Growth Promotant Use in Cattle Production | FACT SHEET

About growth promotants

America's cattle producers use growth promotants to safely produce more of the lean beef that consumers demand while using fewer resources, like land and feed. Sometimes referred to as cattle growth hormones or steroids, these production technologies have been used for nearly 60 years to help cattle efficiently convert their feed into more lean muscle.

Growth promotants typically are administered through a small pellet (called an implant) that is placed under the skin on the back of an animal's ear, but some can be administered through the animal's feed. The hormones in growth promoting implants include estrogens (estradiol and zeranol), androgens (testosterone and trenbolone acetate or TBA) and progestins (progesterone and melengestrol acetate or MGA).

Currently, there are 30 growth-promoting products marketed in the United States (http://www.fda.gov/cvm/Green_Book/elecgbook.html). These products vary in active ingredients and dosage, but all have been vetted through the Food and Drug Administration's (FDA) strict review process and are regularly monitored to ensure their safe use.

Layers of government oversight

The safety of growth promoting products used in cattle production is assured through several layers of requirements which are enforced by multiple government agencies. First, growth promotants are required to go through a comprehensive, multi-step scientific review process conducted by scientists at FDA's Center for Veterinary Medicine (CVM) to ensure animal health and human food safety. More than 500 different studies have been conducted on growth promoting products and submitted as part of this stringent approval process. If approved, these products are then re-evaluated by FDA annually and only remain in the marketplace if they are continually proven safe.

In addition, livestock harvest facilities are required to address any potential chemical concerns, like growth promotant residues, as part of their facility's government-mandated Hazard Analysis and Critical Control Point (HACCP) plan.

Under the Federal Meat Inspection Act, the Food Safety and Inspection Service (FSIS) tests for residues of growth promoting products at harvest that exceed FDA-established safe levels. FSIS has conducted testing since 1967 and in 2005, the most current year data, reported zero residue violations for growth promotants in cattle (http://www.fsis.usda.gov/science/2005_Red_Book/index.asp).

Internationally recognized as safe

Growth promotants have been approved safe for beef production by many government agencies and groups worldwide, including: the European Economic Community Scientific Working Group on Anabolic Agents; the International Codex Alimentarius Committee on Residues of Veterinary Drugs in Foods; the European Agriculture Commission Scientific Conference on Growth Promotion in Meat Production; and the Food and Agriculture Organization (FAO)/ World Health Organization (WHO) Joint Expert Committee on Food Additives (JECFA).

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How growth promotants work

Most growth promotants are used to supplement existing hormones or compensate for missing hormones in an animal's body. For example, steers (castrated bulls) implanted with a growth promotant gain weight at about the same rate as a bull. The hormones in growth promotants are metabolized or used by the animal's body before it goes to harvest.

Although these products vary in active ingredients and dose, they generally work by discouraging protein depletion and encouraging protein synthesis in cattle so they can gain more lean muscle from less feed.

Benefits of growth promotants

Improvements in cattle production technologies including the use of growth promotants, have helped provide a growing population with the lean beef they demand while using fewer resources.

A University of Minnesota Extension Service study found that growth promotants improve cattle growth rates and feed conversion efficiency, increasing annual U.S. beef production by more than 700 million pounds while saving more than 6 billion pounds of feed. In addition, if the beef production practices from 1955 were used today, 165 million more acres of land—an area almost the size of Texas—still could not equal today's beef production according to an expert analysis.

Overall, beef is leaner today than ever before thanks to multiple and complex factors, which include beef production efficiencies. For example, growth promotant use in cattle typically improves lean tissue 8 percent to 20 percent compared to non-treated cattle.

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