PURINA Check point®
Management & Nutrition Tips For Beef Producers

Forage Testing: A Solid Foundation for Your Nutritional Program

Forage testing can provide valuable information to help cattle producers make the most of their crops, feed and supplements. It can also help in buying and selling crops. But, few producers utilize this readily available technology. Here's why they should.

"If you think you can guess the quality of forage by its appearance, think again."

That's what Clif Little, Extension Educator at Ohio State University contends. He is also the Forage Team Co-Leader at the university.

Little says many ranchers believe they can observe the color, texture and smell of a given bale of hay and assess its nutritional value.

BUT IT'S NOT THAT EASY

"I do a class and bring in hay samples, along with values and ask farmers to match them up," said Little, an animal scientist who holds a B.S. and M.S. from Ohio State University. "Very seldom are they able to match the correct value to the appropriate forage based on how it looks. The appearance can indicate maturity and reveal weed content, but that's about it."

And, as he puts it, "guessing wrong about one bale would have paid for a forage analysis."

Forage testing costs as little as $10 and is available through co-ops and university extension services, as well as through other nationally certified forage testing labs. That cost is inconsequential when compared to the amount cattle producers spend on hay, feed and additives to supplement their herds' nutrition.

Without forage testing, it's hard to know for sure you are spending wisely for those components in your feeding program, Little explained.

"You can't accurately balance a ration, energy, protein or mineral program without it. And with the high soybean and corn prices this year, it's never going to pay as much to do forage analysis as it will this year."

To get started with forage analysis, he recommends that producers pick up a fact sheet on forage testing, online. That will explain the testing procedure, as well as what the various analyses mean. Then they can go to a local extension office or co-op to see if forage test kits are available.

The forage test kit contains a submission form and sample bag. Producers can choose from a variety of tests. Little said it's a good idea to utilize a forage test probe when sampling hay. Many extension offices will lend forage testing probes to local producers.

To take the sample, you attach the probe to the end of a drill and bore into a bale of hay to get a sample. You repeat this process several times from several lots, getting 10 to 15 cores from any lot of hay (or field or cutting).

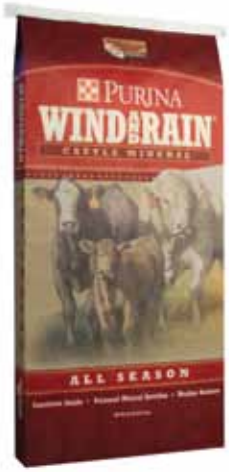
"The idea is to have a sample representative of the forages you are looking at," Little said. "The more cores you take, the better."

The samples are then removed from the probes and placed in a large container, mixed up and sent to the laboratory to get an overall assessment of that batch.

Little said, "it's amazing how variable hay can be," with many factors influencing the quality. Those factors include the fertility of the field, weather, harvesting and storage.

For instance, the longer forage is stored, the more it will decline in nutrient value. Moreover, bales left outside will begin to break down and decay.

Having a complete analysis of your forage will tell you where the gaps are in your herd's nutrition, so that you can fill them appropriately. That can be significant in the productivity of your herd. What's more, the analysis can potentially save you money in unnecessary feed and supplements.



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Forage testing also allows farmers to identify good, medium and poor quality forage and match it to the appropriate animals, based on such factors as time of year, gestation and body condition.

"You can separate your cattle and feed hay accordingly. Feed the highest quality hay to animals that need the most nutrients," Little recommended, "such as animals that are pregnant, growing or in early lactation. Feed the poorer quality hay to older cows and those that are in good body condition."

But the benefits don't stop there. If you purchase or sell crops, forage analysis can help you make sound purchases. And, it can yield higher profits if you are selling.

"Many hays can vary widely, based on differences in nutrient content," Little elaborated. "If you were able to measure the protein, phosphorus, calcium and energy in a bale of hay, you could see as much as $100 per ton difference in value."

The forage analysis will also reflect the amount of trace minerals, including copper, phosphorus, calcium, manganese, magnesium, and zinc. Little said deficiencies can cause serious health problems.

