



Pasture to Market

Providing beef cattle industry information for Louisiana cattle producers

July—August 2016

Managing Replacement Heifers for Growth—After weaning, growth of heifers depends on nutrient availability and freedom from diseases and parasites. Nutrients are provided with pasture or harvested feedstuffs mixed into a balanced ration. Mineral and vitamin supplementation is generally treated as a separate entity and provided apart from pasture and mixed feed.

How much growth is necessary after weaning? Simple. It's based on the weaning weight and date, the intended date of exposure and the fact that heifers should weigh 65% of their projected mature weight at first exposure (breeding). For example, heifers weighing 480 pounds at weaning (weaning weight) on October 15th (weaning date) that are expected to weigh 650 lbs. by April 1st of the next year will need to gain 1.02 pounds daily for 167 days (170 lbs./167 days = 1.02 lbs.). The formula works for different weights and dates, but weight goals at breeding for heifers of large mature breeds should perhaps be closer to 70% of their projected mature body weight. Table 1 shows the gain required for two different scenarios, calving at 24 or 32 months of age. Table 2 (next page) shows the nutrients required for three rates of gain of heifers weighing 400, 500, or 600 pounds.

Weaning Weight	Target Weight	Gain Needed	Gain/Day 170 days ¹	Gain/Day 240 days ²
450	585	135	0.79	0.56
475	585	110	.065	0.46
500	600	100	0.56	0.42
500	650	150	0.88	0.62
550	700	150	0.88	0.62
600	750	150	0.88	0.62
600	800	200	1.18	0.83

¹ Corresponds roughly to breeding at 15 months for first calving at 24 months
² Corresponds roughly to breeding at 23 months for first calving at 32 months

Dry matter is expressed in weight or percentage. For example, cottonseed meal has 41% protein and is 94% dry matter. On a dry matter basis, 1 pound of cottonseed is only 0.94 pounds of dry matter, which is 43.6% (.41/.94 X 100 = 43.6) protein. Stored hay runs about 90% dry matter and can vary considerably in protein and TDN (total digestible nutrients). Remember, ruminants cannot consume enough poor quality feeds to meet their needs. When only poor quality feed is available, you must provide supplementary TDN and protein to prevent weight loss and allow weight gain.

When combining the information from the two tables (Table 2 on next page), it is evident that hay alone, even if it is of unusually good quality, will require supplementation to meet energy (TDN) needs. A simple solution is to provide hay free choice and a mixture of 70 percent cottonseed meal and 30 percent salt, also free choice. Many other combinations of feedstuffs also are possible.

Table 2. Daily Nutrient Requirement for Heifers ^a

Heifer weight in lbs.	400	500	600
<i>Daily Gain, 0.5 lbs.</i>			
Dry Matter, lbs.	9.30	11.0	12.6
Protein, lbs..	.84	.94	1.04
Protein, %	8.90	8.50	8.10
TDN, %*	56.00	56.00	56.00
Ca, %*	.26	.24	.23
P, %*	.19	.18	.18
<i>Daily Gain, 1.0 lbs.</i>			
Dry Matter, lbs.	9.09	11.8	13.50
Protein, lbs.	1.01	1.11	1.19
Protein, %	10.20	9.40	8.80
TDN, %*	62.00	62.00	62.00
Ca, %*	.36	.30	.28
P, %*	.20	.21	.20
<i>Daily Gain, 1.5 lbs.</i>			
Dry Matter, lbs.	10.2	12.10	13.80
Protein, lbs.	1.17	1.25	1.32
Protein, %	11.4	10.30	9.50
TDN, %*	68.50	68.50	68.50
Ca, %*	.45	.38	.32
P, %*	.24	.22	.21
^a On a dry matter basis			
* TDN, Ca, P = Total Digestible Nutrients, calcium and phosphorous, respectively			

In Louisiana, perhaps the best and most economical way to develop replacement heifers is to use ryegrass pastures to the greatest extent possible, with supplemental feeding only before pasture is available and after it is depleted. In all regimes, a mineral supplement containing calcium and phosphorous in no more than a 2:1 ratio, and good quality hay on a free choice basis is recommended.

