		Off-test WDA		ADG	
	R	P-Value	R	P-Value	R	P-Value	R	P-Value
WDA, weaning	0.60	<0.001	0.02	0.84	0.57	0.0049	0.13	0.55
WDA, delivery	0.81	<0.001	0.01	0.94	0.76	<0.0001	0.09	0.68
WDA, off test			0.45	<0.0001			0.38	0.07

Furthermore, when you break the bulls into high, middle and bottom thirds based on WDA at delivery, there is no statistical difference in total weight gain or ADG (Table 2), indicating that postweaning growth performance is equally variable regardless of WDA at delivery (i.e., lower WDA bulls at delivery did not consistently gain more or less than higher WDA bulls).

**Table 2: Difference in total weight gain and ADG between WDA classifications of Angus bulls at test station delivery**

Trait	Bottom 1/3	Middle 1/3	Top 1/3	SEM	P-Value
	n = 31	n = 44	n = 28		
WDA, delivery	2.61	2.89	3.19	0.02	<0.0001
WDA, off test	2.95	3.13	3.36	0.03	<0.0001
Total gain, lb.	313	318	319	7.99	0.81
Final ADG, lb./day	3.60	3.66	3.67	0.09	0.82

**Classifications are:** Bottom one-third = >0.5 SD below mean; Middle one-third = ± 0.5 SD around mean; Top one-third = >0.5 SD above mean.

It is a delicate and challenging task for seedstock producers to balance creating an appropriate and objective within-herd genetic evaluation program while achieving an acceptable and marketable level of animal performance; however, managing for maximum preweaning performance achieves neither task — identifying well-rounded superior genetics or producing a marketable product at an economic optimum.

lose condition until the energy demand for milk production is removed.

2. For cows grazing forage that contains less than 7% protein, begin supplementing the equivalent of about 0.4 lb. of protein per day. This is approximately equivalent to feeding 1 lb. of a 38% protein product or 2 lb. of a 20% protein product. This strategy will increase forage intake and digestibility, allowing the cattle to harvest 25%-50% more energy from the forage resource. Cows should gain one-half to one full BCS before the end of the year, assuming they have access to abundant forage.
3. Depending on forage quality, retained heifer calves will likely require supplementation to achieve gains of 1-1.5 lb. per day. The most appropriate and efficient supplementation program can only be designed with the nutritional characteristics of the forage resource in mind. For example, high-quality forage, such as wheat pasture, will not require protein or energy supplementation. In contrast, high-quality prairie hay will require protein and energy supplementation to achieve weight gain beyond 0.75 lb. per day.

### **Fall-calving herds**

1. Prepare for the breeding season by purchasing semen, checking, repairing and cleaning breeding equipment and facilities. An excellent resource for up-to-date information on various heat-synchronization schemes is available in the following fact sheet: ANSI-3166 "Synchronizing Heats in Beef Cows and Heifers." It can be accessed at <http://pods.dasnr.okstate.edu/docushare/dsweb/HomePage>.
2. If not done in October, brand calves and vaccinate for clostridial diseases. Vaccinate cows for reproductive diseases according to your herd health plan.
3. Lactating, fall-calving cows should receive approximately twice the amount of supplemental protein as the spring-calving cow herd. On native, warm-season pasture, use an escalating supplementation program, beginning with 1 lb. of 37%-40% CP supplement in October and increasing to 3-4 lb. by Jan. 1.

### **General recommendations**

1. Producers evaluating winter feeding and supplementation programs should spend some time with a simple ration-evaluation program. These decision tools can help you make informed decisions, cut out

waste, and ensure optimal animal performance. Most extension service groups offer some sort of ration evaluation program. The Oklahoma State University (OSU) Cowculator is one such tool that is made available for free at [www.beefextension.com](http://www.beefextension.com).

2. Discontinue feeding tetracycline for anaplasmosis control and insect growth regulator (IGR) for fly control after the end of the vector season (after a hard freeze). Remember that the use of antimicrobial products such as tetracycline will no longer be available over the counter (OTC) as of December 2017. From that time forward, these products will be regulated through veterinary feed directives (VFD). An excellent resource to learn about the responsibilities of producers, feed manufacturers, distributors and veterinarians can be found at VFD Central (<http://feedstuffs.com/vfd.aspx>).
3. Check with your Extension office for information on educational meetings about livestock and forage production practices.
4. Lightly graze native hay meadows after frost. Remove cattle from meadows in wet conditions. Only about 25%-40% of the existing regrowth should be grazed.