On the other hand, abnormally high mineral levels can also be detrimental. For example, high potassium levels bind magnesium and prevent it from being absorbed. That causes a disorder called grass tetany. He added that high potassium levels are often seen in early-cut forage, even though soil testing may show normal potassium levels.

Reading the forage analyses can be complicated, Little admits. He recommends you compare the results with the nutritional requirement tables for your class of livestock. If the values are less in the sample than in the tables, you need to supplement, whether its protein, energy or trace minerals. He offered that, generally speaking, most forage is adequate in protein but deficient in energy and in one or more minerals.

Once you establish what deficiencies exist in your forage, talk to your Purina dealer or local representative about how you can supplement to fill in the gaps. Purina's products containing Intake Modifying Technology® (Accuration® and Wind and Rain® Minerals) are specifically designed to be fed with whatever quality forage you have and still provide a balanced nutrition package for your herd.

QUICK FACTS ABOUT FORAGE AND TESTING

Excellent tool to fine-tune fertility program
Can be used on crop, hay or pasture
Provides more information than soil testing alone
A great tool in selecting, purchasing or selling forage
The only way to balance a mineral or ration program for livestock
It's simple and inexpensive
Forage quality and nutrient analysis varies greatly
Think you can estimate the quality of forage from appearance? Think again

"You can't accurately balance a ration, energy, protein or mineral program without it. And with the high soybean and corn prices this year, it's never going to pay as much to do forage analysis as it will this year."

Clif Little, Extension Educator and Forage Team Co-Leader, Ohio State University

PURINA®

Quality, Palatable Feed Crucial to Calves' Early Success

Even after calves survive birth, cope with spring rains and withstand summer heat, their trials have not ended. They must also be weaned from their mothers and endure a wide range of stressors such as shipping, commingling, exposure to disease, dietary changes, processing and cold weather. All these stressors challenge the calf's immune system, which is still developing. No wonder so many young calves develop health problems, such as coccidiosis and pneumonia.

Fortunately, a sound calf management program can help offset the physical and emotional stressors and keep calves healthier. A sound feeding strategy is a pivotal piece of that program.

Young calves often lose essential energy after being separated from their dams, so the University of Florida College of Veterinary Medicine (*Veterinary Clinics of North American Food Animal Practice* (Vol. 23, No. 1, March, 2007) urges producers to get feed into calves as early as possible to minimize stress.

Lee Dickerson, Ph.D., director of national accounts and cattle distribution for Land O' Lakes Purina Feed LLC, agrees.

"We've found a direct correlation between when you get calves to eat and when they can process the feed," he explained. "If we can get to an intake of 2.5 percent of body weight, the likelihood of that calf experiencing health challenges is significantly lower."

What you feed calves to ensure healthy and productive lives depends upon individual preferences, palatability, digestibility and local environmental conditions. In general, however, the University of Florida's veterinary staff emphasizes the importance of "carefully selecting" feeds capable of meeting every weaned calf's complete nutritional needs: energy, protein, minerals and vitamins.

The Veterinary College cautions against feeding low quality feeds such as straw or corn stalks, and to use silage only in limited amounts to get newly weaned calves off on the right foot. Silage's lackluster palatability and high moisture level "don't appeal" to calves, "resulting in the animal's failure to grow to targeted levels."

Of course, the highest quality forage may not always be available, especially during late summer and autumn. So, feeding starter products is particularly valuable. Creep feeding for several weeks before weaning not only trains calves to eat concentrate-based feed, it also provides much-needed nutrients.

After weaning, Purina's Preconditioning and Receiving Chow, for example, provides high nutrient quality for calves. And, IMPACT® Starter, which employs Purina's proprietary Intake Modifying Technology®, offers the added benefit of assuring calves eat only what they need at any given time. In addition, Purina has just introduced Precon 5™, which works well for producers who hand feed and want to supplement with hay or grass. So, producers have several choices to ensure a nutritionally dense diet for their herds.