With proper nutrition, pregnant heifers will continue to grow at a rate of about 1.0 pound per day until the last trimester. At that point fetal growth increases more rapidly and accounts for 70 pounds to 90 pounds of a heifer's weight gain. The fetal gain will be lost at calving and should be compensated for by the availability of more nutrients. In all conditions, the objective for managing heifers is to promote growth, not to fatten. Heifers with a body condition score of 5 and 6 at calving should rebreed successfully if there is minimal weight and body condition loss after calving.

Since replacement heifers are only a small portion of the herd, they require a relatively small portion of the total nutrients available. Small changes in the costs of developing replacement heifers will not greatly affect overall efficiency of herd production. Savings in one regime relative to another will probably be negligible compared to the positive changes in efficiency of production when well-developed heifers of a pre-specified type, capable of continuous reproduction, are put into the herd.

—Jason E. Holmes, LSU AgCenter; Source—Beef Cattle Production in Louisiana Handbook

Importance of Pregnancy Detection—According to 2007-08 National Animal Health Monitoring System data, only about 20% of beef cow-calf producers check for pregnancy in their herds. Beef cows need to become pregnant, deliver healthy calves and wean productive calves in order for producers to make their operation economically profitable. However, every year beef females fail to become pregnant for numerous reasons including anestrus, pre-puberty, disease (more open cows than expected may indicate an abortion problem caused by the IBR or BVD viruses. It could also be an indicator of a sexually transmissible disease such as vibriosis or trichomoniasis), sub-optimal nutritional management (nutritional deficiencies including a lack of energy, trace minerals, and/or protein may delay estrus and conception due to poor egg development and subsequent ovulation), and unknown reasons. Incorporation of timely pregnancy detection has multiple advantages for producers including 1) the ability to assess reproductive performance of their operation; 2) group cattle based on expected calving date; 3) improve management strategies; 4) focus the correct time and labor needed during calving; 5) allow producers to take advantage of marketing options for these animals; and 6) decrease winter-feeding costs.

The expense to maintain a cow during any given year is paid for by the calves born and weaned the following year. For example to maintain a 1050 lbs. cow all year long currently requires approximately \$1.50 per day (without labor). On a 100 head herd the total cow costs would be \$54,750. Ideally, we want to spread that cow cost over more calves sold. The more cows left open in the herd drives up the additional revenue needed to offset the total cow costs. Building on that ideology and continuing with the example, if we sell 100 calves at an average weight of 525 with a selling price of \$157/cwt then our gross calf crop revenue will be \$82,425. Subtract our annual cow cost of \$54,750 and we're left with a gross revenue of \$27,675. Now if we leave 10 open cows in the herd and market 90 calves using the same numbers above our gross calf crop revenue will be \$74,183. Subtract our annual cow cost of \$54,750 and we're left with a gross revenue of \$19,433. That is a negative impact of \$8,243 for leaving those 10 open cows in the herd. The sooner (minimum of 45 days after bulls are removed) we are pregnancy checking and making cull decisions the more opportunity we have to decrease lost revenue.

Another important factor to remember is cull cow prices (historically) tend to be higher in the spring months than in the fall months because of the volume of cull cows being sent to market. Determining which cows to cull early allows producers flexibility in their marketing strategies for optimal revenue generated. Furthermore, producers that utilize early pregnancy detection on heifers have the advantage in marketing options. They can either market open females as soon as they are identified or continue to put weight on them and market at a later time, both allowing those females to maintain carcass quality.

Many different methods of pregnancy detection are available to cattle producers. Historically, veterinarians have performed pregnancy diagnosis by rectal palpation. Rectal palpation can estimate the approximate stage of pregnancy and can be detected 35-40 days after breeding. This method uses the palpation of fetal membranes, position of the uterus, size of the cotyledons and size/strength of pulse in the uterine arteries to determine pregnancy status and length of gestation. If having to use your veterinarian to perform this service, the typical average is \$4-\$7 per head but could be as much as \$15 per head if less than five head.

