

An Evaluation and Proposal of Growth Hormones in Beef

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Beef growth hormones are a controversial subject on many sides. These sides include stakeholders of all areas such as environmentalists, the government, and consumers. While the dangerous effects of growth hormones on the human body are less commonly known to the public, those who take an anti-growth hormone view take a strong stance on working to limit the use of hormones and their potential effects. These effects prove to be harmful to the human body, causing the current hormone use in beef to be worthy of reform.

Growth promotants, also known as growth hormones, implanted into cattle have proven to be a controversial subject of many sides. A tiny implant, about the size of a fingertip, has created an immense amount of controversy between the government, ranchers, scientists, environmentalists, and consumers. The growth promotants start as a small implant that is placed into a cow's ear. The implant works by releasing both natural and synthetic hormones directly into the cow's blood stream. Overall, the objective of the hormone implant is to alter the way the cow turns feed into muscle, making a larger and leaner cow. In the end, the cow weighs more, and because of this the rancher walks away with a larger profit. Of course, the most profitable solution for the farmer might not be the healthiest for consumers. Due to the conflicting interests, the disagreement between multiple stakeholders begins.

One of the many concerns of scientists occurs when traces of the hormones from growth promotants are found in beef. Scientists have researched the topic and have found that even a small trace of hormones consumed through beef can lead to bodily harm, such as cancer (Bueckert). Environmentalists have also warned of the damage in areas surrounding feedlots, and growth promotants' impact on the people who live near feedlots (Holguin). On the other hand, the government tells consumers the beef is safe and has virtually no effect on the environment or the human body ("Steroid"). Once many groups of stakeholders have been impacted by the controversy, the media begins to unfold the issues to the public. Consumers are left in the mix with no real conclusions and no clear labeling as to what they are consuming. Consumers should not be left out in a topic that has the potential to impact so many lives and harm multiple people. Growth promotants used in beef should be carefully scrutinized by the general public because of

the dangerous health risks they pose; including cancer, early onset of puberty, and environmental damage.

The government's definition of safety in hormone injected beef creates controversy between many stakeholders and ultimately shapes their opinion of the growth promoting industry. The government is one of the most influential stakeholders in the discussion of growth promoting implants. An article titled "Steroid Hormones," on the Food and Drug Administration website reveals to the public the stance the government takes on the safety of beef growth promotants. The FDA finds there is no danger in consuming meat from animals treated with growth promoting hormones as the amount of the hormones is negligible compared to the amount normally found in the edible tissues of untreated animals and that are produced by the consumer's own body ("Steroid"). Here, the FDA takes a clear stance stating that the consumer faces no harm from eating beef produced by a cow with growth hormones. However, the FDA goes on to explain that these findings are based solely on the research of the naturally occurring hormones, not the synthetic ("Steroid"). It must be kept in mind that synthetic hormones are used just as often as natural hormones in growth promoting implants. The FDA also explains that unlike naturally-occurring steroid hormones, there is no natural production of synthetic compounds, and they, therefore, do not metabolize as quickly ("Steroid"). As a result, they state, extensive toxicological testing in animals has been done to prove the product is edible, but as a precaution there is an added safety level to the amount of hormones that can be used in implanted beef ("Steroid"). The FDA does not address the issue of the synthetic hormones' impact on the body. Because the FDA is a governmental organization, it is widely accepted as being an honest source of information. Given this position, the FDA plays a large role in setting the definition of safety of growth hormones. Though the FDA has an influential voice, the safety of growth promoting hormones speaks for itself in its potential to cause harm on the human body.

Another stakeholder in the discussion over the safety of growth promotants are the ranchers. It is in the rancher's best interest to make the largest profit possible with the fewest amounts of resources. The profit produced from the weight gain of the cow can sometimes make the difference between a rancher's loss and gain in the industry. It is for this reason, that ranchers rely on growth hormones to give them an edge in the beef cattle industry. The *National Cattlemen's Beef Association* (NCBA) represents ranchers in the beef industry and speaks with their best interest in mind. The NCBA's website explains to consumers the reasons their beef is safe to eat. They explain there is a three level process that creates a margin of safety for human health ("Hormones"). The process starts by identifying a level at which no effect on human health is seen. After identifying this, a margin of safety is added to this level. Once the margin of safety has been established, the actual amount of hormones injected into the cattle is far less than the safety level set by the FDA ("Hormones"). Though the NCBA works to earn the trust of the consumer, they also represent the business of thousands of ranchers nationwide. Their mission statement reads, "NCBA... Working to increase profit opportunities for cattle and beef producers

by enhancing the business climate and building consumer demand” (“Hormones”). Ultimately, ranching is a business, and businesses are typically driven by profit.