The option you select will depend on several factors, Dickerson explained. Those factors include the type of facilities you have, availability of quality forage, cattle condition targets, profitability goals and plans for the calves.

If you have bunks and feeders and the calves are confined, you may want to consider feeding only Preconditioning and Receiving Chow or IMPACT® Starter—especially if you desire optimal cattle condition/health and improved net profit potential. Overall, Dickerson said, this complete, balanced nutritional program will generally deliver "the best return on dollar spent," But, he cautions, "you have to have self-feeders or bunks to make it work."

For producers who want to use hay and/or grass, he recommends a mixed ration that has an average total protein level of at least 8 percent. To accomplish this, Purina's new Precon 5™ feed, at 22 percent protein, would be hand-fed daily in a bunk at approximately 5 pounds per day per calf (approximately 1 percent of average body weight). Precon 5™ feed would constitute 33 percent of their total diet. Sixty-seven percent of the diet would then be comprised of hay or grass at 8 percent protein. The combination of the two would yield a total diet that is 13 percent protein.

"If they have a diet that is already 13 percent protein, they may only need Wind and Rain® Availa-4 Mineral," Dickerson explained. "If there were ever an animal that needs a source of trace minerals, it's a stressed calf. That zinc, copper, cobalt and manganese is essential. Plus, it gets calves eating. When you put them in a pen, they will just walk and walk. If they lick the minerals, this gets them to start thinking about eating."

Whatever your particular situation and feeding preferences, these Purina products may make your job easier, while ensuring that calves get the complete nutritional package they need to stay healthy at this critical time.

"What we are trying to do with each program is to get calves to eat 2.5 to 3 percent of body weight within 5-7 days," Dickerson said.

To learn more about which calf feeding program is right for you, talk with your local Purina dealer or sales representative.

Ionophores: A Misunderstood and Underutilized Production Technology

By disrupting the activity of specific bacteria in the digestive system of beef cattle, ionophores can deliver improved herd health, faster growth and higher feed efficiency. Unfortunately, this misunderstood technology is often underutilized—and to the detriment of producers' bottom lines.

If you're not using ionophores, you're leaving money on the table, according to Jason Sawyer.

And, he ought to know. He's Associate Professor and Associate Head for Operations in the Department of Animal Science at Texas A&M University in College Station. He is also Superintendent of the university's McGregor Research Center.

Unfortunately, in spite of its benefits, this 40-year-old technology is often overlooked, Sawyer said recently in an interview with CheckPoint®. In fact, he calls ionophores "one of the most underutilized production technologies that exists."

WHAT ARE IONOPHORES?

Ionophores are chemical compounds that weaken or kill bacteria by disrupting the way a specific strain of bacteria maintains its chemical balance. They do this by changing the way the targeted bacteria transport ions in and out of their cells. Sawyer said ionophores essentially "create holes in the membranes of bacteria cells."

There are different types of ionophores, each with action effective against specific categories of bacterium. And, though they work against bacteria, they are not technically antibiotics.

"They aren't really antibiotics," Sawyer explained. "They are antimicrobial compounds. The key difference is that ionophores are only active in the gut, not throughout the body. They are not effective systemically like an antibiotic is against an infection. Ionophores used in beef cattle production only have activity in the gut."

WHEN ARE THEY USED AND WHAT ARE THE BENEFITS?

There are a number of products in the ionophore category that are approved by the Federal Drug Administration (FDA) for use in beef cattle. Two of the best-known compounds are Rumensin® (branded name for monensin sodium) and Bovatec® (branded name for lasalocid sodium). Sawyer said such compounds are most frequently used in intensive feeding situations, but points out that there are opportunities to use them in a variety of situations, including grazing, stocker, growing, finishing…even in dairy cattle.

The benefits of ionophores have been well documented by academic and industry experts. Efficiency and weight gain are at the top of the list of advantages Sawyer cites, along with improved herd health and better growth.

"Some intestinal parasites like coccidia are inhibited by ionophores," he explained. "Coccidia cause intestinal disease, so the use of ionophores can improve the health of calves. It also helps them develop and gain weight at a faster rate."

