

# Cattle Tales Livestock Newsletter

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## Inside this issue:

|  |    |
|--|----|
| Body Condition Score is a Critical Management Tool for Cow-Calf Producers    | 2  |
| Determining your Pasture Stocking Rate                                       | 3  |
| Getting your Herd Ready for the Breeding Season                              | 4  |
| Considerations for Improving Hay Quality                                     | 6  |
| Culling considerations for beef cow-calf herd                                | 8  |
| When should I deworm my sheep/goats?   | 10 |
| Controlling Flies and Ticks in Your Livestock                                | 11 |
| Implanting Pre-weaned Calves   | 13 |
| University of Maryland Extension Agriculture and Food Systems Livestock Team | 14 |

## Editor's Note:

Spring is here, and with it endless opportunities to implement a winter's worth of planning. Many producers, myself included, are wrapping up calving, implementing pre-breeding vaccinations and estrous synchronization programs, turning out stocker calves, making their first cutting of hay, and placing orders for insecticide tags and minerals to help their cattle be as successful as possible in the upcoming hot months. Like the dormant fields of alfalfa in the winter, it has been some time since the University of Maryland Extension put out a state livestock newsletter. But with warm weather and new hires, both entities are entering a new season with goals of high yields.

My goal with the Cattle Tales Livestock Newsletter is to provide science based production recommendations for the livestock producers of Maryland and beyond. From the basics of animal health, to the most intensive of grazing and reproductive management, I hope this newsletter will serve as a catalyst to bring the most innovative of practices to the area, or at the very least, start worthwhile discussions amongst producers and researchers alike. Here at UMD Extension, we love to hear from you, the producers, about challenges you face. We are here to serve. Please consider subscribing for future newsletters, providing feedback on articles, and letting us know what you'd like to read about in the future.

Happy Trails,

*Charlie Sasser III*

# Cattle Tales Livestock Newsletter

## Body Condition Score is a Critical Management Tool for Cow-Calf Producers- Dr. Sarah Potts, Extension Specialist, Dairy & Beef

Managing the nutritional status of cows is one of the cornerstones for a successful and profitable cow-calf operation. It is important to pay attention to a cow's nutritional status to ensure that she is 1) able to produce sufficient quantities of milk to grow her calf; 2) ready to conceive during breeding season a few months after calving; and 3) capable of sustaining that pregnancy to generate another healthy calf.

Poor nutritional status can have dramatic impacts on milk production and fertility, and thus, the ability of the beef cow to do her job well. After calving, it is expected that cows will utilize some of their body fat and protein (from muscle) stores to support milk production—this is a normal, physiological process in mammals that can be observed in many other species. However, it is important to monitor and manage these changes in beef cows in order to optimize productivity.

Cows that are thin or use too much of their body stores during early lactation often have difficulty resuming their reproductive cycle before breeding season, making them more likely to conceive later in the breeding season or be culled for not getting pregnant during the breeding season. Cows that conceive later in the breeding season will have calves born later during calving season which will likely be smaller at weaning. Thus, ensuring appropriate nutritional status of cows can have significant implications for the overall profitability of the cow-calf operation.

One of the best and most informative tools that can be used to evaluate the nutritional status of animals is body condition scoring. The purpose of body condition scoring is to assess the

amount of fat that an animal possesses. An animal that is “over-conditioned” carries excess fat while an animal that is “under-conditioned” carries too little fat. In beef cattle, scores are assigned on a scale of 1 to 9, with a score of 1 indicating an animal that is extremely thin and malnourished and a score of 9 indicating an animal that is obese.



While body condition score is designed to reflect the body fat stores of the animal as a whole, there are a few key areas that should be examined when determining a score: ribs, backbone, hooks, pins, tailhead, and brisket. While learning how to body condition score cattle takes a little bit of time and practice, it is a skill that all producers should exercise and become proficient in so that they can identify times when additional nutrients may be needed by their cattle or vice versa.

At a bare minimum, there are three critical times when body condition should be assessed in a cow-calf operation: 1) approximately 60-90 days before calving; 2) at calving; and 3) at weaning. Ideally, cows should calve in at a score of about 5.5 to 6, while first-calf heifers should calve in at a score of about 6 since they are still growing. This will help ensure that cows have appropriate condition (ideally, a score of at least 5) by the time breeding season begins.

