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Dry and hot summarizes the summer of 2009 for the southern portion of Texas. Extremely hot temperatures (50 plus days of 100 degree temperatures) and drought conditions made for one of the worst summers on record for ranchers in the heart of Texas cow country. Rains in September and October have brought some relief, but hay production in the area will be limited and pastures may not be able to recover in time for some fall grazing. The good news is that the climatologists predict that we will have a wet fall and winter which would be good for winter forages. This issue of Beef Cattle Penning will discuss Breeding/Calving Seasons: Why, When and How; Feeding Cattle through the Winter; Vaccination Protocols; Ranch TV and the 56th TAM Beef Cattle Short Course.

In This Issue:

Breeding/Calving Season p. 1

Feeding Cattle through the Winter p. 3

Vaccination Protocols p. 5

Ranch TV p. 6

56th TAM Beef Cattle Short Course p. 6

Upcoming Events:

**Look for "Beef Tips" in issues of Pennings. Each segment will provide you with up-to-date BQA tips on raising beef cattle. Brought to you by the Texas Beef Quality Producer Program.*

Breeding/Calving Seasons: Why, When & How

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"I'll take a live calf anytime I can get it." We've all heard that. Could this be best? Should we just let nature take its course? Or is there a better way, by controlling breeding?

What are the advantages of controlled breeding? The most important are:

Improved fertility
More uniform calf crop
Heavier average weaning weight
Ability to raise more fertile replacement heifers
More marketing options for calves
Better targeting of nutritional programs
Improve effectiveness of vaccination programs and monitoring of disease
Cattle gathered fewer times

Controlled breeding improves chances that females calve every year. Cows breeding early in a season are more likely to recover from the stress of calving, rebuild body condition, and be cycling when breeding starts. It's easier to keep calving interval at 12 months instead of stretching it out. As calving stretches out, some cows don't breed at the optimum time.

With controlled breeding calves are closer in age at weaning. Consider a herd that starts calving in March and weans in mid-October. Average weaning weight is about 10-15% heavier with a 2-month calving period compared to a 5-month period.

It has been well established that lifetime productivity is highest if heifers begin calving as two-year-olds. Retained heifers from controlled breeding are older when weaned and are therefore older when bred. This increases the likelihood they will breed, calve earliest, and remain on schedule the rest of their productive lives. Early calvers return more dollars. A Texas A&M study used data on approximately 1500 cows in five herds where heifers were calved first

[continued on p.2]



as twos. Heifers that calved in the first 21 days averaged 10.6% lifetime return on investment, compared to a negative 3.1% return for those calving in the fourth 21-days.

DO MOST PRODUCERS CONTROL BREEDING:

In spite of the advantages discussed above, a recent USDA-APHIS report surveying management practices in the 24 states with 88% of the nation's beef cows indicated that 54.5% of operations have no set breeding season, being more prevalent in smaller herds. And of those with a set season only about half restrict calving to 60 days or less. Even so, almost two-thirds of all operations had calves born during four or fewer months. So, even herds with no set breeding season had more calves born at some times than other times.

Why do so many producers have no set season? Perhaps because it's just easier. Doing nothing is usually easier than doing something. It is true that cash flow is more evenly distributed, but there is generally less cash to distribute. Forage needs for the herd are also more evened out over the year, but it may be difficult to provide those needs during some seasons. Labor needs are more spread out, which may or may not be advantageous, but annual labor cost may be higher if industry accepted best management practices are implemented. You don't need a place to keep your bulls when not breeding. However, the advantages of controlled breeding, both economic and practical, generally outweigh the downsides.

TIME OF CALVING:

When is the best time to calve? What happens if you just kick some cows out, make little if any effort to manage anything, especially nutritionally, and let nature take its course? On typical warm-season forage more cows will breed during the flush of new growth in spring/early summer. Consequently, about 70% of calves in the U. S. are born in late winter/spring and weaned in the fall. Nature can dictate somewhat of a calving season. But does that mean it's necessarily the best time?