Research trials have demonstrated that pasture-fed cattle had

a 14 to 16 percent increase in average daily gain when monensin was added to their feed[1]. The added cost of the ionophore was 1.2 to 1.8 cents per head per day. That translated into a 1:12 cost-benefit radio. Other studies have shown similar results.

For grow yards and other preconditioning situations, Sawyer says producers might see gains of 5 to 15 percent, along with a 5 to 15 percent gain in increased feed efficiency.

For feedlot cattle, the main benefit is feed efficiency.

"Producers could expect from 5 to about 12 percent improvement in feed efficiency, depending on the diet that's being used," Sawyer said. "In feedlot situations, we don't usually see an increase in daily weight gain, but animals need less feed to achieve a high rate of gain."

Another interesting benefit of ionophores that's getting a lot of attention recently is their positive environmental impact. That's because one class of the bacteria suppressed by ionophores produce methane. As a result, ionophores actually can reduce methane production in cattle by 10 to 15 percent, thus cutting greenhouse gases.

And, finally, ionophores increase the production of chemicals that send a signal to the brain to slow down eating. When cattle eat too much at any given time, their digestion is less efficient. So, by helping to moderate intake, ionophores can also aid digestion and reduce digestive upset.

SO, WHY AREN'T IONOPHORES USED MORE?

Ionophores are used widely in feedlot operations; Sawyer estimates that over 95 percent of feedlot cattle are fed ionophores. However, he said substantially fewer than half of all stocker operations use them.

"The biggest reason producers don't use them is they lack knowledge about how the technology adds value," Sawyer said. "They simply aren't aware of the benefits to be gained from

ionophores."

In addition, some operators aren't sure how to incorporate the product into their feed on a regular basis. And, feeding ionophores on a consistent basis is crucial to their effectiveness.

"It's like grabbing a competitor's shirt during a race," Sawyer explained. "If you grab and let go, repeatedly, he can still make some progress. If you grab and hold on, you can really hold him back."

The easiest method of assuring that ionophores are delivered on a regular basis, of course, is by incorporating ionophores into the regular feeding program. They can be purchased premixed with feed and supplement products, such as Purina's 4-Square® Stocker Grower, IMPACT® Starter and Preconditioning and Receiving Chow.

ARE THEY SAFE?

The increasing attention to food production practices has involved ionophores to some degree, Sawyer admits. "There's a perception that they are disease-inhibiting antibiotics, and there's an association in the public mind with the use of sub-therapeutic antibiotics." But he calls that a "false association."

Sawyer emphasized that in order to be approved by the FDA, ionophores had to be evaluated intensively to make sure they were safe. That includes verifying that not only they were beneficial to the production of beef cattle, but also that there was no carry-over that would harm animals or humans.

"There's no real evidence that bacteria can develop a resistance to ionophores nor are the type of bacteria we use it on in beef production associated with disease in humans," he clarified. "In my mind, there is really no reason for that controversy to exist."

1. http://jas.fass.org/cgi/reprint/62/3/583

MAKE SURE COWS AND CALVES ARE READY FOR COLD WEATHER

Autumn and winter represent a critical transition period for your herd, even if you only calve in the spring. It's well accepted that cold weather increases stress. Temperature fluctuations are a less-recognized problem for cattle. Temperatures can vary more than 30 degrees in a single day, causing their bodies to constantly struggle to adjust. In fact, fluctuating temperatures may be harder on cattle than stable cold temperatures.

Reducing disease in young calves. For calves being weaned, the added stress of weather changes can translate into disease. Coccidiosis—a common intestinal infection among young cattle during such times—can decrease feeding performance and cause diarrhea. Respiratory disease can also spike this time of year.

To reduce the possibility of these infections:

- Use an effective ionophore, such as Rumensin® or Bovatec® in feed. When fed at therapeutic levels, ionophores decrease coccidia numbers by preventing their replication, Deccox® may also be used if treatment is needed.
- Establish a sound vaccination program to prevent respiratory disease, preferably a modified live vaccine that contains IBR, BVD Type 1 and 2, Pi3 and BRSV.
- Deliver the first round of vaccines during suckling or pre-weaning. Then provide a booster, also during pre-weaning if possible.

