

The beef industry relies on the use of hormones to help provide consumers with a wholesome, affordable and increasingly healthful beef supply. Like other technologies currently used by the U.S. cattle industry, the use of hormones is backed by an overwhelming body of scientific evidence proving its safety and effectiveness.

Trace amounts of hormones enhance livestock growth by increasing the efficiency with which feed is converted to muscle. An animal that is given growth enhancers gains weight more rapidly and produces a leaner product. By reaching market weight sooner, there is a reduction in the cost of beef production and lower prices to consumers.

The three synthetic hormones used in livestock production mimic three naturally occurring hormones. The synthetic hormone zeranol mimics estradiol; the synthetic hormone trenbolone acetate mimics testosterone; and the synthetic hormone melengestrol acetate (MGA) mimics progesterone. All the hormones have been safely used in the United States for decades.

## Internationally Recognized Safety Record

There is a clear worldwide scientific consensus to support the use of these approved and licensed hormones when used according to good veterinary practices. This consensus is reflected in the 1984 and 1987 Lamming Committee reports – the scientific expert group commissioned by the European community; the 1987 Joint Expert Committee on Food Additives (JECFA) of the World Health Organization and the Food and Agriculture Organization of the United States; the Codex Committee on Residues of Veterinary Drugs in Foods (CC/RVDF); the safety assessments of Food and Drug Administration (FDA) and comparable institutions in many countries throughout the world; and the 1995 Scientific Conference convened by the European Commission. The world's scientific community has agreed that both naturally occurring and synthetic hormones are safe when used according to label directions in food-producing animals.

FDA and others also have concluded that there is essentially no difference between beef from animals

raised using hormones and those raised without their use. Their conclusions indicate that even the miniscule amount in beef is well below any level that would have a known effect on humans.

## Regulatory Control in the United States

The U.S. regulatory control system for use of growth promoting hormones includes food safety standards that are based on sound internationally recognized scientific criteria. FDA and the U.S. Department of Agriculture cooperate to provide consumers with a safe food product by ensuring the proper use of hormones in cattle. FDA regulations allow the use of hormones, which have very specific instructions for proper usage.

Hormones can be administered either as feed ingredients, as in the case of MGA, or as small pelleted implants. Each delivery method contains a specific, legally authorized dosage of the hormone that is either added to feed or inserted into the ear of the animal and discarded at slaughter. The hormone is released into the bloodstream very slowly, ensuring that the concentration remains relatively constant and low. The prescribed dosage is the level that will produce optimal results. In fact, when it comes to hormones, there is no benefit to using more – only additional costs – thus eliminating the incentive for farmers and producers to exceed permitted levels.

## Beef Hormones in Perspective

The hormone levels in beef produced using growth hormones are well within the range of naturally occurring levels of these hormones in beef cattle. For example, beef from an uncastrated bull not administered hormones contains testosterone levels more than 10 times higher than the amount in beef from a steer (which is castrated) that has received hormones for growth promotion. According to USDA's Foreign Agriculture Service, the amounts of synthetic estradiol, progesterone and testosterone in animals raised using hormones as growth promoters are extremely low compared with their production in humans. For example, a young boy would need to eat more than 16 pounds of beef raised using synthetic

estradiol daily in order to produce a one percent increase in his production of this hormone. About one pound of beef raised using synthetic estradiol contains about 15,000 times less of this hormone than the amount produced daily by the average man and about nine million times less than the amount produced by a pregnant woman.

## Final Note

Hormones are used in beef production to sustain a high quality and affordable beef supply. Careful federal regulation and oversight of the use of hormones should assure consumers that beef from cattle raised with approved hormones is safe and wholesome.

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## Helpful Links

### American Meat Institute

<http://www.meatami.com>

<http://www.meatsafety.org>

### Foreign Agricultural Service

#### A Primer on Beef Hormones

<http://www.fas.usda.gov/itp/policy/hormone2.html>

### Food and Drug Administration

<http://www.fda.gov>

## Third-Party Experts

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