

U.S. Corn-Fed Beef: A Savory Combination

Fast Facts on U.S. Corn Fed Beef

US Corn Fed Beef is Tender, Juicy and Desired Around the World

- Grain-fed beef is the most widely produced type of beef in the United States.
- Finishing cattle on corn-based rations that are nutritious, energy-rich, and available year-round helps improve meat quality providing a tender, juicy and consistent product for consumers.¹
- Grain-based diets are necessary to promote the development of marbling² which contributes to the consumer's preference for the silky texture and great flavor found within U.S. grain fed beef.³



- Marbling fat in U.S. corn-fed beef has consistently lower melting points² which keeps meat tender and moist while infusing the meat with flavor.
- More than 40% of the variation in beef flavor has been accounted for by the animal's diet.⁴
- High-energy grain diets produce a more acceptable, more intense flavor in red meats than low-energy diets.⁵

- Beef flavor and overall consumer acceptability increases with higher levels of marbling.^{6,7,8} Higher marbling from corn-based diets increases the concentration of monosaturated fatty acids, resulting in a more fluid mouthfeel which enhances the consumer's dining experience.^{2,9}
- When steers are fed grain, gamey/stale off-flavor decreases and roasted beef flavor increases.¹⁰
- Corn-fed beef possesses greater intensities within the beefy/brothy and buttery/beef fat flavor profiles.⁹
- Grain fed beef is sustainable—corn is digested easier than cellulose fibers of grass and thus produce less methane while increasing feed efficiency and decreasing time needed to reach market weight.



Resources:

¹North American Meat Institute. <https://www.meatinstitute.org/index.php?ht=a/GetDocumentAction/i/93607>

²Smith, S. & Johnson, B. 2016. Marbling: Management of cattle to maximize the deposition of intramuscular adipose tissue. https://www.beefresearch.org/CMDocs/BeefResearch/PE_White_%20Papers/Marbling%20-%20Management%20of%20cattle%20to%20maximize%20the%20deposition%20of%20intramuscular%20adipose%20tissue.pdf

³Sitz, B., Calkins, C., Feuz, D., Umberger, W., & Eskridge, K. 2005. Consumer sensory acceptance and value of domestic, Canadian, and Australian grass-fed and Canadian beef steaks. <https://doi.org/10.2527/2005.83122863x>

⁴Bruce, H.L., Beilken, S.L. and Leppard, P. 2005. Textural descriptions of cooked steaks from bovine M. longissimus thoracis et lumborum from different production and aging regimes. J. Food Sci. 70:5309-316.

⁵Melton, S.L. 1990. Effects of feeds on flavor of red meat: a review. J. Anim. Sci. 68:4421-4435

⁶Berry BW, Leddy KF. 1990. Comparison of restaurant vs research-type broiling with beef loin steaks differing in marbling. J Anim Sci 68:666-72.

⁷Kerth, C.R. and Miller, R.K. 2015. Beef flavor: A review from chemistry to consumer. J Sci Food and Agri. 95:2783-98

⁸Blackmon, T.L., R.K. Miller, C.R. Kerth, and S.B. Smith. 2015. Ground beef paes prepared from brisket, flank and plate have unique fatty acid and sensory characteristics. Meat Sci 103:46-53.

⁹O'Quinn, T., Woerner, D., Engle, T., Chapman, P., Legako, J., Brooks., Belk., K, Tatum, J. 2015.

¹⁰Maruri, J.L. and Larick, D.K. 1992. Volatile concentration and flavor of beef as influenced by diet. J. Food Sci. 57:1275-1281.

¹¹Calkins, C., de Mello, A., Seneratne, L., Jenske, B., Erickson, G., Carr, T. 2008 Wet Distiller's Grain – Effect on Beef Quality. Ethanol Co-Product Research. https://www.beefresearch.org/CMDocs/BeefResearch/PE_Executive_Summaries/Ethanol_Co_Products_Research_Summary.pdf