Choosing the right vaccines and vaccination protocol is crucial to minimizing disease in weaned calves, but there are other considerations that are also equally important. Here are a few:

- Evaluate handling facilities and weaning pens for sharp edges, protruding objects and other obstacles that could injure calves.
- Address pen dust to reduce respiratory disease and complications from "pink-eye."
- Make sure water sources are turned on, in good repair and easily identified by calves. Temperature fluctuations can lead to tremendous variations in calf water requirements.
- Review rations and feeding systems prior to weaning. Purina has a full array of weaning rations based on desired gain, and the availability of your own grass, hay or total ration mix. These products include complete feeds such as Preconditioning Receiving Chow and Impact® Starter WC for optimal gain, Precon 5™ to be used with forage (grass or hay) in excess of 8 percent crude protein, and Wind & Rain® Availa 4 tubs on diets of hay, grass, or a total mixed ration of 13 percent crude protein or higher.
- Reduce stress as much as possible. One way to do this is through fence-line weaning. Research shows that at 10 weeks post-weaning, "fence-line" weaned calves may weigh as much as 30 lbs. more than calves totally separated from cows.

Managing adult herd health. Planning your feeding and nutrition program for the winter is critical to maximize development and reproductive success in the spring. It is also the time to vaccinate to prevent illness and enhance productivity. Here is a fall/winter checklist.

- Body condition score (BCS) your entire herd. To reduce problems, milk well and breed back quickly, cows need to go into spring calving at a minimum score of 6.
- Cull cows based on age, pregnancy status, calf performance or poor temperament. Enhance cull cow value through seasonal marketing, efficient weight gains or correcting physical or medical conditions.
- Based on BCS, design a winter feeding program for the remaining cow herd.
- Design a special feeding program for heifers so that they receive the nutrients their growing bodies need.
- Work closely with your herd veterinarian to determine the optimal fall/winter vaccine and parasite control program for your locale and operation. This is crucial for the health of the cow and her newborn calf.

Terry J. Engelken, D.V.M., M.S., Associate Professor, Veterinary Diagnostics and Production Animal Medicine, Iowa State University

Reproduction Physiologist Weighs in on Heifer Replacement

Not unlike the Super Bowl Champion New Orleans Saints, which won 81 percent of their football games last year, your heifer replacement "team" requires careful selection and management for maximum performance. In the autumn, attention to these issues is vitally important.

That's why Dr. Tom Troxel of the University of Arkansas urges producers to get their fall heifer programs off on the right foot by breeding only their heavier, older and more mature early-born heifers. In contrast, he said late-born heifers are too problem-prone to breed due to their small frames, light weight and immaturity.

The professor and associate head of Arkansas's Animal Science Department didn't skip a beat when asked if you should wait until next year to breed back late-born heifers. "No, " he responded, "if you wait a year to breed heifers, you'll never make up for lost cattle."

WEIGHT AT WEANING

Troxel said prospective heifer replacement calves should be weighed at weaning—about 7 to 9 months of age—to set both their target weights and breeding times. He said first-calf breeding heifers must weigh at least 65 percent of their projected weight at 14-15 months of age before breeding season starts. For example, if the heifer's projected weight is 1,000 pounds, it must weigh in at around 715 pounds.

Continue weighing your heifers every 30-45 days to monitor growth and take the guesswork out of your management program. Frequent weighing allows you to know if any heifers are falling behind the herd in growth. In the University's experience, Troxel noted, once individual heifers fall behind the group, they never catch up.

A KEY FACTOR

The 27-year veteran of the Cooperative Extension Service said "the key" to replacement programming is to have every heifer reach its expected weight prior to the breeding season. The importance of breeding heifers at the right weight and age can't be over overemphasized.

THE IMPORTANCE OF BREEDING HEIFERS AT THE RIGHT WEIGHT AND AGE CAN'T BE OVEREMPHASIZED.

