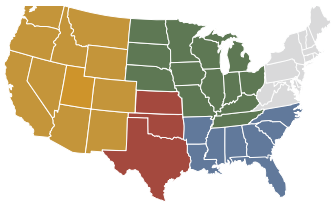
ANGUS ADVISOR

Our team of Angus advisors offer regional tips for herd management.



Southern Great Plains

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

As described in last January's "Angus Advisor" column, hay production in the Southern Great Plains has steadily increased over the last 50 years. Even though minimizing use of harvested forage would reduce cost of production and carbon footprint in most situations, it is a fact that the haying industry remains an enormous component in the Southern Great Plains agricultural landscape.

Therefore, improving hay feeding efficiency represents "low-hanging fruit" in many seedstock and commercial operations.

Feeding strategies for large round bales can basically be separated into use of a hay feeder and rolling bales out. A major advantage to rolling bales out is improved distribution of hay waste and manure over the pasture, which should lead to improved soil fertility. Hoof action is also distributed over a larger feeding area, and this could lead to less soil compaction or less sod/plant damage compared to concentrated feeding areas associated with hay feeders.

The disadvantage to relying on unrolling hay is the need to feed every day if standing forage availability is limited. Hay waste is basically a function of the amount of hay provided per animal each day.

The more restricted the amount of hay fed, the lower the waste, and *vice versa*. If two or more days' worth of hay must be fed at a time, expect hay waste to exceed 25% of the original bale weight. The term "waste" may be considered a matter of perspective, because the "wasted" hay does provide soil nutrients and organic matter to the system.

Several studies have investigated the influence of hay feeder design on the efficiency of hay utilization and hay waste. The lightweight (and therefore convenient), simple hay ring feeders remain popular for round bale feeding.

However, the low original cost and light construction come at the expense of hay feeding efficiency. Researchers have consistently documented 19-21% waste, expressed as a percentage of the original bale weight, when these "open" feeders were used (Figure 1). Waste from feeding dry, long-stem grass hay can be reduced to about 12-13% simply by purchasing a feeder with a solid sheeted bottom.

Finally, in four different experiments, feeders that combine a sheeted bottom feature with some type of a basket or cone mechanism have documented waste of dry grass hay between 3.5-8% of the original bale weight.

Efficient hay feeders generally restrict access to the top half of the bale. This limits cows' ability to drag hay from the top of the bale directly onto the pen or pasture surface. Next, the basket or cone mechanism serves to hold the bale in the center of the feeder until it collapses below the basket. Finally, the basket

Figure 1: ***The image on the left is a 1,300-pound (lb.) bale placed in an "open" steel ring hay feeder. The image on the right is the same bale and feeder after 12 cows had access to the bale for 24 hours.***

mechanism creates a feeding space inside the feeder so the cows are not constantly entering and exiting the feeder, dropping hay on the pen or pasture surface.

These features are not without drawbacks, however. First, these more efficient hay feeders are going to cost considerably more than the simple, open-style feeders. Placing a bale is going to require a tractor with a loader, although some feeders can be filled with a hydraulic truck bed.

These more efficient feeders are considerably heavier and cannot be stood up and rolled to a new location, as with the open-style feeders. Finally, lighter calves may not be able to access the core of the bale in some models. Be sure to explore these potential issues before you purchase a feeder.

Western Region

by Randy C. Perry
California State University–Fresno
randyp@csufresno.edu

Fall-calving Herds

Main Focus: getting cows bred

1. **Return inseminations**. If you are artificially inseminating (AI) to breed return heats, give a gonadotropin-releasing hormone (GnRH) injection at the time of breeding, as it has been proven to increase conception rates on repeat inseminations. I like to switch bulls and not breed the female back to the same AI sire I used on the first service.
2. **Natural service sires**. Bulls are probably already turned out or will be shortly. If females are in pastures where they are easily observed, record natural service dates and watch for return heats in cows that have been naturally covered by bulls. If a high percentage of the females that have been naturally covered by bulls are coming back into estrus, replace the bull if that is an option.
3. **Mineral supplementation**. Mineral supplementation is important in achieving optimal reproductive performance. The breeding season is the most critical period to be certain females are achieving adequate mineral consumption. I prefer using a combination of both injectable and consumable mineral products.
4. **Protein and energy supplementation**. It is critical 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.
5. **Body condition** is your best gauge to determine if you are meeting energy requirements. For protein, it is best to watch fecal output. If the females' fecal output is loose and the "cow pies" flatten out on the ground, protein intake is adequate. If the fecal output looks more like a horse's fecal output, the cows are deficient in protein intake.
6. **Vaccinations**. Calves should have already received their first round of vaccinations. Producers should consult with their veterinarian in developing their vaccination protocol. I recommend calves are at least 45 to 60 days old before they receive their first round of vaccinations. This can cause a problem if you have some late cleanup-sired calves. In these situations, I like to vaccinate the AI-sired calves about 30 days before the cleanup sired calves. In many operations, this practice may not be practical.
7. **Bottom-end bull calves**. Calves should be old enough by now to identify the bottom end of the bull calves. I recommend producers look at bull calves with a critical eye and a sharp knife. In most herds I believe the bottom 20% of the bull calves should be castrated, and this should be determined based on phenotypic quality only.

