Grass-Feeding Beef Cattle: What You Need to Know

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Feeding and finishing beef cattle on grass has been a hot topic for the last few years. The grass-fed beef markets continue to grow, though the overall impact is still relatively small. This type of production system can be a viable option for small producers who want to add value to the calves they sell, particularly if they have the ability to market the beef themselves.

Though sound information on best practices for grass-feeding and finishing beef is limited, there are a few basics that can be followed when getting started. The first consideration is genetics. British breeds are generally earlier maturing, easier fleshing, and smaller framed than Continental breeds. In a grain-fed system, this leads to finished cattle that generally have a higher degree of marbling than Continental cattle after the same days on feed. This difference holds true for grass-feeding as well. In fact, this is particularly important in a grass-feeding system where the weight gains and feed energy inputs are not nearly as great as in a conventional grain-fed system. Therefore, moderate framed, easy-fleshing, British cattle are generally better adapted to a grass-feeding system.

After the correct breeds are chosen, it is important to make sure the cattle have high-quality forages available. Many grass-feeding producers focus on the "Brix" content of forages. Brix technically refers to the amount of sucrose in the forage. In general, Brix measurements give an idea of nutrient density of a plant. Though opinions vary on what is considered an adequate Brix content, general thoughts suggest a Brix of 4 would indicate poor-quality forage, 8 would be average-quality, 12 would be good-quality, and 16 would be excellent-quality. Producers should determine the quality of their available pastures, and if the Brix content is average to low, it may be necessary to incorporate higher-Brix forages.

To maximize forage and pasture utilization, producers should become very familiar with intensive grazing. Grass-based production systems require growing cattle have high-quality forages available as much as possible, to maximize growth and efficiency. A well-known grass-feeding enterprise suggests grazing at least 50,000 lbs of cattle per acre. This type of intensive management requires adequate fencing, water supply, and certainly requires close supervision of cattle and forages.

In addition to focusing on high-Brix forages and incorporating intensive grazing, producers should incorporate a wide diversity of forages in their pastures. This will allow for a variety of species that may grow and mature at different times throughout the growing season, ensuring adequate forage availability each time the pasture or paddock is grazed.

One of the biggest differences when comparing grass- and grain-finishing systems is the final product. Carcass weights of forage-finished beef cattle are lower than those in concentrate-finished carcasses. This is largely because grass-finished cattle do not receive as much total energy in the diet as cattle finished on concentrate. Because USDA yield grade relates the percent of saleable lean within a carcass, and a higher numerical yield grade indicates a higher percentage of fat, the grass-finished beef will generally have a lower overall yield grade than the grain-finished beef.

Tenderness of grass-finished beef is extremely variable. One of the traditional reasons for not producing grass-finished beef is that it produces a less tender product, as measured by Warner-Bratzler shear values and sensory panels. However, conflicting research indicates that no tenderness differences between forage-finished and grain-finished beef exist.

There have been conflicting data on the flavor acceptability of grass-finished beef. A large amount of the research indicates grass-finished beef has a grassy or milky flavor that is sometimes described as an off-flavor or a more intense flavor. The distinguishing flavor of forage-finished beef is attributed to the beef fat.

Of less debate is the appearance of the beef fat. The appearance of beef fat is primarily affected by the absorbance of carotene and hemoglobin derivatives, the reflectance, transmittance, and fluorescence of lipids, and the reflectance and fluorescence of non-lipid components. The research concerning fat color generally agrees that grass-finished beef fat has a more yellow or creamy color than the whiter grain-finished beef fat color. It has been found, however, that grain supplementation of grass-finished cattle prior to slaughter reduces tissue concentration of beta-carotene, thus reducing the amount of yellow color found in the fat.

As increased levels of forage are consumed, animal fats tend to increase in composition of unsaturated fatty acids. There is a mass of research supporting the benefits of unsaturated fats in the human diet including benefits to heart health. The group of fatty acids referred to as Omega-3 fatty acids are of particular interest to many grass-finished beef producers and they are in higher abundance in grass-finished beef.

Overall, grass-finishing beef is a viable enterprise with opportunities to add value to beef cattle. However, it is much more complicated than simply grazing cattle until they reach a desirable endpoint. Cattle breed, grazing management, and marketing are just a few of the considerations that need to be taken to make this a successful venture.