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Body Condition Scores at Calving: The Number One Metric

Dr. Christine Navarre, LSU AgCenter Extension Specialist

There are many ways to measure health and productivity in cow-calf herds. If there are clinical disease issues, those need to be addressed. But many of the health issues in beef cattle are subclinical and only show up in reduced productivity. Reproductive efficiency, number of calves born, number of calves that survive to weaning, weaning weights, etc. are all important metrics. But one measurement is highly predictive of future health and productivity of the herd: body condition scores (BCS) at calving.

The Problem

Certainly, some diseases, especially severe parasitism, can influence body condition. But the biggest influence on BCS is nutrition. For cow-calf herds, nutrition in the brood cow has a major impact on reproduction, calf health and performance and ultimately the profitability of the ranch. One year of poor nutrition leading to low BCS at calving can have impacts for multiple years:

Year One

- Increased dystocia (difficult calving)
 - Thin cows have trouble pushing with enough force to deliver calves in a timely manner. This leads to increased stillborn and weak calves. Weak calves are more likely to die of cold stress and have poor colostrum (first milk) intake. This leads to failure of passive transfer (poor immunity in calves).
 - Cows that cannot maintain their body condition cannot make good quality colostrum, which also contributes to failure of passive transfer.
 - Failure of passive transfer leads to even more disease and death in calves. Any calf that gets sick, even if it recovers, will never perform to its genetic potential. Calves that have failure of passive transfer but remain healthy still have decreased performance compared to calves that receive adequate colostrum.

Year Two

- Cows that calve thin will either not rebreed or will breed

back late. This leads to fewer calves weaned and lighter weaning weights.

Year Three and Beyond

- Heifers born to thin cows, even when managed with appropriate nutrition, will have decreased reproductive performance when compared to heifers born to cows in good body condition.

This all adds up to fewer pounds of calf weaned per cow for multiple years and decreased productivity of feeder calves and heifers beyond weaning.

The Solution

First, if you are not calving yet, don't wait to BCS. If cows are thin now, you may still have some time to put some weight on them so they calve in better condition. The goal is to have heifers calve in a BCS of 6 and cows in a BCS of 5-6.

Next, perform body condition scoring on cows at calving. Here are some tips for getting accurate scores:

- There's an app for that. Many free apps are available with diagrams and pictures to help stay true to the scoring system. My favorite is "BeefBCS" from the University of Nebraska.
- Ask a fellow cattleman to BCS your herd. When we are paying the feed bill, it is hard not to be unbiased when scoring our own cattle. Ask them to be brutally honest.

If the majority of cattle are too thin, then it's time to look back to figure out why. Work with your county agent to figure out how to improve nutrition in a cost-effective manner. Testing hay and providing an appropriate supplement at the right time are crucial.

If the majority of females are calving in good condition, then the next step is to BCS the herd periodically throughout the year (at bull turnout, at weaning, during drought or other adverse conditions, etc.). Maintaining a steady BCS throughout

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the year is important for the health of the cow as well as for development of the growing fetus.

Other Metrics

Recording calf health information during calving season will also help determine if health and productivity are on track. Information to record includes:

- Calf deaths
 - Date, which dam, and cause of death if known.
 - Group deaths into time categories.
 - Stillbirths (those born dead or within few hours of birth).
 - Those that died within the first few days of life.
 - Those that died in the first 1-3 weeks of life.
 - Those that died at one month or later.
 - Group by dam age, especially heifers vs. older cattle.
- Calf illnesses.

Once these figures are recorded, they can be compared to expected figures. Calf death losses at birth or within the first few days should be less than 5%. All other death losses should be less than 2%. Recorded figures can also be compared from year to year within the same herd. This will provide important information needed to guide any necessary management changes.



Photo Credit: Louisiana Cattleman's Association

Artificial Insemination for Goats

Rodney Johnson LSU AgCenter, Associate Agent

Is AI For You?

If you have a few backyard does that you enjoy as a hobby, with little concern for genetic improvements of their offspring, then artificial insemination (AI) is probably not for you, assuming a suitable buck can be located for servicing the does. The expense of purchasing the necessary equipment and learning to do AI are likely not worthwhile.

AI has some key advantages over natural breeding.