Spring-calving herds

Main focus: the calving season

1. **Calving supplies**. Supplies should be on hand and the proper equipment should be available to assist females with problems at calving. Be sure your personnel are properly trained in the most current procedures recommended for assisting females experiencing calving difficulties.
2. **Colostrum**. In order for maximal absorption of maternal antibodies, calves should nurse within the first six hours after birth. A supply of frozen colostrum could be kept on hand or a colostrum replacement or supplement could be used. Extra milk from a mature cow taken shortly after calving is the best source of frozen colostrum.
3. **Retained placentas**. Watch for retained placentas, and treat those cows promptly.

Continued on page 54

 continued from page 53

If the cows have not cleaned by 24 hours, we administer a prostaglandin injection as the first treatment. If they don't clean in response to that injection, then we administer another prostaglandin injection combined with a treatment of antibiotics, either given intramuscularly (IM) or mixed with sterile water and infused directly into the uterus.

4. **Body condition score.** The target level of body condition at calving is a body condition score (BCS) of 5.0 (scale = 1 to 9) for mature cows and 6.0 for 2-year-old heifers. Both protein and energy requirements need to be met in order to achieve the desired level of body condition.
5. **Bull and heifer development**. Both bulls and heifers should be 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 are 3 to 3.5 pounds (lb.) per day for bulls and 1 to 1.5 lb. for heifers.
6. **Treatment protocols**. Have treatment protocols and products on hand for both scours and pneumonia in suckling calves.
7. **Selection of AI sires.** Although the breeding season is still months away, now is the time to start developing a list of potential AI sires. In my opinion, this is the single most important factor determining the success of purebred cattle operations.
8. **Development of a marketing program.** Winter is also a good time to put some serious thought into developing a creative and effective marketing program. If you do not feel comfortable in this area, there are numerous marketing consultants who can provide excellent advice in this area.

Southeast Region

by Jason Duggin

University of Georgia
jduggin@uga.edu

The topic of cow size could lead to some tough conversations at our operations. Cow inputs account for most of an operation's expenses on a per-head basis. With that in mind, let's look at cow weights and how they might affect net return.

Cows in peak lactation require forage and/or feedstuffs providing at least 60% total digestible nutrients (TDN) and 12% crude protein (CP) per head per day.

Using those requirements, a 1,200-lb. cow needs 24 lb. of dry matter; a 1,400-lb. mature cow needs 27 lb. dry matter; cows weighing 1,600 lb. need approximately 31 lb.; and an 1,800-lb. cow requires 33 lb. These are approximations based on weight, but they do not account for adverse weather, breed type and genetic differences in the cow population.

Each pound of forage and feed has a cost assigned to the bottom line. If heavier cows can wean additional pounds, then there is hope — but do they wean heavier calves? This is a question we need to answer on our own operations.

For illustration, let's expect mature cows should wean at least 45% of their body weight in pounds of live calf. Using 45% as our standard, here are example cow weights (lb.) and corresponding calf weights (lb.): 1,200 cow — 540 calf; 1,400 cow — 630 calf; 1,600 cow — 720 calf; 1,800 cow — 810 calf.

Many may ask why anyone would have 1,600-lb. or 1,800-lb. cows. They happen more than we might think. Weighing and recording cow weights annually is a great way to monitor cow nutrition and health. As the saying goes, the scale doesn't lie.

As an anecdotal example, I broke down some of the recent weaning weights and corresponding cow weights on cows 3 to 12 years old at the Research and Education Center in Rome, Ga.