Advancements in pregnancy detection include transrectal ultrasonography and blood pregnancy tests. An ultrasound can detect pregnancy earlier than palpation but is more expensive, largely due to the cost of the equipment and specialized training. It can provide more detailed information such as viability of the fetus, presence of twins and sex of the calf and it is considered extremely accurate. Fees for this technology are typically charged at a rate of \$150/hr. However, with smaller herd numbers a producer could expect to pay \$6-\$9 per head. NOTE: these fees will be higher if the producer desires fetal sexing.

With a blood test (technique to measure a pregnancy associated glycoprotein (PAG) secreted by the fetus), heifers and cows can be tested at 30 days or later after breeding but lactating cows must be at least 90 days post calving due to residual protein from the previous pregnancy. Tests start at \$2.50 per sample. The blood must be drawn and sent to a participating laboratory for results. Disadvantages of the blood test include having to wait for results (2-3 days) compared to knowing immediately, and an inability to accurately determine the stage of pregnancy.

While each detection method has its benefits and downfalls, pregnancy detection can have multiple benefits in any operation. However, it is important to evaluate each technology based on the type of operation as well as that operation's ability to access the technology. Whichever means you choose, getting the female herd checked for pregnancy is an essential management tool and is one of the easiest economic decisions for a cow-calf producer to make.—*Jason E. Holmes, LSU AgCenter*

Beef Marketing Strategies and Beef Added Value Conference—The beef cattle industry is has experienced depressed feeder cattle, finished cattle and cow prices since last fall. Because of this trend and the need to increase the value of our cattle, the LSU AgCenter, McNeese State University and Hitch Enterprises are sponsoring a free conference (No Registration Fee) on Thursday, August 11, 2016, at the La. State Evacuation Center (Dean Lee Research Center—Alexandria) with registration beginning at 8:00 a.m. and the program beginning at 9:00 a.m. The title of the conference is “Beef Marketing Strategies + Beef Added Value = Beef Profits”.

Conference topics include “Louisiana Livestock Industry”, “Feeder Cattle Grading, Order Buyers & Retained Ownership”, “Louisiana Stocker Cattle Operations”, “Superior Livestock Marketing”, “Red River Livestock Marketing”, “McNeese State University Calf to Carcass Program”, “Hitch Feedyard Changes”, “Dominique Livestock Marketing”, ‘Lafourche Parish F1 Heifer Sale, Heifer Vaccination Program and Breeding Soundness Exam”, McNeese State University Heifer Development Program”, “Beef Cattle Marketing Cooperatives/Alliances”, and “Fall Forage Transition Strategies”.

Hitch Enterprises will sponsor a steak lunch during the conference. Conference cooperating partners and speakers include the LSU AgCenter, LSU School of Animal Sciences, McNeese State University, Louisiana Department of Agriculture and Forestry, Louisiana Beef Industry Council, Cattle Producers of Louisiana, Dominique Livestock Marketing, Louisiana Cattlemen’s Association, Hitch Enterprises, Superior Livestock, Red River Livestock Auction, Dean Lee Research Station, Hill Farm Research Station, Lafourche Parish Cattlemen’s Association, and Purina.

Please pass this along to producers in your area and urge them to attend. Our goal with these topics is to help our state’s beef cattle producers remain competitive and profitable. Also, we will need a fairly accurate head count of how many producers are going to attend in order to make plans for lunch that day. There is a conference registration form below.

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Cut Here if Returning by Mail

Beef Marketing + Beef Added Value = Beef Profits Conference

Agent and Producer Registration Form:

Name _____ Parish _____

Yes, I will attend

Email to: tpage@agcenter.lsu.edu or mail to Dr. Tim Page, 102 Francioni Hall, 110 LSU Union Square, Baton Rouge, LA 70803



U.S. cattle and beef: the most complex market of all—In the midst of a constantly changing set of short term market forces, it is easy to overlook the enormous market challenges that are inherently part of cattle and beef markets. Many factors make the cattle and beef industry arguably the most complex set of markets known.