- It eliminates the necessity of keeping one or several bucks on the farm (depending on herd size). Costs of feeding, housing, separate fencing and labor are eliminated. However, heat detection may be more difficult in the absence of a buck.
 - AI can increase the rate of genetic improvement in a herd, as long as superior bucks are consistently selected. In natural service, the prospective breeder has only the buck's pedigree to rely on, yet proven but high potential bucks, while the majority of the herd can be bred to proven high quality bucks.
 - AI allows breeding of different portions of the herd to different bucks.
 - AI permits breeding of many does on one day when synchronization is practiced
 - The danger of transmission of diseases or parasites is greatly reduced.
 - The time of breeding can be more carefully regulated, and the owner knows exactly when the
- AI technicians of the cattle industry may not necessarily be of much help when it comes to inseminating goats, for the modern method of inseminating cattle (rectal palpation) differs from that of breeding goats (speculum method) considerably. The speculum was used on cattle early in AI history, and some cattle inseminators may be capable of teaching goat insemination.

The cost of getting started in AI, not including semen purchases, will generally run around \$500, of which \$400 to \$450 is tied up in the liquid nitrogen tank, which is necessary for storing semen any length of time. Temperatures must be kept at -320F (-196C) for

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sperm survival to be maximized at breeding time.

If AI is to be used with any hope of achieving a good level of success must be known and well understood by the prospective inseminator.

- basic knowledge of the doe's reproductive organs and their functions;
- understanding of storage and handling of semen;
- ability to use, in a proper and sanitary manner, the equipment required for inseminating goats;
- ability to accurately detect heat at an early stage;
- necessity of keeping accurate, up to date records of heat cycles, breeding, kidding, reproductive problems, treatments, and any other pertinent information that may reflect on the goat's reproductive patterns.

Purchase and Preparation of Semen

In most cases, the inseminator will acquire the semen needed by direct purchase from a commercial operation, in which case it will be shipped to the inseminator. It is of the greatest importance that the semen be transferred to permanent storage (the liquid nitrogen tank) without exposing it to anything approaching air temperature

Laparoscopic vs. Transcervical Insemination

Laparoscopic insemination

involves a limited surgical entry into the abdominal portion of the body cavity of the doe with guided injection of the semen dose directly into each uterine horn. It is typically performed by trained veterinarians and veterinary assistants skilled in the technique. Briefly, for laparoscopic insemination, the doe is anesthetized and placed on a surgical table in dorsal recumbency with her rear quarters elevated above her head.

Portions of the abdominal area of her belly are scrubbed and small incisions are made on either side of the midline. Sterile instruments are introduced into each incision and the abdominal cavity inflated with carbon dioxide or sterile air to facilitate visualization of the uterus and ovaries. Insemination is accomplished by visualization of each uterine horn using a laparoscope and deposition of semen into the uterine lumen using a sterile insemination needle. Once the doe is anesthetized, the entire insemination procedure takes about 5-10 minutes. Following insemination, the incisions are sutured and the doe is returned to a recovery pen where she will recover in about 10 minutes.

Pregnancy rates achieved with laparoscopic insemination are approximately 60-80% (Cseh, et al, 2012), making use of this technique an attractive option for producers with large numbers of animals requiring insemination. In contrast, this option may not be cost-effective for producers with fewer animals. Use of ovulation synchronization and TAI protocols, however, can make laparoscopic insemination a more attractive option even for smaller producers because specific insemination dates can be conveniently prearranged.

Transcervical Insemination

The cervix of the doe has 4 tightly closed, cartilaginous rings that provide structure to the cervix and, along with cervical mucus, form a protective physical barrier against the entry of foreign particles. To achieve the highest pregnancy rates for AI, semen must be deposited into the uterine body or into each of the uterine horns. Deposition of semen into the uterus requires that all 4 cervical rings must be passed during the insemination procedure.

In conclusion

Effective estrus synchronization, ovulation synchronization are very important to increase the efficiency of herd reproductive management. Successful implementation of these reproductive management technologies, however, requires careful attention to protocol specifics, record-keeping and doe management

Ryegrass Pasture Chores

Howard Cormier, LSU AgCenter, Southwest Region Equine Agent

We've gone from drought in some places, to heavy rainfall in many places. The recent rains swept across Louisiana and changed the first weekend plans for many people.