A big advantage of late winter-spring calving is lower nutritional cost, because less supplementation is needed. However, quality of most Texas forage typically declines significantly in summer to early fall so fall-weaned calves generally weigh less. Also, because of large numbers in the fall, average price is lower than for fall-born calves weaned in spring to early summer. For these reasons, fall calving

could be advantageous if consistent, adequate quantities of economically produced cool-season forage are available for the cow herd. On the other hand, high-quality cool-season forage is often more efficiently and profitably utilized by fall-weaned calves than by brood cows. Regardless, summer calving in Texas is almost never recommended. There is no one good answer as to which season is best. Every producer should evaluate all relevant factors.

CREATING A CONTROLLED SEASON:

Let's say you want to go to a controlled season. (You do have a secure place to keep your bulls when not breeding and fences good enough to keep out the neighbor's, don't you?) As has already been noted, most year-round herds already have the majority of calves in one season. So, that's probably the season you should aim for. An alternative is to go to two controlled seasons.

The quickest way to get to a controlled season is to remove cows calving out of the season you want. (This might also get you down to more optimum numbers for your production conditions.) If you want to move to a season other than when most of your cows are currently calving, better just sell most of the herd and replace with females calving when you want to.

It's probably best to establish a season over three years. Start by removing bulls so that no calves are born next year beyond the end of your ultimate calving period. Next, about two months after bulls are removed, pregnancy test the herd and remove any open, dry cows and open cows with calves older than five months. Then turn in bulls for a six-month calving season to start at your chosen time. Start breeding heifers 20 to 30 days earlier so they have a better chance of staying on schedule thereafter. Next year, reduce that to about 4 1/2 months and then to 3 months the following year. If you want an even shorter season, tighten further the next year.

CONCLUSIONS:

A controlled breeding season is generally more efficient, productive, and profitable. When that season should be depends on accurate evaluation of all factors involved.

**A big advantage of late winter-spring calving is lower nutritional cost, because less supplementation is needed. High-quality cool-season forage is often more efficiently and profitably utilized.*



**Southwest Texas Perspective,
By Rick Machen**

Feeding Cattle through the Winter

Notice the title says "feeding" cattle rather than supplementing cattle. In a more 'typical' year, beef producers in Southwest Texas would plan to supplement the existing forage with protein and/or energy to maintain or improve cow body condition during the winter months.

With few exceptions, the area south of the line from Del Rio to Austin to Houston is experiencing an exceptional drought. As an example of the severity, rainfall data recorded at the Uvalde Center is shown in the table at left.

Texas AgriLife Research & Extension Center - Uvalde 2009 Official Rainfall		
Figure 1		
Month	Rainfall (in)	# rainfall events
Jan	0.16	4
Feb	0.06	3
Mar	2.53	6
Apr	0.86	7
May	1.14	4
Jun	0.10	1
Jul	1.20	5
Aug	0	0
YTD	6.05	30

Only in Southwest Texas would anyone measure rainfall in increments of 0.01 inches! And to make matters worse, were it not for June and July 2007, the area has been in a drought (less than 75% of average annual rainfall) since 2005.

Before producers consider hay and supplement decisions, they should assess their financial situation. Many producers in this area have fed supplement and/or hay during much of 2009, some to the extent that the calves weaned this fall may not cover the production costs. If that is the case, feeding a cow herd through another fall

**Beef producers plan on supplementing their existing forage with protein or energy to maintain body conditions during winter conditions.*

and winter is not advised.

Warm season perennial forages are the base from which beef is produced in Southwest Texas. Drought during the entire growing season precluded grass growth, so producers must first consider purchasing hay.

Worst case scenario – A 1200 lb cow will consume 20 pounds of hay per day or a ton every 100 days. September 2009 to March 2010 is 7 months or 200+ days. To take a cow through the fall and winter will require two tons of hay. Current market price for grass hay in Southwest Texas is \$125-150/ton; estimated hay cost per cow - \$250 minimum.

The amount and type of supplement needed will depend on body condition of the cow and quality of the hay. A larger than typical number of beef producers are considering alfalfa hay. If purchasing alfalfa for cows, buy the poorest quality (least expensive) alfalfa available. 'Cow quality' alfalfa will have enough protein to meet the cow's requirements, but will likely be short on energy, especially if the addition of body condition is warranted.

Worst case scenario – having to feed until or even through next spring.