Based on the University's experience, heifers exhibiting estrous early during their first breeding season usually become pregnant sooner within the first 30 days of the breeding season. Heifers that breed and calve early do so throughout their reproductive life. That's a huge benefit to the producer's bottom line.

Once pregnancy testing has been completed (60 days after the breeding season), Troxel said pregnant heifers should be separated from the herd so that their feeding program and overall development can be carefully monitored. He said doing so also allows you to manage your entire operation more smoothly.

EXPECTED BODY WEIGHT

In addition, breeding heifers should be managed to achieve 85 percent of expected mature body weight by calving. The University of Arkansas's experience has shown that proper heifer development all the way through calving gets first-calf heifers rebred, which often can be a challenge.

Other vital heifer replacement tactics include proper nutrition (including minerals and vitamins), herd heath programming and mating heifers to easier breeding bulls with low Expected Progeny Difference (EPD) ratings. Sires with low EPD scores help curtail calving losses and dystocia. Troxel refers to high birth weights as the "number one" cause of dystocia.

Unless sires have low birth weight or calving ease opportunities, Troxel added, high birth weights could present problems for first-calf heifers. An estimated 75 percent of fetal deaths are caused by dystocia or other difficulties just prior to or at birth.

In summary, Troxel said critical elements of a sound heifer replacement season should include:

- Proper nutritional management for replacement heifers from weaning to first breeding.
- The selection of calving ease bulls in the heifer's first breeding season helps to insure a live calf at birth.

Breeding virgin heifers earlier than the mature cow herd, providing proper nutrition before and after calving, separating heifers from mature cows and weaning early enhance the breeding of first-calf heifers.

Purina Mills offers one of the best heifer weaning and developing programs available today. Using Preconditioning Receiving Chow or Impact® Starter Complete WC gets heifer calves off to a great start during the weaning process. Following this with an Accuration®/Cattle Limiter program allows you to use your grass or hay and provides targeted gain to achieve desired weight at breeding and on into calving. Contact your Purina Dealer to develop a weaning/developing program specifically to fit your operation.

Researchers Trace Health of Fetus, Newborn to Proper Maternal Nutrition

Step by step, Kimberly Vonnahme is assembling the remaining puzzle pieces needed to fully understand the effects of maternal nutrition on the long-term outcomes of newborn calves. Vonnahme, who earned a doctorate in reproductive physiology, and an entire team of researchers are putting another large piece of the puzzle in place.

Vonnahme, associate professor and co-director of North Dakota State University's Center for Nutrition and Pregnancy, collaborated with Rick Funston of the University of Nebraska in a 2006-08 study of 170 newborn calves grazed on Nebraska's Gudmundsen Sand Hills. It revealed striking differences in newborn calves whose dams either received or were denied supplemental nutrition at "critical points" throughout gestation. Funston, an associate professor of beef cattle reproduction physiology, also holds a doctorate in reproductive biology.

In the *Journal of Animal Science* (Oct. 9, 2009), Funston confirmed that the team's study has gone where no other research has ventured before. Previous work has proven the importance of proper nutrition during the last trimester. But their paper ("Effects of maternal nutrition on conceptus growth offspring performance: Implications for beef cattle production") indicates proper nutrition throughout gestation doesn't just affect fetal development—it actually programs how the fetus will develop long-term.

WHAT'S FOR DINNER?

"Timing (of supplemental nutrients) is critical throughout gestation," Vonnahme told *CheckPoint*® in a recent interview. "It doesn't matter if you have the best genetics in the world if the fetus doesn't get an opportunity to grow and develop properly. What and how you feed mom both directly and indirectly influences her calf's growth and development."

Vonnahme, who grew up on a grain and livestock farm in Iowa, said data reveal the fetus benefits if the dam is given nutritional supplements during early gestation, as well as during the last two months of gestation and following birth.

Unfortunately, she said, producers may not think about adequate nutrition during first half of the gestation period, concentrating instead on the last trimester when 75 percent of fetal development occurs.

