

From Grass-fed to Pasture-finished: What's the Difference?

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There is a growing movement in this country for consumers wanting to get back in touch with real food and especially locally produced food. More and more farmers are joining in the movement and realizing both personal satisfaction and increased profitability from being directly plugged into the food chain. It's a great feeling to have a customer rave about how wonderful your product tastes, but it's a totally different feeling when the next time they try your product it's a bust. Consistency of product quality is one of the greatest challenges facing anyone in artisanal food production. Understanding what causes inconsistency is the first step to producing a consistent product.

Inconsistency is a problem that has plagued the grass-fed meat business since its rejuvenation over the last couple decades. Not only inconsistency in product quality, but also in the claims we make regarding that product. Both of these inconsistencies are actually tied to the same factor: Fat or lack of fat in the finished animal.

Early grass-fed claims: Most of the pioneers in producing and direct marketing grass-fed beef, lamb, or bison in the 1980-90's touted the fact that it was lower in fat and cholesterol than meat produced in feedlots. That was true enough. Most grass-fed meat was quite lean and that was the very problem with it. It tended to be tougher, drier, and much less palatable than feedlot meat. We emphasized grass-fed meat had to be cooked differently to avoid drying it out. Grass-fed meat had a richer flavor usually and we knew it must be better for us, so we accepted the lack of tenderness as necessary for being healthy.

When information began to come out in the late '90s and through this decade concerning the healthful benefits of conjugated linoleic acid (CLA), the higher levels of omega-3 fatty acids, and other beneficial components in pasture-raised products, most of those farmers involved with grass-fed meat wanted to jump right on the bandwagon. Soon we were seeing claims for grass-fed meat being leaner, lower in fat, yet higher in all these newly discovered health factors. Most hadn't made the connection that all the healthy components were in the fat and lean meat didn't carry those factors. It wasn't until meat samples were actually analyzed we began to see the inconsistencies in our claims.

The real revolution is just beginning with the increasing realization through the human nutrition community that fat is not bad. Fat has always been an essential component of our diet and certain fats constituents are essential to a healthy diet. While there are still plenty of skeptics, the growing consensus is that fat in meat is a good thing, as long as it is derived from natural dietary components of the livestock. This is the foundation premise bringing us to pasture-finishing as a production endpoint rather than grass-fed.

Why grass-fed comes up short: There are a number of reasons why some grass-fed products just come up short when it comes to pleasing the consumer's palette. The problem is more common in beef than it is in lamb for the simple reason it takes longer than a year to finish beef while lamb can be finished in the same growing season when the animal is born. It is almost harder to keep a lamb from getting too fat than it is to not get one fat enough on pasture, all in a single season. Beef on the other hand requires much longer time period for the animal to reach a maturity stage where it can even begin to deposit intramuscular fat, which is the marbling we are looking for in the finished animal.

My experience in the 1990s with most producers was the animals were harvested when they realized they were running out of grass. There were a few exceptional individuals who realized the end point needed to be a specified degree of fatness, but most farmers simply had the animals harvested when they ran out of pasture. The real downside of this approach is the animals had already stalled out in growth or been going backwards by the time we realize our pastures are out of energy. Slow growth or no growth in beef animals is the enemy of tenderness.

To overcome the lack of tenderness, we developed the practice of hanging the carcasses for longer time periods. Many grass-fed producers boast their beef is dry aged for a minimum of 21 days. While long term dry aging does improve both flavor and tenderness, the carcass shrinkage may be 10-20%. The less fat cover on the carcass, the greater the loss of lean meat. Thus, lean grass-fed carcasses suffer the greatest degree of loss. Does the premium received for the touted dry aged process make up for the lost volume of meat? Real world producer experience is that it doesn't.

Why pasture-finished? The biggest difference between pasture-finished meats and grass-fed is a defined endpoint for the process. Most pasture-finished beef producers are shooting for an endpoint with at least half the cattle reaching the Low Choice grade. If the cattle reach this point, most of the other half will be High Select. There will be a few outliers reaching Mid to High Choice and an approximately equal number that don't make it out of the lower Select grades.

Why is High Select-Low Choice a reasonable target? There are several reasons.

- 1) This finish point can be reached at 18-20 months of age by most English breed cattle with reasonably good grazing management.
- 2) There is enough fat cover the dry aging process can work to effectively enrich flavor and enhance tenderness while keeping shrinkage to less than 10%.
- 3) Numerous consumer taste surveys have found virtually no one can distinguish between the eating quality of High Select and Low Choice.
- 4) Usually greater than 90% of the steaks in these two grades will receive acceptable to pleasurable eating experience scores.

Getting to the endpoint: Knowing the endpoint for production is the key to managing all the steps along the way. One of the first things to know is at what weight are your stock likely to finish. I am going to focus on beef production, because lamb and goat can be harvested across a wider range of body conditions and still be highly acceptable products. Beef is more challenging.

The expected finish weight of a steer or heifer can be fairly closely predicted based on the weight and frame score of the dam and frame score of the sire. If bred to a comparable frame score bull, a steer will reach Low Choice at about 90-95% for his dam's weight. A heifer will achieve the same finish at about 85% of the dam's weight. For each increase in frame score, a steer will finish about 70-80 lb heavier and a heifer about 55-65 lb heavier. At Middle Choice the steer will approximately equal his dam's weight and at High Choice would be 75-100 lb heavier than his dam.

For example, if a cow weighed 1200 lb (typical of 5-frame at BCS 5) and was bred to a 5-frame bull, her steer progeny would be expected to weigh somewhere between 1080 and 1140 lb when he reached Low Choice. The heifer mate would be about 1020 lb at Low Choice. When calculating a target endpoint to figure needed rate of gain through different stages of the steer's life, I use 92% of the dam weight, plus the frame score factors as needed.

Once the target end weight has been established, the next step is to identify your optimal finishing window. These are the months of the year when pasture quantity and quality and weather conditions are going to be best suited for the finishing process. You should plan to have the animals reach their target weight before the end of the optimal finishing window.

All other phases of the production process need be planned backwards from this point. Timing of calving may need to be adjusted to make sure steers can reach the target without being carried through an extra winter. Avoiding taking the steer through a second winter is critical for keeping production costs under control. If you want to produce High Choice or Prime grade cattle off pasture, it is likely they will have to go through another winter and be finished at 26-30 months of age.

For spring-born calves, you will be able to determine the needed rate of gain through their post-weaning winter based on the weight they need to go to spring pasture to have a high probability of finishing. If they don't come through the winter heavy enough, you will know to adjust management throughout spring and summer to accelerate rate of gain. Weighing stock periodically through each phase helps you keep on track to reach the desired endpoint. The worst position to find yourself is at the end of the quality pasture season with stock a hundred pounds or more short of the finish point. Then you are right back to just grass-fed with all its shortcomings.

Summary: For quality pasture-finished beef, it is essential to know what your target endpoint is going to be. This means having both a quality grade finish in mind and knowing what the animal needs to weigh to reach that finish level. Monitor rate of gain throughout the production process and adjust management as needed to ensure reaching the target endpoint.