Scoring cows 60-90 days before calving allows for adjustments to be made to the feeding

# Cattle Tales Livestock Newsletter

program if cows are not in appropriate condition for calving. Scoring at weaning is informative because it helps guide feeding decisions to ensure pregnant cows achieve adequate condition before their next calving. Cows that are thin at weaning will need more high quality forage to replenish body stores before calving in the next season.

If cows are not in good condition at calving, be prepared for possible hiccups come breeding season since they will likely be thinner and take longer to begin cycling and conceive. If cows are thinner than desired at calving (i.e., less than a score of 5.5 to 6), ensuring adequate access to high quality forage may help to moderate condition loss during early lactation going into breeding season, which can help promote fertility. Utilizing estrous synchronization programs may also help get these cows to start cycling as well.

As we get past the cool, wet spring weather and into summer when growth of perennial pasture slows dramatically, forage availability typically declines and it can sometimes be difficult for cows to maintain condition or replenish stores that were lost earlier in the season. In these instances, supplemental feeding may be required. In extreme cases, early weaning of calves (at ~6 months) may also be an option. The premise of early weaning of calves is to give cows more time to replenish body condition on pasture, which is more economical than feeding for body condition gain during the winter.

When it comes to managing the nutritional status of the cow herd, the old adage “an ounce of prevention is worth a pound of cure” definitely holds true. Ensuring cows are in appropriate condition before calving is much easier (and cheaper) than dealing with the repercussions of cows that are too thin going into breeding season. If you find yourself in a situation where cows are in less than ideal condition at calving, do your best to improve

nutritional status as breeding season approaches by ensuring access to high quality forages, but take steps to ensure appropriate condition is achieved and maintained before calving next year. For additional information or training resources related to body condition scoring cattle, contact your local extension agent or veterinarian.

## Determining your Pasture

**Stocking Rate-** Ronald David Myers, Extension Educator, Anne Arundel County

How many animals will my pasture support? This is a common question, especially for the first time livestock producer. Unfortunately, it is a complex and often difficult question to be answered.

The first step should be to accurately evaluate the pasture site to determine the anticipated average annual forage yield. A well maintained orchardgrass-ladino clover pasture should yield annually 10 to 15 tons/acre of fresh pasture, being equivalent to 2.5 to 4.0 tons/acre of dry matter (DM). Often producers launch themselves into a livestock venture by buying the livestock first, without first doing some critical pasture site investigation.



# Cattle Tales Livestock Newsletter

The second step is to determine daily feed requirement of the herd or flock. For cattle, sheep, and horses 2-3% of an animal's actual body weight is an excellent estimate of daily dry matter (DM) intake of quality forage and grain. Animals that are young and developing, pregnant, or used actively for work or breeding would have the higher feed requirement of 3% of body weight equaling DM forage and grain intake. While animals that are mature and maintaining, generally require 2% of body weight as DM intake. Thus, a horse weighing 1100 lbs used occasionally for riding would require  $1100\text{lbs} \times .02 \text{ DM/day} = 22 \text{ lb DM/day}$ .

In order to keep a horse fit all year, the dry matter feed intake would be  $22\text{lbs/day} \times 365 \text{ days} = 8030 \text{ lbs}$  or 4 tons of DM. If the pasture was also cut for hay during the surplus growth periods and feed losses are minimized, then 1 acre should support an 1100 lb horse annual forage requirements. It is also very important that the ration is balanced, and the components of a balanced ration include carbohydrates, proteins, fats, minerals, vitamins, and water. In addition, it is important to include roughage and bulk to the ration. If high quality legume-grass hay or pasture is utilized then the addition of grains, protein supplements and minerals may only be required to be 25% or less of the ration. For a poor hay or pasture the addition of grains, protein supplements, and minerals may be required to be as much as 50% of the ration. Forage analysis of the pasture and hay components of the ration is often the best way to be sure all nutritional needs of the animal is being met. Book values of feed stocks, with ration tables are also essential tools for nutritional balance.

