Borsen last November as saying, 'I am co-responsible for the institution of the ban on imports and production of beef with hormones. At that time, I accepted the ban, taking consumer concern into account. But it appears [that decision] was not very wise ...When you cannot prove that it is dangerous either to animals or to man, it is difficult to argue for a ban."

Consumer concern in the U.S. has echoed the Europeans' sentiment. Health activist groups such as the Center for Science in the Public Interest (CSPI, Washington, DC) not only sympathize with the EC's position, but see it as a possible springboard for similar actions here—if not a ban, then at least a system for certifying and labeling untreated beef. Citing "a lack of knowledge on long-term effects on health," and clinical studies done in the late '70s associating high doses of estrogenic compounds (used to combat menopausal symptoms) with carcinogenesis, CSPI's Dan Howell says his group supports the Europeans' position, and would like more regulation of hormone use in this country as well.

Of greatest concern, Howell says, is misuse of legal hormones. The FDA-approved use of steroids hinges on proper administration. The drugs, formulated as slow-release pellets to be implanted at 61 and 30 days prior to slaughter, should be injected subcutaneously (SC) in the middle third of the ear—the ear being the only part of the animal that doesn't find its way into any food products.

But Howell cites a 1986 study showing that 50 feedlots in the Southwestern U.S. improperly placed pellets in the head, neck, and brisket (breast) of animals. Implanting in these edible portions could mean a high concentration of hormone ending up in someone's dinner, he says. He also fears cattlemen might give double doses, under the misguided notion that "if a little's good, a lot is better."

Howell also charges that a profit incentive for misuse also exists because delivering hormone intramuscularly (IM) produces faster growth than does the approved SC route of administration.

But these notions are disputed by animal scientists. The problem of implanting pellets in edible tissues has been successfully tackled by the industry itself, according to a spokesman for Syntex (Palo Alto, CA), maker of Synovex, a combination hormone formulation widely used in the U.S. The implants are given while the animals are trapped in a "squeeze chute" and their heads immobilized in a "head catch." Not only would placing the implants in the wrong place be difficult in this setting, it would not afford any economic incentive. According to Terry, double-dosing is unlikely: the dose-response curve makes extra doses useless and expensive. Nor, he says, would IM administration produce faster growth than SC administration.

Makers of hormone implants—the three largest are Syntex, IMC, and Eli Lilly's Elanco division (Indianapolis, IN)—point out that the levels of hormones in treated cattle are insignificant compared with the amounts contained in natural sources. For example, while an eight-ounce serving of beef from an implanted steer contains 2.8 nanograms of estrogen, a glass of milk contains 34 nanograms, a serving of peas 340 nanograms, and one hen's egg, 1,750 nanograms.

Scientific evidence notwithstanding, hormone-treated meat is viewed with suspicion by U.S. consumers. In a recent survey sponsored by the Food Marketing Institute (Washington, DC), hormones (lumped together with antibiotics) ranked second on the list of concerns, above fat, cholesterol, salt, and food additives—just under the number one concern, pesticide residues. While it may be true that these are "concerns of the affluent," as IMC's Fred Stresen-Reuter says, industry must nonetheless address them. **—Pamela Knight**

EC REGULATIONS

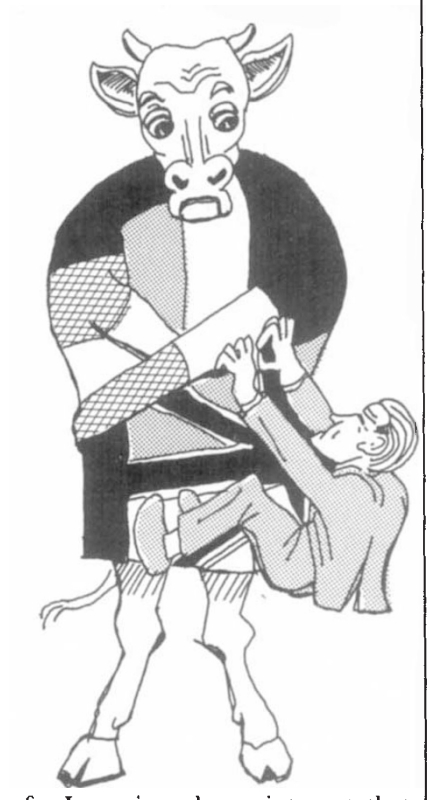
BRITISH DON'T BUY BEEF BAN

LONDON—Officially, the British government fully supports the European Community (EC) policy, now extended to imports, banning beef from cattle treated with steroid hormones. "Britain was party to the 1985 EC decision and acted upon the directive," says a Ministry of Agriculture, Food and Fisheries official. But the ministry consistently has tried to prevent the ban.

In 1985, only the British and Danish farm ministers voted against the proposed ban, which had strong support in the European Parliament and from consumer organizations. Both countries then took the case to the European Court, which ruled early last year that the ban as promulgated was procedurally incorrect, and therefore invalid. A few weeks later, however, when EC farm ministers agreed to reinstate it, only the U.K. minister strongly opposed it. And the U.K. ministry was again among those who argued most strongly in favor of the one-year delay in imposing the ban on imports.

The British have used a variety of arguments in their attempts to prevent the ban. Apart from the procedural matters put before the European Court, British officials at various times have argued that the ban would encourage illegal use of possibly harmful hormones, would create serious trade problems, and is not based on scientific evidence.

Ironically, Eric Lamming of Nottingham University (Nottinghamshire), chaired an EC expert committee on the safety of the now-banned hormones in 1985. That committee had not completed its task at the time of the EC decision, but it eventually reported that the hormones—all used in Great Britain at the time—were



safe. Lamming also points out that many European beef cattle are not castrated—and therefore have much higher hormone levels than those that are castrated, then hormone treated.

Perhaps not surprisingly, the ban also has been consistently opposed by Fedesa, the European federation of manufacturers of veterinary products. But there is precious little support anywhere in Europe for the recent U.S. imposition of trade sanctions. Unlike the EC ban, made ostensibly on the basis of health fears, that response is motivated purely by economics. **—Peter Newmark**