Best case scenario – it starts raining tomorrow.

**Central Texas Perspective,
By Jason Cleere**

A long, hot (~55 days above 100 degrees) and dry summer has plagued the central portion of the state this year. Most ranchers have made less than one cutting of hay this year and likely already fed it to make it through the summer. Load after load of hay has been trucked into the region from North Texas and other states to make it through the drought this summer and prepare for the winter. Fortunately, the region received from 1 to 14 inches of rain in September. Many producers are hoping for one more cutting of hay and pasture growth that will provide some grazing this fall. Day and night temperatures and additional rain will ultimately dictate how much forage growth occurs before fall sets in.

Hay sampling and testing is recommended every year to more accurately develop a winter feeding program for your cow-calf operation. However, if you trucked in hay this year because of the drought, you should get it tested.

[continued on p.4]



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The goal of **BEEF TIPS** is to provide producers with the most current BQA information that can be applied to any operation.



3. Castration of older, heavier animals causes greater stress and increases the chances for surgical complications and bacterial infections. The additional stress can also suppress immune function and increase susceptibility to other diseases. Early castration is less stressful on bull calves and should occur between birth and four months of age. Regardless of coffee-shop perceptions, there are economic incentives to castrating bull calves prior to marketing.

These tips are brought to you by:



www.texasbeefquality.com



Figure 2

**Rebreeding performance of cows is closely tied to the body condition of cows at calving.*

Rebreeding performance of cows is closely tied to the body condition of cows at calving. Cows that are in average condition (BCS = 5, Figure 2) will breed back faster than cows in thin condition. An extended calving season or open cows next year are two consequences of a drought that can be felt long after the grass turns green and optimism is regained.

With shorter supplies of warm season forages available and moderated fertilizer prices, cool season forages may be a good option this year. Oats or wheat can provide winter grazing while ryegrass and legumes can provide late winter and spring grazing. Of course these are dependent on continued rainfall in the coming months.

Plains and Far West Texas Perspective By Ted McCollum

Over the last six months, rainfall in relation to the long-term average has varied across the Plains and Far West Texas Regions of the state. The figure below shows that there are areas where rainfall has exceeded the average by 2-12" and other areas where rainfall is 2-12" below normal. Some of the areas that are below normal are areas in which annual rainfall is relatively low to begin with hence the shortfalls are significant.

So depending on where one resides, forage accumulation going into the fall and winter probably ranges from low to relatively abundant. The first step in a winter nutritional program should be adjusting cattle numbers to the quantity of forage that has accumulated.

The second step is to evaluate the quality of the forage that has accumulated. In terms of quality, in areas that have cool-season perennial grasses in the plant community the amount of rainfall can affect the dietary protein consumed by grazing cattle in the fall and winter. If rainfall has been adequate, especially in the late summer and fall, the cool-season perennials should have some valuable growth that will partially offset winter supplementation requirements. In areas with adequate forage accumulations the focus for the winter will be supplying the nutrients that the forages lack. Crude protein should be the initial focus. The amount (lb/day) and type (CP concentration) of supplement required will depend on the CP in the forage and the stage of production of the cattle. Larger accumulations of forage may have lower CP concentrations because of the abundant growth. Areas dominated by shortgrasses should require less supplemental CP (lb/day) than areas where coarser mid- and tallgrasses predominate; therefore the amount and choice of supplements can vary. In the areas where rainfall has been limited and/or untimely, supplemental protein and energy may both be of concern and hence require a different approach to supplementation.

There have been rumors and prognostications (most long-range weather forecasts fall somewhere between these two) that the patterns associated with El Nino events could bring wetter weather to our area this winter. We all welcome more moisture but need to remember that wet, cold conditions increase the energy requirements of cattle and can also lead to more rapid deterioration of nutritional value of dormant forage. Might want to keep this in mind.

Feed prices have softened since last year. Whether this trend will continue is uncertain. We are forecast to have a record corn crop and a good soybean crop which both affect all commodity prices. With large crops, feed prices may remain in the trading range we now see. Some have said they can still be lower but who is to know. Despite the larger crops, use is also forecasted to increase. In addition, the exchange rate for the dollar has been dropping. A drop in the value of the dollar against foreign currencies increases the ability for foreign customers to buy US grains and feedstuffs hence our exports may rise which would support higher costs domestically. So even though we are going to have a large harvest, domestic use and export demand may support and push prices higher over the winter and into the next planting season.