A third point to remember is that all feeds include a percentage of water; therefore, convert the feed components in a ration into actual dry matter weight. Most field-cured hays in Maryland and grains are 85 to 90% dry matter. The pasture forage percent DM is

based on maturity and species, typically ranging from 20 to 50% DM in the field. If our 1100 lb horse was on a spring orchard grass and ladino clover pasture consuming 75 lbs/day of forage determined to be 26% DM, then we could calculate that  $75\text{lbs/day} \times .26 = 19.5 \text{ lbs DM}$ . The horse would only require 2.5 lb of additional grain and mineral supplements to balance the daily ration. If the spring pasture was considered overly lush, it may be advisable to balance the ration by providing only minerals and supplementing the pasture with mature dry grass hay as follows:  $15 \text{ lbs/day of } 85\% \text{ DM timothy hay} = 12.75\text{lb/day DM} + 35 \text{ lbs/day } 26\% \text{ pasture} = 9.1 \text{ lbs/day DM} + .15 \text{ lb/day of minerals}$  for a total of 22lbs/day DM in a balanced ration.

In summary, the pasture requires constant balancing of daily yield potential and animal feed requirements. At times, a pasture may be over or under grazed, and both are detrimental to stand longevity and production. If you have questions about livestock utilization of your pasture give your Extension Educator a call, and together your needs can be assessed

## Getting your Herd Ready for the Breeding Season –

Racheal Slattery, Department of Animal and Avian Sciences, University of Maryland

In Maryland, May and June are the ideal breeding season for spring calving herds – pastures are looking good and the high heat and humidity of the summers here hasn't hit yet, making for lower stress cattle handling. With each breeding season, it's important to look back on past years – stick with methods that have worked and also learn from mistakes that were made.

Steps to help have a successful breeding season:

# Cattle Tales Livestock Newsletter

1. Make sure your cows are in good condition (first calf heifers should be closer to a 6, older cows can get by on a 5). Having a calf by her side is going to work to pull weight off causing a delay in re-breeding. Supplement feed, if necessary, whether that's grain or good hay.

- If you're not familiar with body condition scoring, the University of Nebraska has a very helpful guide that can walk you through how to condition score your cattle: <https://go.umd.edu/BCSGuide-NE>



2. Implement a pre-breeding vaccination program – make sure you are including vaccinations against Leptospirosis, vibriosis, BVD, IRB and trichomoniasis.

3. Are you planning on synchronizing your cattle? What protocol are you going to use? The Beef Reproduction Task Force has several helpful aids when it comes to choosing the program that will work best on your farm.

- Updated Synchronization Protocols for Cows and Heifers (2021): <https://beefrepro.org/wp-content/uploads/2020/12/Protocols-for-Sire-Directories-2021-Final.pdf>
- Estrus Synchronization Planner helps establish a program and develop an easy to use calendar to eliminate timing

errors:

<https://iowabeefcenter.org/estrussynch.html>

4. Bull Power – Are you using Artificial Insemination (AI), Timed Artificial Insemination (TAI), AI or TAI with a clean-up bull or, estrus synchronization with natural service (bulls), or natural heat detection and natural service? There is not right or wrong method, each has its positives and negatives, make sure you are choosing one that works for you and the goals of your farm.

- The AI Cowculator can help you decide if using AI makes economic sense for you cattle operation: <https://beefrepro.org/resources/>
- Things to keep in mind when using AI or TAI:
  - Proper storage and handling of semen is essential. Make sure to get your semen tank routine inspected for wear and tear, including potential leaks.
  - Good record keeping and animal observation will help prevent timing errors.
- Things to keep in mind when using clean-up bulls and natural service:
  - Make sure all the bulls you plan on using have had a recent Breeding Soundness Exam (BSE). Too often the way folks learn they had issues with a bull is when cows come up open at the end of season pregnancy checks or worse during that following spring's calving season.
- Where can I get a BSE for my bulls? Contact your veterinarian.
  - Know how much "Bull Power" you will need to breed your herd.
- A good ratio to follow is 20-25 cows per bull, you will want to halve that number for younger bulls (less than 2 years old)
- When using an estrus synch protocol combined natural service, stay with 2-4 year old higher energy, active bulls (under 2 years can get rundown and overwhelmed pretty quick) and keep the ratio closer to 10 to 1 as many cows will be coming into heat that the same time.

# Cattle Tales Livestock Newsletter

- If you are using more than one bull at a time, make sure they've had a chance to get to know each other and determine a pecking order before dropping them with your herd. Otherwise, they'll waste energy fighting and potentially injury each other instead of breeding your cows.

Ultimately, you play a major role in the health and productivity of your cattle. Herds that receive proper nutrition and health management cycle sooner, breed back faster, calve earlier and are more productive year after year. With the tight margins inherent in this industry, breeding efficiency is essential to the profitability of your farm.

