

## Raising Farm Direct Beef: Part 2-Selection and Evaluation

Dr. Brandi B. Karisch – Extension Beef Cattle Specialist, Mississippi State University

Dr. J. Daniel Rivera-Associate Extension/Research Professor, Mississippi State University

In August, we discussed the basics of nutrition, and considerations for feeding cattle to sell directly to consumers (or keep in your own freezer). The next step in this discussion is selection and evaluation.

### *Start with the end goal in mind*

When considering which cattle to feed and determining if they are ready for harvest (finished), take into account. The goal should be to make a good eating experience for your customers (or yourself). When you think about the best steak you've ever eaten, what comes to mind? When we talk about eating quality, we consider things such as: tenderness, palatability, minimum excess fat, marbling, portion size, and consistency.

No matter what animal you start with, the end goal should always be to provide a good eating experience for your customer so that they brag about your beef, and earn repeat customers. The best advertising is word of mouth.

### *Selection*

Selection actually begins before an animal you're feeding is even born. When selecting bulls for artificial insemination or for natural service, if your end goal is to produce farm direct beef, focusing on carcass genetics is an important addition to your breeding plan. Adding a focus on a few carcass EPDs or better yet incorporating an index that balances growth, maternal, AND carcass traits now becomes even more valuable when selecting bulls.

Remember consumers like the taste of marbling, or the internal fat, in beef, but they don't like excess fat on the outside of the muscle (think of this as waste fat). Ideally, when making selection decisions focused on fat, we want to maximize marbling while minimizing external fat. According to the most recent National Beef Quality Audit (2016), we as a beef industry have done a good job. We can judge that balance of fat by looking at Quality Grade and Yield Grade. In the 2016 audit, the frequency of USDA Quality Grade was 3.8% Prime, 67.3% Choice, and 23.2% Select. The National Beef Quality Audit–2011 frequency of USDA Quality Grade was 2.1% Prime, 58.9% Choice, 32.6% Select. Looking at the frequency of Yield Grade (scale of 1 to 5, with increasing number meaning increased external fat) from these same Beef Quality Audits, it shows in 2016 the frequencies were 9.6% YG 1, 36.7% YG 2, 39.2% YG 3, 12.0% YG 4, and 2.5% YG 5. Yield Grade frequencies from 2011 were 12.4% YG 1, 41.0% YG 2, 36.3% YG 3, 8.6% YG 4, and 1.6% YG 5. Comparing these 2 numbers tells us that while we've done a great job improving quality grade, we've made cattle fatter to get it! This tells us there is room for improvement.

The good news is that it's a lot easier to make change by selecting for carcass traits, because the heritability is even higher for carcass traits than for growth traits. Love them or hate them or don't understand them, EPDs (Expected Progeny Differences) are the most reliable predictors of an animal's genetic merit. Depending on the breed, available EPDs may vary, but almost all breeds have at the least a marbling EPD, which can be utilized to select cattle with more genetic potential for marbling and therefore a better chance of reaching the Choice Quality Grade.

As an example, the American Angus Association offers 4 carcass EPDs: Carcass Weight (CW), Marbling (Marb), Ribeye Area (RE), and Fat Thickness (Fat). In addition, there are several indexes that incorporate carcass traits, while balancing several other options. Feedlot Value (\$F), Grid Value (\$G), and Beef Value (\$B) are options for indexes that offer the opportunity to make desired change in several traits at once based on your desired goals. More information on each of these traits and their meaning can be found on each breed association's respective websites.

When selecting an individual animal for finishing purposes, if you are only feeding one or two animals it is often a choice to market the "more valuable" cattle at a younger age, and keep the cattle that don't fit (based on color, size, etc.) during your typical marketing window. This may mean selling your bigger steers in a more traditional sense, and then keeping the set of twins that didn't grow as well to feed and market. On the other hand, if you want to feed those cattle for a shorter period, it might mean that you select your oldest/biggest calves to retain for feeding.

### *Evaluation*

The goal for a market animal is to combine muscle with an appropriate amount of fat cover, preferably enough to reach the Choice quality grade. We expect cattle with 0.4 inches of fat thickness over the 12<sup>th</sup> to 13<sup>th</sup> rib to have enough fat to be more likely to reach this grade. Knowing which places to look, and training your eye to "read" fat in cattle can be a bit of a learning curve for some. We can actually apply a lot of the principles we use when coaching youth in livestock judging.

With a large part of the discussion on finishing cattle focused on fat and determining if an animal is ready to harvest, we'll begin our discussion of evaluation there. Cattle deposit fat from front to back and top to bottom. As cattle fatten, they will start to fill in fat in their brisket, around the tailhead, and in their cod or udder. These are the easiest places to evaluate and "see" fat cover. A good practice to help train your eye is looking at cattle pre- and post-harvest. If you are feeding steers to market, always request to look at the carcasses or steaks. Remember most custom processors will not assign a grade, but you can still compare the fat and marbling amounts to standard pictures.

Frame size is related to stage of maturity most often. We expect smaller framed cattle to be finished at a lighter weight than large framed cattle. To put it another way, we can expect larger framed cattle to be able to carry more "meat" or product on their frame than a smaller animal. This is one of the reasons that buyers will typically reward large framed, heavier muscled cattle,

and discount smaller framed, lighter muscled cattle. A large framed, later maturing animal may be over 1300 pounds before he or she is ready to be harvested. This is a consideration to take into account when both selecting and evaluating cattle.

### *Wrapping it up*

Selection and evaluation of cattle for finishing is an important component of raising and marketing farm direct beef. The process of selection starts before an animal is conceived, and it is important to thoughtfully consider genetics with the end goal in mind. Evaluation of cattle to determine finish can be a daunting task, but just remember it takes time and patience to develop your eye! Stay tuned for the next in our series on Farm Direct Beef!