<http://beef.tamu.edu>

[Winter Feeding, continued from p.3]

You may be pleasantly surprised by good quality hay that may need little or no supplementation, or you may find that you purchased hay with very little nutritional value that will require a large amount of supplemental feed. If you have purchased baled crop residues, consider testing them for nitrate toxicity.

Evaluate the body condition of your cows and make supplemental feeding decisions based on how thin or fat they are. Rebreeding

Vaccination Protocols

A practical cost effective vaccination program is an important part of any herd health program. Unfortunately many producers see administering vaccine as "the herd health program".

Genetics, nutrition, and parasite control all relate to the animals ability to mount an immune response. Management practices designed to prevent or reduce the introduction of disease help ensure the immune system does not have to respond to an overwhelming amount of disease organisms. Cows in poor body condition and heavily parasitized are not likely to respond well to vaccination. Just because an animal is given a "shot" containing vaccine does not mean the animal receives protection. The first step in any vaccination program is maintaining the integrity of the vaccine. Proper handling of vaccines is paramount to success. Purchase vaccines from a reliable source and make sure expiration dates are reasonable. Never use expired vaccines. Proper refrigeration is required. Often vaccine is stored in an old refrigerator that was retired from the kitchen to the barn and the unit may not maintain a desired uniform temperature. Refrigerator thermometers are an efficient safety check to ensure your vaccine is stored properly. When working cattle protect vaccines from extremes of heat or cold, never use a vaccine that has frozen. Protect vaccines from sunlight. When mixing modified live products use a transfer needle and do not aggressively agitate the mixture. Simply invert the bottle a few times to ensure mixing is adequate with all vaccines. Excessive shaking or agitating of a killed product will cause damage and release of endotoxins, which may reduce the effectiveness of the product, and may even cause sickness or death. Never use disinfectants or detergents on syringes or needles used for vaccination, as these may render the vaccine ineffective. Detailed information on proper care and administration of vaccines can be found beef.tamu.edu or through your local Texas AgriLife Extension Agent.

The risk of disease exposure is key to deciding whether to vaccinate for a specific disease. Just because a vaccine is available does not mean it is required in your herd. The cost of purchase, storage and administration of vaccines can be substantial. Closed herds with no movement of cattle into the herd have decreased likelihood of introducing disease, and if there is no disease threat, money spent on vaccination is wasted. In reality, closed herds are rare, because wildlife, visitors, and even routine vehicle traffic can introduce disease. At the other extreme, open herds with excessive livestock movement do not respond well to vaccination programs because of the overwhelming variety and number of pathogens introduced.

The goal of vaccination in a cow/calf operation is establishment of herd immunity. Herd immunity is established by developing a vaccination program to protect as much of the herd as possible so, in the event of disease introduction, the disease will not be able to propagate and spread. No vaccine is going to afford equal protection to every individual vaccinated. Diseases in cattle transmitted

from animal to animal are best controlled by establishing herd immunity and implementing biosecurity procedures for these diseases.



**The goal of vaccination in a cow/calf operation is establishment of herd immunity, but no vaccine is going to afford equal protection to every individual vaccinated.*

Other diseases such as Clostridial (Blackleg, Black's disease, Malignant Edema) are in the environment and not transmitted from animal to animal, so vaccination is the main control option.

Timing of vaccination is very important. Vaccine for diseases that affect reproduction are best administered prior to breeding. If these products are given at pregnancy check, the cow may not have maximum protection when needed at breeding.

With diseases that are detrimental to young calves, such as scours, vaccines are given to the pregnant cow so she will pass on protection to the calf through her first milk (colostrum). Research has shown 20% of calves born in beef herds have some degree of failure of passive transfer. Colostrum is an important source of antibodies, but also contains other immune mediators as well as fat-soluble vitamins. A cow vaccinated late in gestation does not always impart immunity to her calf. She may not concentrate the antibodies in her colostrum. Even if she has a high concentration of antibodies, calves can only absorb them efficiently the first few hours of life. If a calf does not nurse within 2 hours after birth, the cow should be milked

[continued on p.6]

Ranch TV

Texas AgriLife Extension adds online learning center Web site for beef cattle producers to gain educational information.