## Considerations for Improving

**Hay Quality-** Dr. Amanda Grev, Extension Specialist, Pasture and Forage



With a new growing season comes new opportunities, one of which is the opportunity to do a better job with making hay. With spring being a busy time of year, hay-making is often one of the lower priorities on the long list of things to do, but this means that all too often much of the hay that is made is moderate to lower in quality. In many cases, making better quality hay can significantly reduce the need for supplemental feed purchases and help keep adequate condition on animals. Below are some practical considerations for improving the quality of your hay this year.

### ***Harvest at the Correct Maturity Stage***

The single most important factor affecting forage quality is the stage of maturity at the time of harvest. This is especially true in the spring when forages are growing and maturing rapidly. For high quality hay, harvest must start at an earlier growth stage—a good goal is around the boot stage for grasses or around late bud to early bloom for legumes. In a mixed grass-legume stand, the decision for the first cut should be based on the maturity of the grass, since grasses usually mature earlier than legumes in the spring.

### ***Cut Early, Wide, and High***

Because plants continue to use carbohydrates for respiration during the night but are not able to fix sugar through photosynthesis, the nonstructural carbohydrate (NSC, or sugar and starch) content of a plant is lowest in the early morning hours prior to sunrise. At sunrise, the plant can resume the photosynthetic process, allowing NSC concentrations to increase throughout the day and reach a peak in late afternoon. However, even though NSC concentrations are usually highest in the late afternoon, cutting hay late in the day doesn't leave much time for forages to dry before nightfall. In a high rainfall environment, maximizing curing time should be the highest priority. Therefore, hay should be mowed in mid- to late-morning after the dew has dried off. This will allow for a full day of drying right away, maximizing exposure to sunlight and wind and resulting in a faster drop in moisture and reduced respiration.

When mowing, set the mower to make as wide of a swath as possible, ideally at least 70% of the cut area. Maximizing the swath width shortens the wilting time by exposing a larger portion of the forage to direct sunlight, leading to faster drying and preserving more digestible dry matter. Avoid cutting hayfields too close. If

# Cattle Tales Livestock Newsletter

not properly adjusted, disc mowers can cut very close to the soil surface and this can cause significant damage to cool-season grass stands. Be sure to leave 2 to 3 inches of residual for alfalfa and 4 inches for cool-season grasses. Not only will this result in improved stand persistence, earlier regrowth, and sooner subsequent cuttings, but the stubble will help to elevate the swath and promote air flow and rapid drying.

## ***Rake, Ted, and Bale at the Correct Moisture***

Forage should be teded or raked above 40% moisture. Tedding and raking the forage while it is still pliable helps to reduce leaf loss and maintain forage quality. Once the moisture content is below 40%, leaf losses increase rapidly, particularly for legumes like alfalfa or clover. Adjust the rake to minimize the amount of tines touching the ground to avoid soil contamination. Using rakes that handle the hay gently or slowing the speed of the rake are also ways to further minimize leaf loss and maintain forage quality.

Bale the forage at 15 to 18% moisture. Baling in this moisture range inhibits mold growth and reduces heating. While hay that is excessively dry will have greater leaf loss due to leaf shatter, hay that is too wet (above 20% moisture) is prone to excessive heating. Of course the worst case scenario is the potential for spontaneous combustion, but even heated hay that doesn't burn is subject to having high concentrations of heat-damaged, indigestible protein.

## ***Time Cuttings Appropriately***

Appropriate timing includes not only harvesting at the ideal forage maturity, but also timing your cutting schedule for optimal growth based on seasonal weather conditions. For example, completing the first cutting in a timely manner allows time for adequate regrowth and a good second cutting prior to the onset of the hot

summer months. A nitrogen application following first harvest can help with this by stimulating forage regrowth.

Be sure to allow cool-season hayfields to go into the summer with at least 5 to 6 inches of regrowth; this will shade the crown of the plant, moderating its temperature and reducing soil moisture losses. And finally, time fall hay cuttings to allow stands enough time to regrow and replenish their carbohydrate reserves prior to winter dormancy.

## ***Ensure Balanced Soil Fertility***

A sound fertility program provides adequate nutrients for the growing plant. In a forage system, this involves more than simply adding nitrogen, phosphorus, and potassium; it should also include monitoring soil pH, soil compaction, nutrient removal rates, and overall nutrient status.