PLACENTA DRIVES GROWTH

When asked why, Vonnahme explained that data point to the essential role early gestation plays in placental development. Further study is needed to clarify exactly how the complex process works, but she said the development of the placenta's vascular bed during early gestation is imperative to the growth of the "very tiny" fetus. And, placental development definitely affects fetal growth during gestation—and the calf's postnatal future if it survives gestation.

Similarly, good nutrition and supplements in late gestation likely affect the development of organs and tissues. That's especially critical if

grass or forage lacks vital nutrients. Numerous postnatal complications, including weak calves, slow postnatal growth, susceptibility to respiratory or other health problems—even death—can surface if the fetus fails to receive needed nutrients.

AN ARRAY OF BENEFITS

On the flip side of the coin, data indicate that high quality feed, supplemented at "critical points" during gestation, trigger postnatal benefits such as higher birth weight, faster weight gains, diminished susceptibility to health challenges, earlier sexual maturity and higher quality meat at harvest.

In a recent review article, Funston and Vonnahme reported that when cows were given a protein supplement during the last trimester of pregnancy, the offspring from the supplemented cows had these advantages:

- Heifer calves reached puberty five days earlier than calves in the control group.
- Seventy-seven percent were born within the first 21 days of the calving season compared to 49 percent of calves from dams that were denied nutrient supplements.
- Heifer calves born to dams receiving protein supplements had a 93 percent pregnancy rate compared to 80 percent among heifers born from dams without the supplement.
- The heifers from supplemented dams had a higher percentage of unassisted births—and resulting reduced labor costs—78 percent to 64 percent.

HIGHER QUALITY COLOSTRUM

In addition, the research revealed that well-nourished dams produced higher quality colostrum, as evidence by higher IgG levels. Those higher IgG levels translate into better immunity for the calf against health challenges.

"The literature is still evolving," Vonnahme said. "But vulnerable periods occur in the womb at different times for different tissues where nutrition is critical. Timing is everything, but future work should enable us to more precisely narrow the window."

Looks Can Be Deceiving With Replacement Heifer Management

When a heifer is weaning its first calf and pregnant with the next growing fetus, the future can look very promising from the producer's point of view. But looks can be deceiving. The full success of your heifer replacement program could be slipping away—pound by pound—every day.

Ron Scott, director of Beef Research and Development at Purina's Long View Animal Nutrition Center near St. Louis, said the dam is under tremendous physical pressure to fulfill not only her own demanding nutritional needs, but those of her weaning calf and the rapidly forming fetus. He said the dam requires daily nutrients that are high in both quantity and quality in order to skirt problems fueled by inadequate nutrition.

"Replacement heifers that are bred early in the season will have a better chance of staying in the mature cow herd," Scott said. "The reason is because they will be older when dropping their first calf and, therefore, closer to mature size during the subsequent breeding season."

Scott, who has dedicated his 18-year-long career to beef research since earning his doctorate from Oklahoma State University, said it's easy to forget that heifers still are not physically mature despite having delivered their first calves. The female must continue to be fed well to gain weight—without getting too fat—and that's important to everything from milk production to successful rebreeding.

The veteran researcher said producers don't always do a good job of feeding pregnant second-calf females, and meeting the three-year-old dam's special dietary needs is the "most overlooked" aspect of replacement heifer nutritional management. He said there are clear benefits to producers if they can discover ways to profitably sharpen their replacement heifer nutrition programs.

On the downside, Scott explained, unless the first-calf heifer's special dietary needs are provided, her milk production becomes compromised, which will reduce the weaning weight of her first calf. Assuming the first calf is a replacement heifer, it would be more difficult for the calf to reach 65 percent of its projected weight before the next breeding season. Similarly, the fetus—especially during the first trimester and two months before calving—can fail to develop properly and even die.

"Giving the dam more nutrients can program the fetus for better life-long performance once it has been calved," Scott pointed out. "The calf will also be healthier, produce a better carcass and have a better first-service conception."

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Researchers Trace Health of Fetus, Newborn to Proper Maternal Nutrition

INSIDE THIS ISSUE

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