The cattle industry has a single primary objective: to produce cattle ready for slaughter. This production takes place in multiple production sectors by different producers across many regions. Coordination across cow-calf, stocker and feedlot sectors is primarily accomplished by independent and unrelated producers through market transactions. Cow-calf, stocker and feedlot production occur in diverse production environments ranging from sub-tropical to sub-alpine which affect how, where and when production is completed. Both supply and demand in cattle and beef industries are subject to strong seasonality that add challenges to cattle and beef markets. The forage based production of cow-calf and most stocker production is characterized by seasonal forage production which results in calf production bunched at certain times of the year. These animals are ultimately spread out into a relatively constant flow of animals to slaughter throughout the year. The dairy industry influence on total beef production is significant and is sometimes complementary to beef markets and sometimes counter to beef market adjustments.

The ruminant nature of cattle biology provides both advantages and disadvantages. Cattle are able to use diverse feed resources and adjust production systems in ways not possible for monogastric animals. These adjustments in production can be used to change the timing of beef production by moving cattle more quickly or more slowly to market. Cattle have slow reproductive processes including long gestation periods and one offspring per gestation. These biological realities contribute, along with other factors, to slow herd size adjustments over time and the tendency for the cattle industry to exhibit cycles of production and prices that cover multiple years.

The focus of cattle production sectors is the production of a single animal ready for slaughter. The focus of the packing industry is the disassembly of that animal into hundreds of different products, each of which is marketed in separate markets which interact and often compete with each other. Beef products frequently pass through additional layers of fabrication and further processing into additional products before reaching final consumer markets. This contrasts with most industries in which inputs are combined into a single final product with a rather simpler market structure. The beef marketing challenge is enhanced by the fact that most beef industry products are perishable and are typically consumed quickly after processing. This vast array of beef products are marketed in many diverse product markets both domestic and international. These product markets include retail grocery; hotels, restaurant, and institutional (HRI) markets; and exports. It is an enormous marketing challenge to identify markets that maximize value for each of the many beef products in very dynamic and volatile U.S. and global market conditions.

The miracle of cattle and beef markets is that consumers can take for granted that fresh beef is reliably available in grocery stores and restaurants every day without considering the fact that the beef they consume is the result of decisions made more than 2 years earlier when a cow-calf producer somewhere turned the bull in with the cows. In most cases, the cattle and beef moved across large distances before and after processing and likely changed ownership three to six times before being purchased by the consumer. The market coordination to achieve such a reliable, constant and high-quality supply of beef is impressive and is accomplished through a relatively simple set of cattle and beef market price signals. The process is quite amazing and it is no wonder that cattle and beef producers constantly struggle so hard to understand what they should be doing and adjust how they should be doing it.

Most consumers won't think about any of this as they enjoy steaks and hamburgers on Independence Day; and that is as it should be. Cattle and beef producers all across the country work hard every day to make it look easy to be part of the most complex set of markets I can imagine. —*COW/CALF CORNER The Newsletter from the Oklahoma Cooperative Extension Service; July 4, 2016*

July - August Beef Cattle Management Tips:

Below are some all-purpose management tips in an abbreviated format that cattle producers should consider for the months indicated. "General" management tips are intended to fit all situations while the "spring calving - January, February, March" and "fall calving - October, November, December" tips are for those specific calving programs. Some producers are likely aware of each tip and have incorporated many into their management programs. Other producers may find these tips to be suggestions to consider in their future management. Regardless, every producer will have to consider how a specific tip might be adapted to fit their individual situation, and some modification of the times provided will be expected. Severe environmental conditions will also dictate some modification of the tips depending on the severity in each location. A more detailed description of management opportunities can be found in numerous AgCenter publications available in the local parish extension office or on the web. Additional scheduling and management details in a worksheet format are available on-line from the LSU AgCenter in the Monthly Beef Cattle Management Calendar & Workbook at:

http://text.lsuagcenter.com/en/crops_livestock/livestock/beef_cattle/production_management/Workbook.