High-yielding cuttings of hay remove substantial amounts of nutrients from fields, making a balanced fertility program essential for optimizing hay production. Take the time to soil test and apply nutrients and lime according to soil test results. Use nitrogen to promote growth in the spring and throughout the growing season. Avoid using "complete" fertilizers like 10-10-10, which commonly over-apply phosphorus and under-apply potassium. Adequate soil fertility is critical to achieving optimum forage production and quality.

## ***Store Hay Properly***

Last but not least, hay that has been baled will need protection from the weather to avoid losses in both quality and quantity. Losses during hay storage can accumulate quickly. To avoid this, store hay off the ground and preferably under cover. Much of the weathering damage is a result of the hay bale wicking moisture up from the ground, so storing hay off the ground can greatly reduce deterioration.

# Cattle Tales Livestock Newsletter

Protecting hay from weathering through proper storage will help to reduce dry matter losses and maintain forage quality.

## **Culling considerations for beef cow-calf herd-**

Jeff Semler, Extension Educator, Washington County

Culling decisions are a routine part of beef cow-calf herd management. It should be a constant process during all phases of the production cycle. So as you observe your cows and calves this spring and summer, start making a list.

Producers should make culling decisions based on what is best for their farm's profitability and what is best for animal well-being. In short, market cattle while they are in a condition that processors prefer before they become a transportation risk and their value declines.

Adequately conditioned cows have greater carcass and economic value and are increasingly being called market cows instead of cull cows. The following suggestions can help you develop your operation's culling strategies.

**Declining health and/or weight loss:** Greater scrutiny is even more critical when evaluating livestock fitness for transport, specifically cattle at risk for becoming non-ambulatory. Cows must be in adequate health to make the haul when leaving the farm for market and from market to the processing plant. Farmers need to decide to market cows before declining health, or low Body Condition Scores (BCS) make them less desirable to processors, and sales revenue is lost.

**Reproduction:** Reproductive efficiency is one of the most significant factors impacting beef cow-calf enterprise profitability. Open cows and heifers consume feed without providing income from calf sales. Late calving cows produce lighter-weight calves and have fewer chances to breed back. Economic modeling shows that six

calvings are needed to recover the initial investment of rearing a replacement heifer. In Boyer's analysis, it took eight calves if one calving season is lost due to failure to conceive and over nine calves if two calving seasons were lost (Boyer et al. 2020).

**Udder conformation:** Cows with weakening udder attachments and median suspensory ligaments can have low, pendulous udders. Extremely low udders can be difficult for calves to reach to suckle and are a risk for injury and mastitis infections. Large teats can also be difficult for calves to nurse.



**Feet and legs:** Lameness is an animal well-being concern and can lead to rapid weight loss. In less extreme cases, undesirable foot and leg composition can lead to chronic mobility issues. Extremely straight or "sickle hocked" rear leg set and poor rump structure are examples of structural faults that negatively affect mobility. Also, the prevalence of foot diseases causing lameness, such as digital dermatitis (a.k.a. hairy heel warts), are likely underestimated in beef herds, especially in confinement beef operations.

**Poor calf performance:** Complete, accurate, multi-year production records should be used in your decisions for removing inferior dams by factoring in calf performance. Cows that consistently wean lightweight calves indicate an inadequate ability to produce milk, nurture a calf, or simply have inferior genetics. Care

# Cattle Tales Livestock Newsletter

needs to be taken to use production records properly. Calves of first and second calf heifers shouldn't be expected to perform the same as calves from mature cows, and records need to be kept in a way that can sort this out.

Additionally, a one-time event, such as calf sickness, may occur with nothing to do with mothering ability, emphasizing the importance of multi-year records.

**Disease:** In addition to disease conditions that result in rapidly declining health, there may be profit robbing chronic diseases to manage or eliminate from your herd. This may include cows testing positive for Johne's disease, Bovine Viral Diarrhea (BVD), and Bovine Leukosis (BLV).

**Disposition:** Vigorous calves and protective mothers are a good thing, to a point, but highly aggressive behavior has negative consequences. Cows with overly aggressive dispositions are a danger to handlers. The heritability of disposition is moderate to high in cattle. Feedlot cattle with more excitable disposition scores have been shown to have decreased body weights, inferior average daily gains, and poor carcass yield, grade, and marbling scores.