The NCBA and the FDA show that they are trying to make growth hormones as safe as possible for consumers. Seeing that the NCBA works to increase the profit of ranchers, it can be interpreted that its interest lies within the profit of its farmers. Along with the NCBA, the FDA has not actually conducted any research that proves the safety of growth hormones. It is clear that both organizations recognize a cause for concern because of the ways both have reacted to the growth hormone issue. There is absolutely no reason for cattlemen to add a heightened safety margin to the predetermined safety level set by the FDA, unless there is a cause for human health concern. By adding this heightened safety level, it is clear that the NCBA and the FDA both acknowledge that growth hormones are not safe for human consumption. Other stakeholders have come forward with their concerns and have done their part to warn the American public of the harm causing agents in their beef. There are key stakeholders, including scientists’, environmentalists, and the media, that are against growth hormone usage. Whether the end to their usage may be reached through the FDA or the consumers themselves, an end is necessary in order to protect the health of Americans.

While many groups of stakeholders find the need to justify the use of growth hormones, others warn of the potential dangers on human health and the environment. Samuel Epstein, an expert in cancer prevention, shows his concern for consumer health in his article titled “Hormones in U.S. Beef.” Epstein is a qualified researcher in his field. He is a renowned scientist for his contributions to the medical field. One of his specialties includes cancer prevention. In Epstein’s article, he explains the harms consumers face when eating natural and synthetic hormone injected beef. The hormones in past and current use include the natural estrogen, progesterone and testosterone, and the synthetic zeranol, trenbolone, and melengesterol (Epstein). He reports “the amount of estradiol in two hamburgers eaten in one day by an 8-year old boy could increase his total hormone levels by as much as 10%...not surprisingly, the incidence of childhood cancer has increased by 38% since 1975” (Epstein). Estradiol is a synthetic hormone derived from the synthetic melengesterol. According to the FDA, estradiol does not metabolize as quickly as other natural hormones (“Steroid”). Epstein goes on to explain, “Increased levels of [natural] sex hormones are linked to the escalating incidence of reproductive cancers in the U.S... Nevertheless, the FDA maintains that hormone residues in meat are within ‘normal levels’ while waving any requirements for residue testing” (Epstein). Epstein concludes, “the FDA has consistently disregarded its responsibility and has repeatedly put what is [sic] perceives are the interests of veterinarians and the livestock ahead of its legal obligation to protect consumers, thus jeopardizing the health and safety of consumers of meat” (Epstein). Epstein points out that the FDA has disregarding consumer health and safety. Along with this, he also includes his own reasons concerning why consumers should be wary of hormone injected beef. Epstein warns the public of the danger within growth promoting hormones. It is for this reason that he speaks in the best interest of the consumer.

Epstein makes a clear point to consumers that the FDA has overlooked their health when dealing with the growth promoting hormones industry. The attack Epstein makes on the FDA allows consumers to understand where the FDA's priorities lie. If Epstein is correct, consumers are on their own to protect themselves from the dangers of growth hormones, and health matters must be taken into their own hands. If consumer health is not enough of an incentive to stop growth promoting hormones, there are other reasons to be concerned about growth hormones in their meat.

Growth hormones are not found in beef alone. These hormones can get in to ground water that people drink. Along with Epstein, environmentalists play a role in shaping the opinion of growth hormones among consumers on the topic of beef hormones. On a webpage entitled "Health Consultation" by the *Agency for Toxic Substances and Disease Registry* (ATSDR), The ATSDR website released information regarding the impact cattle feedlots had on surrounding human population. The ATSDR is a branch within the U.S. Department of Health and Human Services and is the principal federal health agency responsible for health issues related to environmental contaminants. The article explains that hormones given to cattle in a feedlot, known as Sunnyside, have contaminated groundwater supplied to a nearby town ("Health" 4). Many of the wells near Sunnyside have tested positive for the veterinary growth hormone 17-beta estradiol. The Sunnyside feedlot is believed to be the source of the 17-beta estradiol ("Health" 4). The article links the effects from the environment to the impact felt on the surrounding population. Along with this, the article provides reasons for concern when it explains the impact felt on the human body. The article explains, "17-beta estradiol is known to cause excessively rapid growth in pre-pubertal children. It is also possible that 17-beta estradiol may cause early sexual development in girls and delayed sexual development in boys based on animal studies" ("Health" 5). When the after-effects of exposure to 17-beta estradiol are explained, it raises even more concern. 17-beta estradiol may potentially lead to chronic bone and joint pain ("Health" 5). These health concerns from the ATSDR allow consumers to see the potential dangers of areas surrounding feedlots and how they affect their health.