On a positive note, we're seeing winter pastures green up throughout the state. Overseeded pastures will take longer to get growing, so most of my comments will apply to prepared seedbeds.

Most ryegrass pastures on prepared seedbeds are showing good germination, although there are some "holes" with little or no grass in some spots. This is usually temporary, so don't be too eager to replant. Many times, the seed might have been planted a bit deeper, and will take longer to emerge. Unless there were some places that you simply missed seeding, try to be patient. Most times the seed will emerge, and you'll end up with a decent stand. If you do decide to replant or "sweeten" thin stands, try to do it before the next rain. It continues to baffle me why some people will wait until after a rain to plant. The seed will usually not germinate until the next rainfall event.

So what is there to do now if the grass is up? Drainage, fertilization, and fencing come to mind. Standing water will kill ryegrass over a period of time. Although it can tolerate repeated flooding, ryegrass won't grow under water. Even if you rut up the field somewhat to make the ditches, you'll get more benefit by taking care of drainage for the entire season. Ideally, you can make shallow ditches that you can drive trucks or tractors through without jarring kidney stones loose. (Keep in mind that you might have to roll a fertilizer cart across the field, or **do some bush hogging in late spring.**) **But even if all you have is a middle buster or Kelly plow, use it to get water off the field.**

Lime and fertilizer is critical. Lime should have been worked into the soil at planting, if a soil test showed a need. You need phosphorus and potash if you have not been keeping up with those needs, too. Although you can "mine" what is in the soil, you can't do that forever, and you'll need to replace those elements, especially if you own the land, and plan to use it continually in the future. It's best to put these elements down before or when you plant. Remember that fertilizer such as 8-8-8 contains 24% actual fertilizer, whereas something like 8-24-24 contains 56% actual fertilizer. Add the numbers together to get the actual percent of elements that you are applying, and you'll see what the best value is.

One thing ryegrass can't do without is nitrogen for leaf growth. Without adequate nitrogen, your field of ryegrass simply will not grow enough to provide good grazing. Nitrogen normally is provided in two common forms, either urea, which is 45% nitrogen, or a blend of urea and ammonium sulfate, sold as 33%. Urea is the better value, unless your soil needs sulfur.

How much and when to apply nitrogen is important. Most people wait until the ryegrass comes up and is several inches tall before they decide to fertilize it. As soon as the grass is up to about three inches tall, you should fertilize with nitrogen, if the field will support a tractor and spreader. Your goal is to get as much growth as possible before weather turns cold. Ryegrass makes little to no growth when temperatures average below 55 degrees. Those who wait until December or January to fertilize wonder why their grass isn't growing, but it's because of cold temperatures, and not necessarily lack of fertilizer.



Photo Credit: Howard Cormier

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When the ryegrass is about 6 inches tall and doesn't pull out of the soil, you can start grazing. Remember that it will continue to grow even with grazing pressure. Don't wait too long to get grazing started. You've invested in producing a forage crop, and the sooner you start getting feed from it, the better the return. Limit grazing to a half hour or so at first, and gradually let livestock graze for longer periods. (They will usually walk fences when they are first put on the field.) When they stop eating and start lying down, it's time to remove them, if you can be around when that happens. A spouse, school kid, hired hand, or neighbor can help with that daily chore if the owner can't be around.

That brings up another option you can add to your field that can increase productivity by over 50%. Many people do not know about this addition that makes a huge difference. It's wire. Specifically, electric cross fencing that will allow for rotational grazing. It's much easier to simply open the gate, and let the horses or cattle harvest all they want, but they will trample some, and eat some areas too short for it to rejuvenate and grow back. Cross fencing into smaller paddocks will keep the grass from being eaten too short. It might take some repair work to train the livestock. Tie plastic flagging so the horses will see the wire. It's an inconvenience to do the extra work, and remember that besides fencing, you have to include wire gates to allow access to each paddock, but it is well worth the extra work. Horses will get used to the routine of entering and exiting the ryegrass, especially if you can be regular when you put them on and take them off. They don't need to be stuffed to get good nutrition, especially if you provide hay or if they have access to summer grass forage. An hour morning and evening will provide for their needs adequately. I would caution horse owners against over grazing ryegrass pasture, as it can lead to obesity, hoof problems, and possibly founder in horses. When in doubt, keep them out. Also, if the ground is boggy, you might restrict access until it dries up a bit. Ryegrass is resilient, and will grow back if trampled some, but it cannot take repeated burying.