In addition, you may be faced with considerations above and beyond a specific cow in the herd:

- What is your current cow inventory in relation to desired herd size?
- Have you retained a sufficient number of replacement heifers or have the means to purchase replacement heifers?
- What is the price spread between market cow values and replacement heifer prices?
- Do pasture conditions and feed inventories support your current herd size?

## Optimizing Value

According to the National Beef Quality Audit, cull breeding animals contribute up to 20 percent of gross revenue for beef operations. Despite their contribution to gross income, many farms market cows without a plan to optimize their revenue.

Seasonal price patterns have been well documented for market cows. While exceptions can occur due to market volatility, price lows typically occur in November. Peak prices occur in late spring through mid-summer. With most beef herds practicing spring calving and fall weaning, market cow volume increases in the fall as calves are weaned, cows are typically pregnancy checked, and decisions on who remains in the herd are made.

Holding onto market cows until spring promises higher prices, but the cost and risk of doing so must be factored in. Having a plan to add weight to thin cows and increase their quality grade can tip the scales in your favor. Body Condition Scores can be used to approximate market cow class and the amount of BCS improvement needed to move up in classification. Breakers are approximately BCS 7 and above, Boning utility (Boner) is around BCS 5-7 and Leans, and Lights are BCS less than 5. Lights have approximate hot carcass weights less than 500 pounds.

On average, it takes about 75 pounds of weight gain to increase one point in BCS. On the other extreme, overly fleshy cows (BCS over 7) may not receive a market premium and are less feed efficient.

There are risks to prolonging ownership of market cows. Not all cows are good candidates to add condition to. Cows with rapidly declining BCS, poor teeth, advanced age, or health problems should be marketed in a timely fashion or risk becoming non-marketable and losing all value. Feed inventory and prices must

# Cattle Tales Livestock Newsletter

be considered. Yardage expenses and added labor costs need to be accounted for as well.

A strategy sometimes overlooked is pregnancy checking cows in early fall and marketing open cows in September and early October. In a typical year, market cow prices will be declining but have not yet reached seasonal lows. An added benefit to this strategy is it also reduces feed costs associated with retaining market cows.

In short, establish a culling plan.

## When should I deworm my sheep/goats? Susan Schoenian, Sheep & Goat Specialist



When they need it. No longer is it recommended that sheep/goats be dewormed preventively or based on the calendar. Nor is it recommended that all animals in a group be dewormed at the same time. These approaches have caused the worms (especially the barber pole worm) to develop resistance to the dewormers. Dewormers (called anthelmintics) are antiparasitic drugs. They should be given to treat clinical disease, not prevent it. Good management is what prevents clinical disease.

There are various decision-making tools available to help sheep/goat producers decide if/when to deworm an animal. In barber pole worm prevalent areas like Maryland, the FAMACHA© score card can be used to determine which animals need deworming or would benefit most. The card estimates the level of anemia (blood loss; packed cell volume) in the animal. Anemia is the primary symptom of barber pole worm (*Haemonchus contortus*) infection.

The card depicts five eye scores and treatment recommendations. Sheep/goats with FAMACHA© scores of 1 or 2 are not anemic and do not need dewormed, unless there are other signs of parasitism. Sheep/goats with FAMACHA© scores of 4 or 5 are anemic and require treatment. Animals with FAMACHA© scores of 3 may or not need dewormed, depending on other factors and criteria.

In order to get a FAMACHA© card, you have to take an approved training. During these times of Covid, online FAMACHA certification is available at <https://www.sheepandgoat.com/online-famacha-certification>.

The Five Point Check© builds on the FAMACHA© system by adding criteria for the other parasites that commonly affect small ruminants, not just the blood-feeding ones, but those that cause digestive upset and nasal discharge. It's also useful for deciding whether or not to deworm an animal with a FAMACHA© score of 3.

The Five Point Check© includes five check points on the animal's body: eye, jaw, back, tail, and nose. You check the eye for FAMACHA© score, the jaw for submandibular edema ("bottle jaw"), the back for body condition score, the tail for fecal soiling (scours), and the nose for nasal discharge (nasal bots).

# Cattle Tales Livestock Newsletter

Sometimes, hair coat is used as an additional check point for goats. A poor quality hair coat can be indicative of poor health, including parasitism. No single criteria should be used to make deworming decisions. All of the criteria of the Five Point Check© should be considered when making deworming decisions.