Month	Management	Tip
July	general	1. Continue fly control. Watch fly numbers; as fly tags get old, you may need to begin spraying or using back rubs.
		2. Clip overgrown pastures.
		3. Check for pinkeye, cancer eye and foot rot.
		4. Send in forage samples on hay now so you will have results to use in planning winter feeding.
		5. Check water and minerals often. Plenty of clean, clear water is critical in summer. At 90 degrees F, a mature cow nursing a calf drinks about 17 gallons of water a day.
	spring calving	1. Consider creep feeding, depending on pasture conditions and marketing plans.
		2. Pregnancy check cows 45-60 days after the end of the breeding season.
		3. Pregnancy check heifers 45-60 days after the end of the breeding season.
		4. Sell open heifers now.
		5. Brand or otherwise establish permanent IDs for bred heifers.
	fall calving	1. Wean calves depending on pasture conditions and marketing plans.
		2. Wean replacement heifers and separate from the rest of the herd. Weigh heifers to project needed gain between now and breeding (in December).
		3. Deworm calves at weaning.
		4. Deworm cows if needed.
		5. Cull open and poor producing cows after weaning.
August	general	1. Continue fly control. As fly tags get old, you may need to begin spraying or using back rubs.
		2. Evaluate winter grazing needs. Check on supply and prices for winter annual seed.
		3. Check water and minerals often.
		4. Stockpile bermudagrass for late fall grazing.
		5. Get round bales into the barn or move to dry, well-drained areas.

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Month	Management	Tip
August	spring calving	1. Pregnancy check cows. It's a good time to deworm while cows are up.
		2. Check cows for bad eyes, udders, feet and legs, and production records to determine cows that need to be added to the cull list.
		3. Replacement heifers should be calf-hood vaccinated for brucellosis at 4-8 months of age.
		4. To precondition calves, vaccinate for respiratory diseases (IBR, Pi ³ , BVD) 45 days prior to shipment.
	fall calving	1. Replacement heifers should be 8-10 months old now. Forage quality declines rapidly from now to frost. Keep an eye on heifer gains and supply supplemental feed as needed.
		2. Check cow condition. Cows should be in moderately good condition prior to calving.

		Week of 6/24/2016	Week of 6/17/2016	Week of 6/26/2015
<i>Data Source: USDA-AMS Market News</i>				
5-Area Fed Steer	all grades, live weight, \$/cwt	\$ 120.59	\$ 127.52	\$ 148.79
	all grades, dressed weight, \$/cwt	\$ 194.23	\$ 205.64	\$ 237.89
Boxed Beef	Choice Price, 600-900 lb., \$/cwt	\$ 216.82	\$ 225.53	\$ 254.31
	Choice-Select Spread, \$/cwt	\$ 18.40	\$ 22.99	\$ 5.37
500-600 lb. Feeder Steer Price	Mississippi statewide market average, M&L #1-2, \$/cwt	\$ 127.50	\$ 132.50	\$ 250.00
	Missouri statewide market average, M&L #1, \$/cwt	\$ 156.00	\$ 159.14	\$ 276.45
	Oklahoma City market average, M&L #1, \$/cwt	\$ 151.40	\$ 162.07	\$ 277.69
Feed Grains	Corn, Kansas City, \$/bu	\$ 4.20	\$ 4.25	\$ 3.84
	Corn, Pine Bluff, AR, \$/bu			\$ 3.83
	DDGS, Eastern Corn Belt, \$/ton	\$ 181.50	\$ 171.00	\$ 145.00
	Soybean Meal, Rail, Central IL, \$/ton	\$ 404.20	\$ 420.00	\$ 351.70
	Cottonseed Meal, Memphis, \$/ton	\$ 287.50	\$ 285.00	\$ 287.50
	Whole Cottonseed, Memphis, \$/ton	\$ 275.00	\$ 275.00	\$ 305.00

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