If you manage your ryegrass pastures correctly, you can get a good return for your dollars invested, and improve the health of your animals. You've got to want to do a good job, but for most of us, it's an enjoyable task we look forward to each day. Call 337-296-6819 or email me if you have questions. hcormier@agcenter.lsu.edu

Considerations for the Small Cow-Calf Producer

Dr. Kurt Guidry LSU AgCenter Southwest Region Director & Extension Economist

Based on the latest USDA Census of Agriculture data, roughly 80 percent of all cattle operations in Louisiana have fewer than 50 head of cows. Most of these "small" cow-calf operations are operated "on-the-side" or in addition to the producer's primary source of income. Because most operations are not relied upon to generate a significant portion of the producer's annual income, we often find that there are other goals besides profitability that motivates the producer. While there is nothing wrong with having non-financial goals, the first step in working toward increasing the financial performance of the operation is setting maximizing profit as a major priority for the operation. With this goal as the guiding principle in management decisions, much of the emotions that impact decisions can be limited.

Just having maximizing profit as a major goal does not, however, necessarily guarantee success. Small cow-calf producers are often limited in their marketing options, are unable to effectively purchase in bulk for cost savings, and typically have high investment costs per cow. All of these challenges are typical of small cow-calf operations. But these challenges do not preclude the operation from generating profits. Basic economic principles still apply regardless of the size of the operation. While "economies of scale" do provide benefits to larger operations, small cow-calf operations can still be profitable if they make decisions within a simple marginal cost/marginal revenue framework. Simply put, if a change in the operation will cost more than the additional revenue it creates, then this framework would say not to make that change. Key to being able to effectively utilize this marginal cost/marginal revenue framework in making decisions is having accurate and dependable records. Often, the first step in improving the financial performance of an operation is establishing an accurate set of production and financial records. Monitoring these records over time, will allow the producer to identify areas of strengths and weaknesses in their operation and provide them with

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the information to make decisions that will have positive impacts on their operation.

Beyond following this basic framework, there are other issues and factors that can be considered by the small cow-calf producer when attempting to increase the financial performance of the operation. The following provide a brief overview of some of these issues.

- **Keep Overhead Low**

Keeping overhead costs low can be a challenge for small operations. Even investing in the minimum amount of equipment and infrastructure can still result in high investment costs per cow given the low number of cows in a typical small operation. Overhead and fixed expenses are going to be there year after year and often time heavy debt loads can be the downfall of many operations. First, only acquire the absolutely necessary equipment needed. Also, it may be more economical to rent equipment or custom hire certain functions of your operation. Another potential option is sharing equipment with fellow small producers to lower the overall ownership costs for either operation. Keeping overhead low will allow the operation to more easily withstand down periods in market.

- **Grazing Versus Feeding**

Because many small cow-calf operations are part-time businesses for producer, there may be a limit on the amount of time that can be devoted to the operation. One of these examples could be in forage management and production. From a time perspective, it is likely easier to go to the feed store then spend the time needed to properly manage forage production on the operation. However, it is universally recognized that economic performance can be enhanced by relying more on forage to meet the nutritional requirement of the cow herd versus meeting those nutritional requirements with purchased feed.

- **Choosing The Sector of the Industry That Best Fits You**

Producers must determine which sector best fits their resources and time. It may be that it may be more advantageous to focus on seed stock production versus a traditional cow-calf operation. If land and forage is not a limiting factor, it may prove that a stocker operation offers more potential than the traditional cow-calf operation. Choosing the sector that best fits your situation will offer the greatest potential for financial success.

- **Can Value Be Added?**

Are there management practices, improvements in genetics, or improvements in nutrition and health programs that can result in a product that is in more demand by the market? Several studies have shown that by simply de-horning calves or having a strong vaccination program can increase the value of calves marketed by \$3.00 to \$7.00 per hundredweight. We have all seen market reports that show 500 pound calves selling in a range from \$120 to \$160 per hundredweight. As cattle numbers increase, buyers can be more selective in their purchases which typically results in that range widening. The goal would be to have cattle that would always demand the high end of that range.