In areas where the barber pole worm is not the primary parasite, scientists have developed the “Happy Factor” model. It uses target weights to determine deworming needs. If an animal fails to meet its weight objective (ADG), it is dewormed. In our research program at the Western Maryland Research & Education Center, we use weight gain (or loss) to help make deworming decisions, especially for FAMACHA© 3s. A few years ago, a Maryland farm received a SARE grant to evaluate ADG as a deworming criteria. They found it worked best when it was combined with FAMACHA© score.

Fecal egg counts are generally not a good tool for making deworming decisions for individual animals. For one, they are less practical. They take time to do. Fecal egg counts can be combined with other criteria, but by themselves are not very reflective of the worm load an animal is carrying. Nor are there any agreed-upon thresholds (eggs per gram) for treatment. Better uses of fecal egg counts are determining dewormer resistance, monitoring pasture contamination, and identifying resistant (or susceptible) animals.

Ultimately, what’s important is that you have a good reason for deworming. Selecting animals for treatment (or non-treatment) will go a long way towards preserving the effectiveness of dewormers and keeping our sheep/goat farms sustainable and profitable. The horse and beef industry are experiencing similar issues with dewormer resistance and may soon need to

start following the path of the sheep/goat industry where parasite control is concerned.

## Controlling Flies and Ticks in

### Your Livestock – Racheal Slattery, Department of Animal and Avian Sciences and Dr. Megan Fritz, Assistant Professor of Entomology



Fly and tick season is here, unfortunately. But there are management methods, both chemical and environmental, that will help you better control both the fly and tick populations that are going to try and wreak havoc with your livestock. Generally, in a pasture-based setting, chemical control of flies and ticks is going to be more effective than most environmental management strategies, though an integrated approach of both is recommended.

Chemical fly control methods include fly tags, pour-ons, sprays, mists, fogs and dust (Cydectins, Ivermectins, Permethrins, Pyrethroids – examples for each species listed below) that are applied directly to livestock. Fly tags are rubber or plastic ear tags that are impregnated with either a synthetic pyrethroid or organophosphate insecticide. While a very effective tool to combat flies, they are also one of the number one way to build insecticide resistance on your farm when not used properly. The most common methods to create resistance is only using one fly tag per animal vs one per ear, not tagging calves, putting tags in too early (not before early to mid-June), not removing them at the end of fly season, and not

# Cattle Tales Livestock Newsletter

alternating the type of fly tag used every year. There are also feed additives and minerals that can help reduce flies by attacking the larvae laid in manure, though for the best results, they will need to be fed to livestock prior to and during the fly season.

As the temperatures start to rise here in Maryland, working your livestock will become more and more stressful for them. Self-apply devices such as back oilers, back and/or face rubbers and dust bags allow for the animals to have access to their own fly control - requiring less labor for you and less stress for them. For the most effective use of these devices, you'll want to make sure they are located in "heavy traffic" or "pass through" areas of your farm. Examples of these areas are near waterers, over salt/mineral licks, hanging over alleys towards barns, pasture gates, etc. Most fly control methods are also highly effective on controlling the tick populations, including the invasive Longhorned Tick. The key to effective fly and tick control using chemical agents is to remember to re-apply to the devices on a routine basis and to alternate type used so as not to build resistance on your farm.

Some methods of environmental management for fly control include dragging pastures to break up manure, keeping barn pens as clean and dry as possible, cleaning up spilled or spoiled feed, and using fans to circulate air as a means to discourage flies from making their way around your barn. Environmental tick control includes limiting livestock access to wooded areas and clipping tall grass along fence lines - particularly along tree-lined edges as these shaded areas make prime habitats for many tick varieties.

One management strategy to always keep in mind is how you move new animals on to your farm. Make sure to always look them over (particularly their ears, neck and chest/brisket areas) to make sure they aren't carrying any

ticks or other external parasites that could spread around your farm, keep them isolated for two weeks from the rest of your animals, and spray or use a pour-on that will help to kill any external pests you may have missed.

Controlling flies and ticks is an important part of good livestock management. Help make this fly and tick season more successful by getting into a management routine that works for your farm.

