

PERFORMANCE REPORT

BEEF LOGIC

by Bob Long

How Cattle Grow - The Fat

As animals grow and develop or attempt to maintain their bodies there is a definite priority for nutrients. The order of procedure is:



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1. Vital organs (nervous system, heart, lungs and liver.)
2. Skeleton
3. Muscle
4. Fat

Therefore, when the plane of nutrition is less than optimum, the animal develops vital organs, skeleton and musculature, although the animal develops practically no fat. Keep this fact in mind since we will refer to it again in a column concerning the

USDA feeder cattle grades. Likewise, in young animals that are growing there is reduced fat deposition even on a high plane of nutrition until the other tissues have developed to their genetic potential.

When nutrition is adequate, fat is laid down in four major depots. Seam fat, which is between the muscles; subcutaneous fat, which is directly underneath the skin; kidney, pelvic and heart fat (KPH), which is around those organs; and mesenteric fat which is deposited on and around the intestines.

The greatest part of total fat is seam fat, located between muscles. Therefore, the "hot fat trimming" of subcutaneous fat, suggested by some major packers will not eliminate the excess fat problem.

The total amount of fat on different animals varies greatly. Differences in fatness are due to plane of nutrition, genetic potential, age and sex. Among genetically similar cattle, the more feed and the better the feed, the fatter cattle become. There are also differences in total fatness on the same feed among cattle that are different genetically. Age has a great effect and as cattle grow older they become fatter. Variations in fat also occur due to sex and among genetically similar cattle of the same age. Heifers are fatter than steers and steers are fatter than bulls.

Not only are there large differences in total fatness but also variation in the percentage of total fat found in the four major depots. For example, dairy cattle generally deposit less subcutaneous fat and show a major increase in the internal mesenteric and KPH fat. British breeds have a higher percentage of total fat as subcutaneous deposits

There is one more site for fat deposition. This site is within the muscles and is known as marbling. Although it is the least in total quantity, marbling is important because of its effect on palatability and overall customer satisfaction. Marbling is the major factor that determines quality grade and is of economic importance.

Unfortunately, there are many misconceptions in our industry concerning marbling. Many people believe cattle must carry excessive subcutaneous fat in order to have adequate marbling. This is not true. Some strains of cattle will carry

enough marbling for Choice grade with .2 inches of fat at the 12th rib while others must have an inch or more in order to have the same amount of marbling. This is due to difference in genetic potential and cannot be changed by nutrition or management.

Another belief in our industry is marbling suddenly appears in the muscle after a certain time on feed. This is also untrue. As cattle grow and develop the fat content of muscle will gradually increase from near zero in a baby calf up to 8 percent to 10 percent in a mature well-nourished animal. When the fat content of muscle reaches approximately 4 percent we can begin to identify it visually as marbling.

The development of marbling to make Choice grade, tends to coincide with physiological maturity. This explains why smaller framed, earlier maturing cattle require a shorter feeding period to reach Choice than larger framed cattle of the same age and sex.

My next column in the September *Angus Journal* will describe how we can use facts about growth and development of the skeleton, muscle and fat to visually determine the composition of live cattle.

Is embryo transfer worth the price and risk?

Serving on our panel this month and addressing this question are Galen Fink of Fink Angus, Manhattan, Kan, and Greg Jorgensen of Jorgensen Ranches, Ideal, S.D.

Galen Fink:

It depends on your marketing and long-term goals. It really doesn't matter what the price and risk are if you have no market for your product. On the average, 60 percent of a flush are bulls, so you must have an avenue to market them to make it work. The resulting females are your genetics for the next decade.

Be careful of unproven sires. The cost will be more than just embryo transfer when you have to sale barn the females due to bad udders, etc. To be cost efficient, the entire set of calves need to be usable. Use of the same "kind" of genetics will help take out the variability of the results.

The reason for embryo transfer is to build a foundation. Think "solid" genetics not "hot" genetics. The cost is too great otherwise.

With an experienced embryo transfer professional your risk is somewhat limited. Anytime we mess with Mother Nature there is always risk, but a professional can help prevent problems. Avoid the local ET person who does it once every three to four weeks and not for a living.

Embryo transfer can be frustrating. Every cow is different in its response. Don't jump in and out of embryo transfer without giving yourself time to adjust to pitfalls. Don't do it just be-

WHAT'S YOUR BEEF?



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cause the other guy is. Have a plan in mind or you'll be unsatisfied with results.

If your goals are in the right direction, you cross your fingers on flush day, and recipients come in heat, it can be a beneficial program. As we near specification genetics, embryo transfer will be playing an important role for producing volume and consistency.

Greg Jorgensen:

We think a good embryo transfer program is worth the risk and the price. Our goal is to select either through performance or pedigree those females within our herd that excel in traits worthy of more production than one calf per year.

There are many things to consider before getting involved in an embryo transfer program. Before you decide who is going to do your ET work, talk to several technicians because the person you decide to work with will affect the success of your program. Don't let distance from your ranch or farm be a determining factor.

Make sure you have a good supply of productive recipient cows. If you must go out of your own herd for recipient cows, make sure the people you work with have

PERFORMANCE PDSTCARD



To American Angus Association
St. Joseph, Missouri

Daniel Jacobson, right of Jacobson Angus Farm Viroqua, Wis., consigned the top-indexing bull at the 37th Wisconsin Beef Improvement Association (WBIA) Bull Sale at Platteville. Jacobson's bull, an April, 93 son of DHD Traveler 6807, recorded a 121 index score. He was also top-selling lot, selling to Blake Sherrod, Birmingham, Ala., for \$5,600. Presenting Jacobson's award is Phil Wyse, representing WBIA.

lots of artificial insemination experiences and fully understand your plan.

Be prepared for less than satisfactory results because embryo transfer is not an exact science. Even if everything is done properly, occasionally the results can be disappointing.

WE WELCOME YOUR INPUT!

"What's Your Beef?" column serves as a forum for Angus breeders and industry experts to express their opinions on current issues and topics of breed improvement and performance programs.

If you have a topic or question you'd like to suggest, please contact the Angus Journal editorial office at 1-800-821-5478 or fax (816) 233-6575.