Another avenue of adding value is looking for a niche market for your operation. Can you establish a local market where you market cattle straight to end consumers? Can you look at alternative management practices like grass fed beef or organic beef and can you attract enough consistent demand. Marketing will be the most critical component. From a production standpoint, most things are feasible. The trick is finding a reliable and consistent market that will pay you for the additional value you have created.

- **Pooling Cattle for Increased Marketing Opportunities**

While there are many marketing alternatives available to cattle producers, most have lot size requirements. While some of these markets offer larger buyer numbers, reduced marketing costs, and higher potential prices, small cow-calf producers are often unable to utilize these due to simply not being able to offer enough cattle to sell at any one time. In an effort to overcome this limitation, some producers have effectively pooled cattle to increase numbers to access

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different market options. For pooling to work requires finding producers with similar genetics and similar management practices that result in a uniform set of calves. In addition to numbers, buyers want uniformity in the cattle they purchase. Much, if not all, of the benefit of pooling cattle can be lost if the result is a group of cattle with a significant amount of variation.

- **Group Purchasing of Inputs**

Another challenge for small cow-calf producers is having to purchase inputs in low quantities. This typically eliminates any potential for receiving price discounts and often results in paying a higher per unit price than larger operations. Producers have effectively formed groups to purchase inputs in bulk to take advantage of improved pricing opportunities. This allows all producers to reduce their per unit costs and helps to improve the overall financial performance of the operation.

While all of these may not fit every operation, looking at creative ways to either increase revenue or decrease costs is key to improving the long-term financial performance of an operation. Utilizing some of these options in conjunction with making sure that maximizing profit is a high priority for the operation provides the greatest potential for sustained success.

Best Beef in the World

Dr. Tim Page, LSU AgCenter, Extension Specialist & Jim Cobb, Cobb Gang Farm

All beef cattle producers should have a primary objective or goal in their plan. For many it may be as simple as making a profit and becoming more competitive in the beef industry. There is nothing wrong with that goal but your plan should include HOW you are going to be profitable and competitive.

Most cow/calf producers strive for the highest conception percentage, highest calving percentage, and ultimately the highest weaning percentage they can have along with heavy weaning weights. I don't see beef mentioned in that goal and plan. Purebred producers strive for the best genetics and phenotype they can produce in order to reap high prices for their bulls and heifers they sell. Again, I don't see beef in that goal.

We all 'know a guy', well 'I know a guy' who's primary goal and objective has been to produce the best beef in the world. He has been working on that goal since the late 70s. Sure, he would like to make a profit but he has always believed that if he could produce the best beef in the world the profits would be there too.

Well I'll be. I think 'my guy' has gone and done it. I truly believe he has figured out how to produce the best beef in the world and you could not even guess in your wildest dreams how he accomplished that. If I had not been working alongside of him for the last 15 years I might not believe it myself.

'My guy' was sharp enough to understand EPDs in their infancy. Early on he also realized to make the best beef in the world the Angus breed had to play a major role in his objective. The Angus breed has a huge advantage in today's industry. There are more Angus cattle registered every year than all the other breeds combined. Also, the breed has always been in the forefront in terms of quality beef.

'My guy' studied the leading Angus seedstock operations in the world. He decided on one of the largest Angus operations that he felt had the genetics that he would use to help make the best beef in the world. From what I have seen, 'my guy' made the right

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decision. The really cool thing about 'my guy' was that he didn't concentrate on just IMF, REA and BF. He also demanded that they have excellent EPDs for BW, CED, WW, YW, SC, \$Beef, Docility, and has added \$E, \$F, \$G, and other EPDs to his matrix as they have emerged into our vocabulary. 'My guy' had to pay a little more for the genetics that he coveted but again, he had to do that to ultimately produce the best beef in the world.

We were also using ultrasound scan information in the selection process. I would scan his heifers every year and he only kept heifers that had excellent scan data but also scored high on phenotype. 'My guy' did not want to sacrifice reproduction and soundness for the sake of high quality beef.