Here is a summary of cow weight groups in roughly 100-to-150 lb. increments and the corresponding percentage of calf weaned. The 59 head of cows weighing between 1,220 and 1,395 lb. weaned calves weighing 617 lb., with a percent dam weight weaned of 45%. The 56 head of cows weighing between 1,400 and 1,495 lb. weaned calves averaging 617 lb. exactly like the previous group, but resulting in 41% of dam weight. The 24 head ranging from 1,500 to 1,600 lb. weaned calves weighing an average of 613 lb., which is 39% of dam weight. Lastly, 10 head weighing between 1,605 and 1,695 lb. weaned calves averaging 611 lb., or 35.5% of dam weight.

Looking at these numbers, we can see cows weighing more than 1,400 lb. did not meet our standard of 45% in this example. This is a lenient number. Ideally, commercial cows would be weaning 50-60% of their weight with sufficient rainfall.

In the above example, which group of cows brought the most net return to the operation? These are tough conversations on our operations.

However, using a set of scales and expected progeny differences (EPDs) associated with cow cost such as mature weight (MW), cow energy value ($EN) and weaned calf value ($W), for example, can be helpful tools to improve the bottom line.

Midwest Region

by Eric Bailey

University of Missouri
baileyeric@missouri.edu

There are so many "tough conversations" I would love to have with beef producers. Unfortunately, I can only select one for this column, so here it goes.

Many of you are excellent cattle managers and poor forage managers. Specializing in one of the two key aspects of your business is holding it back. Sadly, much of our society is hyperpolarized today.

This is another area I feel suffers from the same malady. Excellent cattle managers are rarely profitable, because they are so heavily invested in equipment and inputs. Excellent forage managers underutilize reproductive management tools and chase niche genetics.

Do you need a tractor to raise cattle? I started a custom grazing operation about 12 months ago, and that was a question that guided much of my initial planning. Mowing weeds in August may make my landlord happy, but it is a terrible decision for my business.

Depreciation is the silent killer of cattle operations. For example, I estimate it costs about three times as much per pound of feed to swath, rake, bale, store, transport, feed and have cows waste hay as it does to make the cow harvest it.

I am fiercely opposed to regularly feeding hay in the winter. A common question in response to this argument is, "What will I do instead?"

That is the wrong problem to focus on. The real problem is the disconnect from the original business model. The original beef-cow business model is to convert sunlight into steak. Pasture forage is the medium of exchange in this relationship. When cow-calf producers focus solely on genetics, weaning weight, quality grade, etc. (cattle-centric performance metrics), they lose sight of the bigger picture.

A cattleman has two significant areas of focus: pasture performance and cattle performance. Lots of people brag about 650 lb. weaning weights, but no one ever brags about forage yield or how little hay was fed over the winter.

Feed represents 60% of annual cow costs. Hay is a big part of that expense in much of the country.

While on the topic of hay, how many operations treat stocking rate as a fixed unit, rather than a dynamic one? If someone tells you it takes x number of acres to run a cow in your county, treat that as friendly advice, not gospel. Ultimately, stocking rate is a function of forage demand (how much they eat in a day), forage growth rate and forage utilization rate. A false assumption is that carrying capacity is set in stone. Carrying capacity is both a function of the land and how it is managed.

Continuous grazing systems (cows grazing the same pasture year-round) only harvest a quarter to a third of the forage produced in a year. We use the term "harvest efficiency" or "forage utilization rate" when describing the proportion of forage in a field grazed by a cow. A simple rotational grazing system will increase harvest efficiency from 25% to 40%. That is 60% more feed that ends up in a cow's mouth.

Further intensification of grazing management will raise harvest efficiency above 40%. Hay is not a more efficient harvest of forage than grazing. It is equal to well-managed grazing, at best.

When a field is harvested for hay, 75% to 80% of the forage is removed. On the surface, that far surpasses the harvest efficiency of continuous grazing systems. However, less than 100% of the mechanically harvested forage ends up in a cow's mouth. We still have to factor in storage and feeding losses. Typical estimates of storage losses are 10%. Feeding losses vary greatly; I assume a 20% loss during feeding in most cases.

The best thing we can do to improve beef cattle production in 2022 is to start treating cow-calf operations like a business. How do I cut input costs and increase revenues? Start by spending a little more time out of your comfort zone. If you like reading sale books and EPDs, go out and monitor your forage and design a grazing system that will allow you to increase forage utilization, increase stocking rate and reduce hay feeding. AJ