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Let Science Rule the Decision-Making Process Regarding Beef Hormones

Why does the European Union (EU) have a beef against North American beef? Since 1989, the EU continues to ban the import of Canadian beef unless the government can ensure that it is free of growth hormones. While the EU say they have built up their scientific evidence against the use of growth hormones in cattle with new reports to be published this year, current evidence assessed by the global scientific community over a 40-year period does not support the ban.

In the midst of this debate, the animal health industry and cattlemen have made the safety of growth hormones an ongoing concern, and would support a ban of products if, and only if, new scientific evidence assessed by global scientists say use of these products is unsafe.

For more than 30 years, growth hormones have been given to cattle in Canada and the U.S. to improve the animal's ability to more efficiently utilize nutrients and produce leaner beef. Joining the nations of the United States, Australia, New Zealand, South Africa, Mexico, and Chile that allow the use of growth hormones, Health Canada has approved the use of the natural hormones estradiol 17-ß, progesterone and testosterone, and synthetic hormones zeranol, trenbolone acetate and melengesterol acetate (MGA). With the exception of MGA, the hormones are approved either alone or in a combination as components of an ear implant. MGA is approved as a feed additive and also prevents heat cycles in heifers. Use of these products results in increases in the growth rate of steers from +10 to +30%. Heifers respond to a lesser degree, with use in bulls having a minimal growth response although fat deposition is enhanced.

Considering that the hormone estradiol is a known carcinogen, growth hormones have been the subject of countless scientific reviews from various agencies worldwide. The safety of Canadian beef is paramount to the animal health industry, which is why we are weighing the evidence very carefully. Here's how some of it stacks up:

Health Canada imposes stringent safety requirements before a product can be sold or used in Canada, and made these conclusions in its review of growth hormones for cattle:

- Absence of harmful residues in edible tissues
- Absence of acute toxic effects in animals
- Absence of chronic physiological effects
- Absence of mutagenic or carcinogenic potential
- No undesirable effects on performance or health
- Consistent and acceptable quality standards providing repeatable results

The Codex Alimentarius Commission is a governing body that plays a key role in establishing international standards for veterinary drug residues in food, with a mission to protect consumers and facilitate trade. In 1999, the Codex recommended acceptable daily intakes (ADI) for hormones. Maximum residue limits (MRLs) were not specified. Based on the available data, the Commission concluded that the presence of drug residues does not pose a health risk to humans.

Following the establishment of these safety standards, the World Trade Organization (WTO) ruled against the EU ban in 1997, after the U.S. and Canada filed a complaint the previous year. In 1998, the WTO appeal body upheld the ruling based on a lack of substantial evidence for the EU to prove its case. A WTO panel of neutral arbitrators later ruled that the EU's ban broke global trade rules because it was an artificial barrier based on protectionism, as opposed to a legitimate health risk.

All foods contain naturally-occurring hormones. Plants like cabbage and soy contain higher levels of hormones than a serving of beef from a treated animal, while an average daily dose of oral contraceptive contains 2,500 times the amount of hormones. Our bodies produce hormones in even greater amounts. According to the United States Food and Drug Administration: "the amount of the [extra] natural hormones in the meat we consume is a tiny fraction of what our own human bodies produce naturally. They [people] also receive these hormones from meat from untreated animals because these animals produce the hormones naturally. A man's body produces 15,000 times the estradiol in a day that he would get from a pound of meat from treated cattle, while a woman produces several million times that. Similar situations apply to testosterone and progesterone."

Even the EU has found contradictions in its own study. In 1981, a Scientific Working Group was appointed to examine the use of five specific growth hormones and determine if they posed a health risk. Following European Economic Community (EEC) protocols in the testing of veterinary medical products, the working group concluded that the hormones "…would not present any harmful effects to the health of the consumer when used under the

appropriate conditions as growth promoters in farm animals." The same group, working as individuals, conducted a study of two synthetic hormones in 1987 and concluded: "The levels of trenbolone and zeranol and their major metabolites found in edible tissue, following accepted husbandry practices, are substantially below the hormonally effective doses in animal test systems and therefore do not present a harmful effect to health." The findings were later endorsed by the relevant international communities.

In 1995, the EU suffered another blow from within when the EC Scientific Conference convened to discuss the issue of growth hormones. The conference concluded that there was no evidence of possible health risks to consumers due to the use of natural sex hormones for growth promotion. The conference also determined that the residue levels of the synthetic hormones zeranol and trenbolone, administered at the doses required for growth promotion, were well below the levels regarded as safe and offered no indication of a possible human health risk. Despite this scientific evidence, the EU still refused to lift the ban.

As the debate continues, we can expect reviewers at the Bureau of Veterinary Drugs, Health Canada to enter into the dialogue. Already, Dr. Margaret Haydon of the bureau publicly criticized Health Canada in the Montreal Gazette (January 7, 2001) for condoning hormone use, demanding, "Why should we have carcinogens [reference to beef hormones] in our food when they don't cause any benefit?" Dr. Haydon's outcry falls flat considering she is the same scientist that said Canada's temporary ban of cattle from Brazil due to concerns about bovine spongiform encephalopathy was a trade move rather than a measure to protect human health. While the issue remains mired in debate, Canadians need to be assured that our governing bodies take a proactive stance to ensure that science rules the decision-making process.

HOW DO THE FACTS STACK UP?

1989	The EU imposes a ban on the importation of North American beef from cattle treated with growth hormones.
1995	The EC Scientific Conference finds no evidence of possible health risks due to the use of natural hormones for growth promotion, and determines that the residue levels of some synthetic hormones are safe.
1997	WTO rules against the EU ban.
1998	The WTO appeal body upholds ruling due to lack of substantial evidence to support EU ban, and neutral arbitrators at WTO rule ban broke global trade rules.
1999	Codex recommends acceptable daily intakes (ADI) for natural hormones, and concludes the presence of drug residues in beef poses no health risk to humans.

Countries Approving Beef Hormones:
United States
Canada
Australia
New Zealand
South Africa
Mexico
Chile

An ADI is defined as "an estimate of the amount of a veterinary drug, expressed on a body weight basis, that can be ingested daily over a lifetime without appreciable health risk." An MRL for veterinary drugs is defined as "the maximum concentration of residue resulting from the use of a veterinary drug that is recommended by Codex to be legally permitted or recognized as acceptable in or on a food." The recommended MRLs may also include the consideration of Good Practice in the Use of Veterinary Drugs (GPVD), which is defined as "The official recommended or authorized usage including withdrawal periods, approved by national authorities, of veterinary drugs under practical conditions."

(From: Thompson. Sharon R.: International Harmonization Issues. Veterinary Clinics of North America: Food Animal Practice (March 1999). Vol 15 No 1 185-195)

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