The ATSDR is a branch within the government, but unlike the FDA, their case studies reveal hormones to be harmful to the human body. It is strange how two organizations within the same government hold differing views of growth hormones and their impact. The ATSDR's specialty is in investigating toxic substances that pose a threat to human health. The fact alone that the ATSDR has investigated a toxic substance that is also found in food should be enough to alarm consumers as well as the FDA, that hormone injected beef is harmful. While the FDA maintains its position that growth hormones are safe, consumers should demand healthy and safe products that will not harm their bodies.

As a result of the controversy over the subject, many news organizations have weighed in on the topic and stated their opinions on growth hormones. CBS News has conducted news reports and exposed information on the subject of growth hormones to the public. CBS is an American television news network that works to inform the American public on important subjects. On the

CBS website, Jamie Holguin describes a link between beef and breast cancer caused by the growth hormone Zeranol. Holguin explains, “A series of tests done for the Pentagon show a possible link between breast cancer and Zeranol” (Holguin). She goes on to state, “researchers at Ohio State University mixed beef from Zeranol-treated cows with human breast cancer cells and saw ‘significant’ cancer cell growth -- in some cases at levels 30 times lower than the government says is safe” (Holguin). The news story goes on to explain that Zeranol also impacted the surrounding wild life. For example, a study found fish downstream from a Nebraska feedlot suffered major reproductive damage. The story goes on to say, “It certainly raises a red flag for us... it suggests is that there are very potent hormones that are coming off of these feedlots that are going into the environment” (Holguin). In a related interview, CBS speaks with a rancher from the NCBA who states he is comfortable with feeding his family beef injected with hormones (Holguin). He adds that, “levels of Zeranol found in beef were 57,000 times less than what the FDA has determined is safe” (Holguin). However, CBS comments that after the report was aired it was found that the levels of Zeranol found in beef were actually 5,700 times lower, not 57,000 (Holguin). The difference here is essentially ten times greater than what originally was thought. The CBS news story includes information on various subjects that impact both the consumer and the environment. From the information provided, the consumer is able to get a broad idea of the impact the growth hormones have on their daily lives.

Once the topic of growth hormones has been passed from one stakeholder to another, the consumer is left in the mix in the discussion over growth hormones. The *Organic Consumer’s Association* (OCA) is a nonprofit organization that works for the consumer. In an article written by Dennis Bueckert, the health impacts consumers face from consuming beef with hormones are explained. He also comments on the mixed signals the government sends to the public. In the article, Bueckert describes the likely reason for the increase in cancer. Bueckert explains that hormone residues in North American beef are to blame for the early onset of puberty among girls, which translates into higher risk of breast cancer (Bueckert). Bueckert goes on to explain the discrepancy between the government’s branches by stating, “The federal government maintains the hormones are safe, despite strong misgivings on the part of its own scientists at the Health Protection Branch” (Bueckert). He goes on to say, “Four government scientists with concerns have been placed under orders not to discuss the issue in public” (Bueckert). The OCA clearly makes it a priority to advocate for the consumer by uncovering the hidden truths and including relevant health information.

The risks associated with consumer health show that growth hormones are an exigent subject worthy of reform. The issue of growth hormones proves to be controversial among many groups, including those within the same organization. When independent government agencies cannot agree on one single viewpoint, consumers receive mixed messages, and the mixed messages received by consumers translate into uncertain health policies within the beef industry. The health risks, as well as those that impact the environment, shape the public opinion of growth hormones. Though the FDA is a credible source of safety information, some of the regulations on the hormone implant process call to question whether the hormones are actually safe when the

FDA finds it necessary to dilute the already “safe” dosage. There are also many other sources that oppose growth hormones in beef. Epstein, the OCA, the ATSDR, and the media have all explained credible reasoning to end the production of beef with growth hormones. Consumers must not allow this any longer. It may not be in a consumer’s power to stop the production, but consumers can make the choice to stop buying hormone injected beef. There are plenty of alternative sources of beef without hormones that are available to consumers. Though organic beef is more expensive than non-hormone beef, it is a much healthier alternative. This cost in the long run may be a cheaper alternative. Most cancer patients would pay for an expensive chemo procedure to save their lives. The same goes for the choices consumers make now. Consumers can be proactive against cancer by refusing to eat risky hormone implanted beef. If the correct choices are made now, then there may be a healthier life ahead of all American citizens.

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