I have to regress slightly to tell the whole story. 'My guy' originally started with a base cow herd of F1 Brahman X Holstein in the 70s. He wanted cows with some ear and would produce a lot of milk, wean heavy calves, and even grade low choice because of the Holstein influence. Big problem, they were giants. When I started working with 'my guy' those original base cows were long gone. But he had many daughters and granddaughters from those F1 genetics that he was breeding top 10% EPD Angus bulls to and they were making calves that typically hung Medium and High Choice carcasses with some Prime scattered among them.

We reached a point where all of the ear and dairy had been bred out of his cows. 'My guy' wanted to start another base herd of F1 Brahman X Holstein. We had more lively discussions about that topic than anything we ever talked about. I did not want to make more giants. I had been trying to downsize his dams for a number of years to make them medium frame instead of giants. We are now getting to the part of this true story that you may not believe. One day I suggested Jersey instead of Holstein to keep them smaller. 'My guy' kinda bought into that but he still wanted the Brahman to keep some ear in his cows. Again, with Brahman we were going to make large frame heifers. The Jersey influence would actually produce higher IMF beef than the Holstein. As a compromise I finally suggested we try Brangus instead of Brahmans. Still some ear but not as big and we begin introducing Angus into this equation earlier which is always good.

Then out of the blue one day 'my guy' suggests we try Red Brangus bulls on Jersey heifers to make his new F1 dam herd. Since we're in the south he decided he wanted to make red heifers instead of black heifers. Black cows usually spend most of their summer days in a pond or in the shade. My question to 'my guy', where in the heck are we going to find high quality carcass Red Brangus bulls to breed to Jersey heifers?

I have to give all the credit to 'my guy'. He looked high and low and he actually found a few Red Brangus bulls that had scanned above 6% IMF. The producer priced them high enough that he thought 'my guy' would fold the tent and head home. He didn't. My guy is a hardheaded guy that marches to no one's drummer. He cut him a check on the spot and left the Red Brangus producer standing there wondering what had just happened.

Okay, then we had to find Jersey heifers. Didn't want mature cows because we knew we would have serious udder problems. He tried to get some Jersey dairies to make them for us. No luck. Actually found them at Louisiana Tech when they had their dairy herd dispersal sale. 'My guy' bought every heifer that walked through the ring that day and a few 1st calf heifers that had not been in high milk production.

Took them home, bred them to these elite Red Brangus bulls and they made cookie cutter beautiful red heifers that did not show dairy characteristics at all and they were half Jersey. The steers out of that cross produced beef that graded High Choice and Low Prime beef.

Okay, final step to making the best beef in the world. Those Red Brangus X Jersey F1 heifers bred to high quality Express Angus bulls produced the best beef I have ever seen or eaten. They all graded at least low Prime to high Prime. What was really eye-

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opening was that they even marbled heavily in the tenderloins. I have never seen or tasted tenderloin that marbled like that. Best Beef in the World! If you don't believe me, I can prove it. I can grill you a steak that you won't believe. I can show you pictures of the heaviest marbled and tender tenderloin and loin I have ever seen or had the pleasure of eating.

'My guy' accomplished his goal. What is your goal? The feeling and sense of accomplishment is awesome when you finally attain a major objective. Eating the best beef in the world is even more awesome.

Make a smart plan. Set goals to work toward diligently. I challenge my students every day with the concept that we are not in the cattle industry. A lot of people say we are in the grass business. No, we are in the global market **beef industry**. Our beloved beef industry is value based more and more every day. If producing high quality beef is not part of your business plan, you will not be able to stay in the beef business moving forward. You will be left behind and out of business. Every one of us in the beef industry should be striving to produce the highest quality beef we can possibly make. Those are the producers that will be left standing when a lot of us are out of the industry. Strive to make the best beef you can possibly make as part of your strategic plan. You will be competitive in our industry for many years to come. **BEST BEEF IN THE WORLD**. I personally believe that is the model we should all be working hard toward. I challenge you, what is wrong with striving to personally make the best beef in the world? **NOTHING**.

Dairy Update

Dr. Charles Hutchison, LSU AgCenter, Extension Specialist

Milk and Cow Prices

According to the latest USDA Market Outlook report, the 2017 all-milk price forecast is \$17.75-\$17.85 per hundredweight (cwt), unchanged from the previous forecast. The mailbox milk price for producers in Louisiana so far this year has averaged between \$17.50/cwt and 18.00/cwt depending on the handler for the milk. Unfortunately, the uniform blend price for Federal Milk Order #7 has declined about \$0.90/cwt from August to October of this year.

