

The Facts About Beef Cattle Growth Enhancement Technology

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Introduction

Research, published in peer reviewed scientific journals and reviewed by regulatory agencies during the past more than 40 years, demonstrated that beef cattle growth enhancement products, when used consistent with their label, are safe for the animal, safe for the beef consumer, safe for the environment and deliver significant economic benefits to the beef producer and to the consumer. The USA has the Food and Drug Administration Center for Veterinary Medicine (FDA/CVM) product approval process in place that assures such products are safe for the animal, consumer (human food safety) and environment when used consistent with the label. In the USA the label use of growth enhancement products is encouraged and the illegal use is minimized/prevented through fine/imprisonment for misuse, inspection, no economic incentive to use illegally, and user education programs. If the beef cattle growth enhancement products are safe and effective, why is there a need to address this topic?

The European Union (EU) banned, in 1989, import of "hormone treated beef" from the USA. In retaliation, the USA imposed, in 1989, *ad valorem* trade sanctions on import of EU goods into the USA, the value of the *ad valorem* being comparable to the lost trade in beef exports to the EU. This issue was brought to the World Trade Organization for resolution in 1995, however, both the EU ban on import of USA beef and the USA *ad valorem* trade sanctions remain in place. Presentations, such as, "How safe is that burger" (*Consumer Reports*, November 2002, p.29-35), "Hormones: Here's the beef" (*Science News*, Volume 161, January 5, 2002, p.10-12), "Beef-back to the future" (University of California Berkeley *Wellness Letter*, February 2003), and the CBS evening news report (May 20, 2003) on a possible connection between zeranol (Ralgro) as a beef cattle growth

enhancing product and potential human health risk have elicited questions and concerns from a variety of people in the USA. In an attempt to address valid concerns as well as allegations and half-truths that raise questions in the public's mind about growth enhancing technologies used in beef production in the USA, a focus group was convened to identify issues of concern to the public and to the beef producing industry.

The focus group identified six key issues of concern to the "public." Individuals (20) representing beef production, beef product sales, beef industry communications, and growth enhancement product manufacturers discussed how best to address these six key issues. Agreement was reached to address the six key issues identified by the focus group with "single page" responses for each issue. The six issues are addressed in this presentation.

The Six Issues

Issue 1. Does the use of growth promotants make our beef less safe or less healthy?

The use of growth promotants does not have a negative impact on the safety, nutritional value or healthfulness of the beef we produce. The safety of the use of growth promotants is assured by the product approval procedures required by the FDA/CVM as well as by the on-going testing policies and procedures administered by the Food Safety Inspection Service (FSIS), a division of the USDA. The FSIS regularly tests for residues in meat that would indicate misuse. Violative residues have not been found.

1. All growth-promoting products must be approved by the FDA/CVM under the New Animal Drug Application (NADA) procedure. Approval is granted only after rigorous and extensive scientific tests, similar to the tests the FDA/CVM requires for human drug approval.
2. Each NADA is evaluated for safety of use in the target animal, safety to the environment and effectiveness of the product in the target animal. Unlike human drug applications, the NADA is also evaluated for human food safety. All meat products must be safe for human consumption.

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3. Growth promoting products have been on the market for more than 40 years and there has never been any negative impact on human health.
4. Hormones, like those in growth promoting products, are naturally occurring and are found in all plants and animals, including humans. For example a serving of milk contains 9x the level of hormones as a serving of beef from an implanted steer—a serving of cabbage 710x and soybean oil 7466x. The average man or woman produces 35,000x the hormones every day!
5. Hormones are essential to the proper functioning of many bodily functions including, reproduction, growth, immune system response, as well as the functioning of the nervous and digestive systems.
6. Some growth promotants act as a partitioning agent and actually increase the amount of lean red meat and decrease the amount of fat in the beef we consume.

Issue 2. Does the manufacture and use of growth promotants have a negative impact on the environment?

The production and use of growth promotants does not have a negative impact on the environment, in fact, growth promotants are environmentally friendly.

Impact on Land Use: Because the use of growth promotants improves the efficiency of beef production, there is less stress placed on the environment. The increased efficiency results in more beef produced per cow unit and more efficient use of both grasslands and grain-farm acres. As a result, more land is made available for other uses and fewer acres need to be treated with agricultural chemicals.

Example: Performance studies document that, overall, growth promotants increase feed efficiency by 10 percent and rate of growth by about 15 percent. These performance improvements equate to a 21-bushel reduction in the amount corn required to grow a steer or heifer to market weight. The net result of growth promotant efficiencies is that each year, 3 million fewer acres of corn are required to produce the United States beef supply.

1. The world's land mass is constant, yet a growing population increases the need for more spared land as well as for greater food production.
2. Growth promotants increase production efficiency, which equates to fewer acres diverted from natural habitat to production agriculture.
3. Growth promotants decrease the amount of Nitrogen, Phosphorus, Potassium and other minerals introduced into the environment; this reduction is achieved both through reduced acreage of grains required for beef production and decreased quantity of feces and urine as a result of the increased feed efficiency.

Environmental Impact Studies. Production of growth promoting products is subject to rigorous scientific examination prior to FDA/CVM approval. The manufacturer must

clearly demonstrate that the manufacturing process does not introduce harmful substances into the air, water or land. In addition, the manufacturer must measure and prove that the product and its metabolized by-products do not harm the environment in any way.