Dr. Dan Hale and Bryan Waters developed RanchTV.org, containing over 150 short videos about the beef cattle industry.

"The goal of the online digital library is to provide cattle producers easy access to information that will help their bottom line and teach best management practices," Hale said.

"RanchTV will be an evolving online learning center for cattle producers, with many more videos scheduled to be added over the year," Hale said.

RanchTV was created in part with the Beef Quality Assurance and Texas Beef Quality Producer programs.

For more information on Ranch Tv visit: <http://ranchtv.org>



[Vaccination Protocols, continued from p.5]

and colostrum fed with a bottle or stomach tube. Vaccines should always be given according to label; never give modified live products to pregnant cows or calves nursing pregnant cows without following label directions, as misuse of modified live products in this manner can result in abortions.

Breeding replacements are the future of the herd and preventative health practices are important.

- All replacements should be administered a clostridial vaccine to protect against blackleg and other clostridial diseases present in your area.
- Replacement heifers in Texas should receive a Brucellosis vaccine at 4-12 months of age; an accredited veterinarian must administer this vaccine.
- Bovine Viral Diarrhea (BVD) and Infectious Bovine Rhinotracheitis (Red nose) are diseases that can cause significant reproductive and economic loss without observable sickness. Two doses of modified live BVD/IBR should be given prior to breeding, the last dose at least 3 weeks prior to bull exposure or AI.
- Bovine Campylobacter (Vibrio) and Leptospirosis are insidious diseases that are difficult to diagnose and vaccination should be considered in cow/calf herds.
- Consider other vaccines such as pink eye, scour vaccines and trichomonas when the disease threat warrants.

The cowherd should receive annual boosters.

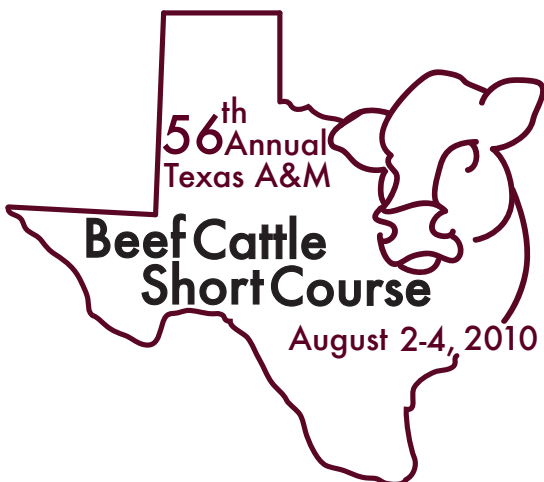
- Annual vaccinations containing IBR/BVD and Vibrio/Lepto should be given 30 days prior to breeding.
- Vaccines for clostridials and other diseases that affect young calves, such as scours, should be given to cows at pregnancy check in order to enable the cow to provide maximum protection in her first milk.

Breeding bulls should receive the same vaccinations as the cowherd.

Nursing calves

- All calves should receive a clostridial vaccine at branding (45-60 days of age) and a second dose 2-4 weeks prior to weaning.
- Consider IBR/BVD and Pasteurella/ (Mannheimia) vaccination in calves destined for retained ownership or that the market demand justifies.
- Heifer calves considered for replacements and all calves in high-risk areas need a vaccine for IBR/BVD and leptospirosis at branding and during the weaning period.

Your veterinarian is the best source for disease information in your area and can assist in preparing a vaccination protocol for your herd, but producers are ultimately responsible for the animals in their care and should make every effort to become informed. A knowledgeable producer working with a good large animal veterinarian can design an economical and efficient program to fit the individual operation.



Be sure to mark your calendars for the 56th Annual Texas A&M Beef Cattle Short Course. Nationally and internationally recognized as the largest attended beef cattle educational program of its type in the world. It has gained the respect from all organizations, associations, Land Grant Universities, and agencies alike as the focal point for beef cattle educational information.