Examples of Chemical Fly and Tick Controls for Different Livestock Species:

- Beef Cattle: Bayer Permethrin II, Gordon's Livestock Backrubber & Pour-on, Agri-labs Vet Gun and Vet Caps, Tarter Super-duty Cattle Mineral, Ivermectin Pour-on, Prozap VIP Insect Spray, Boss and Ultra Boss Pour-ons, Python Livestock Dust, Cydectin Pour-on, Ivermax
- Sheep: Python Livestock Dust, Boss and Ultra Boss Pour-ons, Absorbine Flys-X Ready-to Use Insecticide, Gordon's Goat and Sheep Spray, Synergize DeLice Pour-on, Purina Sheep Mineral with Clarify, Fly Off, Crovect, Dysect Sheep Pour-on
- Goats: Python Livestock Dust, Gordon's Goat and Sheep Spray, Boss and Ultra Boss Pour-ons, High Octane Fly Control Show Feed, Gordons Permethrin 10, Bug Check, Revenge Dust-On Fly, Lice and Tick Control



# Cattle Tales Livestock Newsletter

## Implanting Pre-weaned Calves-

Charlie Sasscer III, Agriculture Marketing Educator, Prince George's County



Everyone loves a good return on their investment, though some old farmers might crack that you shouldn't be in the cattle business for that. But for those of us cow/calf producers who are just too hooked on raising nature's most perfect bioreactors, there are countless technologies available for ensuring that our four legged friends are at the very least paying their own maintenance bills. Steroidal calf implants are one such technology that have been proven to provide a return on investment that exceeds even the most lucrative of business endeavors.

Calf implants work in several ways, depending on which active ingredients are present. Estradiol, estradiol benzoate, and zeranol implants all have similar function in growing calves, which is to promote the hypertrophy, or growth in size, of muscle cells. This leads to increased muscle deposition. Implants containing progesterone promote the consumption of more feed which provides more nutrients for growth and development. Both modes of action are very similar to the hormones naturally produced in the bodies of calves, especially in bull calves, as estradiol is the precursor hormone which testosterone is made out of. When used in combination with castration at 60 days of age, similar or greater

weaning weights can be achieved in implanted calves verses non-castrated bull calves. Additionally, this removes the stress that comes with waiting until weaning to castrate bulls. While known replacement heifers should not be implanted, heifer calves can also be implanted while on the cow to achieve increased weaning weights while also not compromising their reproductive efficiency later in life.

The price of calf implants starts at around \$1.30/implant, and each calf only needs one. Implants have been proven to increase calf average daily gain (ADG) by 5% or more over the 120 days from implantation to weaning. That equates to 0.1 lbs. /d, or an extra 12 lbs. of growth. Using a rough estimate for sale price of \$1.50/ lbs., this can result in an additional \$18.00 of calf value, all from a little more than a dollar investment. Furthermore, returns from implants can be even more significant based on genetics, nutrition, and calf prices.

Many producers and organizations oppose the use of growth promoting implants in cattle, due to their beliefs that utilizing estrogenic implants results in beef with much higher levels of hormones. However, this is untrue. Beef from implanted animals contains an average of 11 nanograms of estrogen per 500 grams of food. This is a non-significant increase compared to beef from a non-implanted animal which contains 8 nanograms of estrogen per 500 grams of food. In comparison, cabbage contains 12,000 nanograms of estrogen per 500 grams of food. If you were to slice 1 grain of rice into 25 million parts, one of the 25 million parts would weigh one nanogram. That is how safe beef from implanted cattle is.

Several considerations should be made for cow/calf producers that wish to implant their suckling calves. First off, calves must be restrained in a headgate or roped and stretched out to safely immobilize them. Second, not all types of implants are available in quantities

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feasible for small producers. While, Synovex C implants by Zoetis are a great choice, they are generally only available in packs of 100 doses. This issue can be solved by several producers working together to split a package, as implants come with an expiration date. For independent, small producers Component E-C implants may be a great option as they come in 20 dose cartridges, or the more traditional Ralgro implants may work well as they come in 24 dose cartridges. Each brand of implant has their own specific implant gun needed to apply the implants and these run about \$20. Finally, most implants need to be refrigerated, so they will be shipped in a Styrofoam container and will then need to be refrigerated.

Implants are administered into the backside of the ear of calves, and it is best to watch tutorial videos online, or to ask your veterinarian or local livestock extension educator for a demonstration. It is important to utilize antiseptic techniques such as cleaning the implant needle between calves and cleaning the calf ear before puncture. Utilizing calf implants is a cost effective and easy way to increase protein deposition, growth rate, and improve feed efficiency. Overall, this can result in a seven percent decrease in the cost to produce beef.

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