4. Excretion of both product and metabolites are measured and documented.
5. Physical and chemical properties and partitioning into water and soil as well as degradation in water and soil are documented.
6. Degradation of the product and its metabolites by microbes is also measured and documented.
7. Effects on both aquatic and terrestrial species are documented.
8. Predicted concentrations of the product and its metabolites in water and soil are computed.
9. No growth promotant products are licensed until the risk assessment is completed satisfactorily.

Issue 3. Do growth promotants have a negative impact on an animal's health or well-being?

The use of growth promotants does not have a negative effect on an animal's well-being or on an animal's welfare.

10. Beef producers continue to adopt scientifically based production practices including the most elaborate and humane handling equipment.
11. Beef producers follow science-based animal husbandry practices.
12. Beef producers feed their animals science-based, healthy and well-balanced rations. As a result cattle remain healthy and efficient in their use of feedstuffs.
13. Beef producers and their veterinarians monitor the health of individual animals on a daily basis.
14. Beef producers ensure that the "five freedoms" are provided for every animal in their care including the ability to turn around, groom themselves, lie down, get up and stretch their limbs without difficulty.
15. Growth promotants increase the animal's appetite ensuring that the animal remains healthy and well fed.
16. It is in the producer's best interest to provide an ideal environment for the health and safety of their animals.

Issue 4. Has the use of growth promotants contributed to the reduction in the number of smaller farms? The use of growth promotants does not provide an economic advantage to large, corporate farms nor do they put smaller farmers at a disadvantage.

Growth promoting products, including implants, can easily be utilized by all cattle producers, whether they have a few head of cattle or several thousand. The per head, eco-

conomic advantages that growth promotants provide are the same, regardless of the size of the operation. There is no additional economic advantage or benefit for large producers and there is no "cause and effect" between growth promotants and the trend to consolidation in the industry.

17. Growth promoting products can be effectively utilized and are economically rewarding in any size operation.
18. Utilizing science and technology in beef production results in lower beef prices and a continuous supply of top quality beef for consumers.
19. There is a trend to fewer, larger feeding operations; however, cattle feeding operations of all sizes continue to utilize growth promotants as they successfully produce beef for the market.
20. No cause and effect has been identified between growth promotant products and the trend to consolidation in the beef industry.

Issue 5. Do growth promotants really benefit the beef industry? Improved production efficiency benefits the entire beef industry as well as consumers.

The use of growth promoting products improves both growth and feed efficiency, which is of benefit to both beef producers and consumers. For example, proper use of implants improves both average daily gain and feed efficiency, which results in an economic benefit of approximately \$40 per beef animal. This lower cost of production results in lower beef prices to the consumer, and keeps beef more price competitive compared to other protein sources.

21. Research by Gill and Trapp (1997) indicated that without the efficiencies that implants provide, beef's share of the protein market would decrease from 31.9 percent to 29.8 percent. The decrease in market share would decrease beef retail sales by \$1.4 billion, eliminating the need for 1.2 million cows (the number of cows in the entire state of Oklahoma).
22. The use of growth promotants help produce a more consistent, better managed beef product, without sacrificing taste or quality.
23. Growth promotants give consumers the healthy, flavorful, nutrient dense beef they demand at a price they can afford.
24. Eliminating the use of growth promoting implants in the United States would not increase beef exports to Europe. The European ban on implanted beef is based on politics and agricultural protectionist programs and would not be lifted if the United States beef producers quit using hormones. The EU is cur-

rently importing beef from South America where there is widespread hormone use.

Issue 6. If there are any questions at all about growth promotants, why take a chance?

The European "Precautionary Principle" (action should be taken to correct a problem if there is any evidence that harm may occur...the foresight to protect against any possible harm) does not recognize scientifically based risk assessment and analysis as being adequate and, therefore, is very limiting for the adoption of any new technology, not just animal health products and technology. The precautionary principle that guides our FDA/CVM is based on extensive, thorough, conservative scientifically based research.

25. The USA FDA/CVM approval process is very conservative in their approval of growth promotant products.
26. Growth promotant products are approved only after a thorough review of validated, well-supervised, rigorous scientific studies.
27. This thorough, cautionary product approval process assures that the products that are approved for sale will not have any adverse effects on human health, animal health or environmental safety.
28. Beef from cattle implanted with growth promotants is now being eaten by a third generation of consumers without any negative impact on their health.
29. "We inspect what we expect"...A thorough, on going inspection process ensures that there are no product misuses or violations and that all products are used according to their labeled and intended use.
30. The scientific principles that govern our approval process make new technologies and new procedures possible.

Conclusions

Beef cattle growth promotion products, when used consistent with their label, are safe for the animal, safe for the beef consumer, safe for the environment and deliver significant economic benefits to the beef producer and to the consumer. In the USA, use of growth promotion products should be based on sound business decisions and should not be influenced by political and social pressures. Anti-animal production groups will use numerous bases to disrupt beef consumption and beef production in the USA, including the "selling of fear" related to endocrine disruption, carcinogenicity, adverse effects in humans, environmental contamination, and misuse/abusive use of the products.

