

Nutritional Comparisons Between Grass-Fed Beef and Conventional Grain-Fed Beef

Dr. Stephan Van Vliet, Department of Nutrition, Dietetics and Food Sciences, Utah State University, and the Bio-nutrient Food Association, found that grass-finishing, compared to conventional grain finishing, **increases a wide variety of health-promoting compounds in meat and improves animal health**. Phytochemical richness of meat is directly related to the finishing diet of animals. The research concludes that grass finishing animals concentrates significantly **higher amounts of phytochemicals**, including **polyphenols, tocopherols, carotenoids** (Beef Nutrient Density Project Report, Dec 2021). (Phytochemicals are naturally occurring bioactive compounds derived from plants that have antioxidant and anti-inflammatory effects in both animals and humans. Studies have found that phytochemicals can have a role in the prevention and management of many chronic diseases.)

Many studies have found that grass fed beef has **higher amounts of omega-3 fatty acids**, which have important roles in heart and brain health. Additionally, research has shown that grass fed beef contains higher amounts of very-long chain fatty acids, which are associated with decreased risk of heart disease.

Grass-fed animals also had **lower levels of homocysteine, triglycerides, and advanced glycation end products**, all of which are associated with improved cardiovascular health, both for the animal and humans.

Van Vliet found that grain-finishing **negatively affects glucose metabolism**, while grass-finishing **improves mitochondrial/energy metabolism**. In addition, the grain-fed animals had more **collagen metabolites and elevated markers of protein breakdown**. This compromises both animal health and meat quality. Animals being grass-fed on pasture are able to move all day, while animals in a feedlot are constrained in their movement.

Research results show that grass-fed beef is higher in total nutrients, phytonutrients, antioxidants, key fatty acids, vitamins, minerals, protein, and amino acids compared to grain-fed beef. These nutritional advantages make grass-fed beef a compelling nutritional option for both athletes in training and for the general population. For elite athletes, there are distinct advantages in incorporating grass-fed meats into the daily diet. Growth and recovery are significantly enhanced with the benefits of the nutritional advantages.

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