

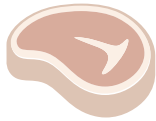
Hormone Implants

ARE SAFE

A three-ounce serving of beef from a steer implanted with estrogen contains

1.9

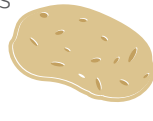
nanograms of estrogen¹



A three-ounce serving of potatoes contains

225

nanograms of estrogen¹



A three-ounce serving of cabbage contains

2,000

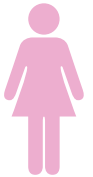
nanograms of estrogen¹



Every day, an average woman produces

513,000

nanograms of estrogen²



A three-ounce serving of beef from a steer NOT implanted with estrogen contains

13 nanograms of estrogen¹

Every day, an average man produces

136,000 nanograms of estrogen²



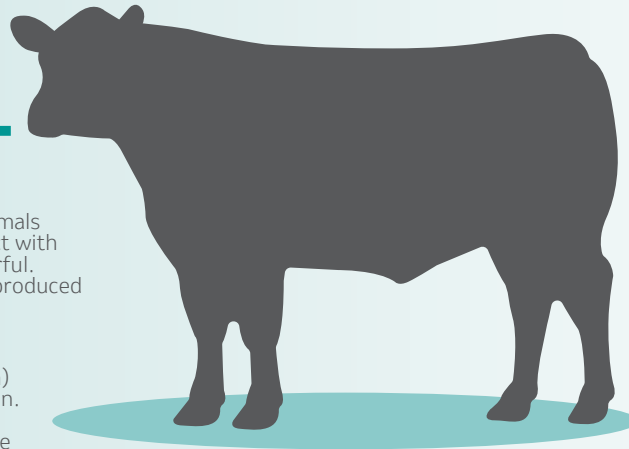
ARE PRACTICAL



Bulls' hormone systems are removed to curb aggression for the safety and welfare of the animals (now called "steers") and the people who interact with them, and to make beef more tender and flavorful. Implants restore enough of a steer's naturally-produced hormone levels to **grow efficiently**.³



Heifers (female cattle that have not given birth) have hormone systems focused on reproduction. Hormone implants **balance a heifer's natural hormone levels** to allow it to grow more muscle instead of fat.⁴



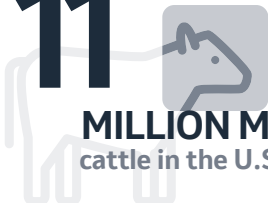
Hormone implants help balance natural hormone levels in cattle to allow them to convert their feed into lean muscle instead of excess fat, which helps keep beef affordable.⁴

ARE SUSTAINABLE

To raise the same amount of beef **WITHOUT hormone implants, it would take:**^{5,6,7}

11

MILLION MORE cattle in the U.S. beef herd



18

MILLION MORE acres of land for grazing and growing feed



515

BILLION MORE gallons of water for producing feed and maintaining animals



¹Treffer, B. University of Nebraska-Lincoln. Worried about Hormones? <https://newsroom.unl.edu/announce/beef/2846/15997>. Accessed January 1, 2021.

²Hoffmann, B. and P. Evers. Drug Residues in Animals. A. G. Rico (Ed.), pp. 111-146. Academic Press, New York (1986).

³McFarland, A. Cornell Cooperative Extension. Why is early castration on bull calves important? <https://cnydfr.cce.cornell.edu/submission.php?id=810>. Accessed January 1, 2021.

⁴Loy, D. Iowa Beef Center. Iowa State University Extension. Understanding Hormone Use in Beef Cattle Q&A. IBC. 48. <http://www.iowabeefcenter.org/information/IBC48.pdf>. Accessed January 1, 2021.

⁵Oklahoma Cooperative Extension Service. Growth Promotants Reduce Beef's Environmental Impact. <http://pods.dasn.okstate.edu/docshare/dsweb/Get/Document-10163/ANSI-3295.pdf>. Accessed January 1, 2021.

⁶Capper J. L. 2013. The environmental and economic impact of steroid implant and beta-adrenergic agonist use within U.S. beef production. In: Proceedings of the ADSA-ASAS Joint Annual Meeting, Indianapolis, IN, USA.