The all-milk price forecast for 2018 is \$17.45-\$18.35 per cwt, a reduction from \$17.55-\$18.55 forecast last month. The reduction in price was due to the current USDA forecast of 0.5% more cows and 1.4% more milk per cow in 2018 resulting in an estimate of 1.9% more milk production in 2018 compared to 2017. "This is a lot of milk that will put downward pressure on milk prices," said University of Wisconsin Professor Emeritus Bob Cropp. "It would take higher than expected domestic sales of milk and dairy products or higher dairy exports to push 2018 milk prices higher than what is now forecasted."

The current milk price and milk price forecast has also dampened replacement heifer prices. The October 2017 USDA average value for close-up dairy replacement heifers was \$1,351 per head. This is quite a change from just three years ago during the milk-price boom in 2014, when Holstein springer prices hit a record high average of \$2,120 per head in October. One of the closer dairy cattle markets to Louisiana is the Dairy Auction in Sulfur Springs, Texas. In their most recent sale top grade Holstein springing heifers average between \$1,150.00 to \$1,425.00 per head with week old Holstein heifer calves averaging \$105.00 to \$165.00 per head. The price for Holstein bull calves in the local auctions is very low with a price range per head of \$20.00 to \$45.00. Unless the price of milk increases considerably in 2018, replacement heifers and mature cows prices will continue to be low.

Equine Insulin Resistance

Dr. Neely Walker, LSU AgCenter, Extension Specialist

Feeding your horse is one of the most important factors in maintaining its overall health and performance. When horses digest feed; carbohydrates produce glucose (sugar), which becomes the horse's main source of energy. Once the body recognizes the increase in available glucose, insulin is produced to regulate the glucose concentration and use throughout the body. Insulin resistance (IR) occurs when the body is no longer sensitive to the actions of insulin. Therefore a horse that is insulin resistant will require higher quantities of insulin to properly utilize the available glucose from digested feed.

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The cause of Insulin Resistance in horses is not fully understood and it is likely that multiple factors contribute to this condition including diet, obesity, age, activity level, and genetics. Modern feeding programs usually include high sugar/starch which causes an increase in glucose and the amount of insulin required to regulate it. Research has shown that horses that are fed a high sugar/starch diet compared to horses that are fed a high fiber/fat diet were more likely to develop insulin resistance. Obese horses are more likely to become insulin resistant, however even lean horses that can be classified as “easy-keepers” can also develop this disorder. Horses over the age of 20 are prone to developing endocrine dysfunction and as a result also develop IR. The level of activity your horse has also plays a role in Insulin resistance development. Regular exercise will utilize the excess glucose causing a reduction of insulin; therefore active horses have a reduced chance of developing IR.

Horses that are Insulin Resistant often have a body condition score of 6 or higher with irregular fat deposits, can be described as “easy-keepers”, and may have bouts of unexplained sore hooves and laminitis. If you suspect your horse may be insulin resistant it is important that you have your veterinarian diagnose it as soon as possible. If untreated insulin resistance can lead to decreased pancreatic function and potentially cause the development of type II diabetes.

It is important to note that management practices utilized in the first 10 years of a horses’ life can predispose it to becoming insulin resistant. Prevention is always preferred. The following management techniques can help you treat and prevent insulin resistance.

- Avoid obesity (body condition score of 7 or higher) by adjusting your feeding protocol.
- Limit grazing especially in the spring and fall when cool grasses contain the most sugar.
- Limit concentrates and feed grain with low in sugar and starch (i.e. NO MOLASSAS) only if needed.
- Provide exercise and turn out time for your horse. Turn out should be done in a dry lot or an arena to reduce the chance of consuming high starch grasses.
- Maintain adequate hoof care to help reduce future laminitis.
- Ensure a proper diet that is specific to your horse. Many IR horses that are fed a restricted diet do not get all of the required nutrients. Work with your veterinarian or a nutritional consultant to determine if additional supplements are needed.

Insulin resistance in horses can create a management challenge for owners and decrease overall performance. If you suspect your horse may be suffering with IR contact your veterinarian immediately. Maintaining a healthy balance between diet and exercise can help prevent insulin resistance in your horse.



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