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For the Record

Straight talk about antibiotic use in food animal production presented by ALPHARMA Inc., Animal Health

THE TROUBLE WITH EUROPE

Here's one example of what now passes for scientific debate across The Pond: When former Greenpeace supporter Dr. Bjørn Lomborg, PhD, a statistics professor at Denmark's Copenhagen Business School, published his critique of enviro-alarmism, *The Skeptical Environmentalist*, it appeared to be a conversion of Ben Hur-ian proportion. In response, his scorned fellow environmentalists were hellish in their fury, ultimately convincing a scientific oversight committee for that country's national research council to censure Lomborg for "perversion of the scientific message" and "scientific dishonesty." Lomborg's crime? He analyzed the same public data that the activists used, but in it found opposing conclusions, including:

- Falling cancer rates as pesticide use rose.
- Average worldwide improvements in both water quality and human nutrition.
- Projected costs to mitigate global warming that could ultimately be higher than its damage.
- Habitat destruction and poorer human nutrition as the cost of widespread organic farming.

BEN STANSALL/AFP/Getty Images

Hundreds of British pork producers protested outside London's Downing Street in March, saying skyrocketing feed and other costs, including those caused by onerous restrictions on use of medications, are driving them out of business. Britain's pig herd has declined by almost half during the last decade.

AN EXAMPLE FOR THE UNITED STATES?

Though they made no mention of Dr. Lomborg, Sen. Jay Rockefeller, D-W.V., and Sen. Olympia Snowe, R-Maine, appeared to be following the Danish committee's example when they penned an official letter to the chairman of oil giant ExxonMobil in 2006. The senators demanded the company stop denying man-made global warming, stop funding opposition research, and immediately divert that money and more into fixing the problem. The changes were necessary, they said, to demonstrate "moral clarity," and restore U.S. credibility lost by daring to challenge "scientific consensus." Vulnerable to federal taxes and dependent on government leases, ExxonMobil caved in and cut funding to the top U.S. think tank questioning global warming.

Snowe, also a co-sponsor of federal legislation that would ban most uses of farm antibiotics, has similarly praised the "scientific consensus" that emerged from the World Health Organization's (WHO) review of the Danish restrictions on animal antibiotics. She has cited European experience as rationale for her bill to similarly ban antibiotics here — as have untold other activists, from the animal-rightist Humane Society of the United States (HSUS) to environmentally extreme Environmental Defense Fund (EDF) to the ideologically suspect Pew Commission report issued earlier this year.

There's but one trouble with relying on Europe in general and Denmark in specific to guide U.S. agricultural antibiotic policy. It has fulfilled virtually none of the promises the proponents espoused. In short, it hasn't worked.

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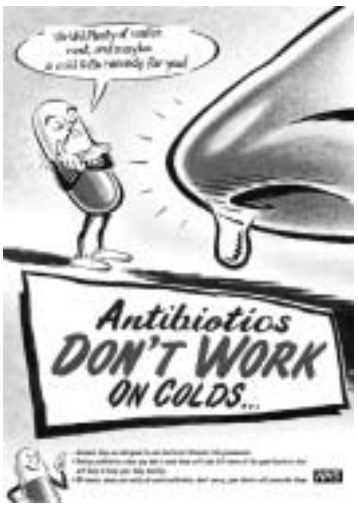
For the record...

Europe, held up as the shining example of the need to strictly control farmers' access to antibiotics, hasn't necessarily lived up to most of the promises. Or any?

STILL WAITING FOR RESULTS

For Dr. Bjørn Lomborg, vindication arrived less than a year later, when the Danish Ministry of Science, Technology and Innovation censured the committee for its "significant neglect" in investigating the accusations, finding it had simply repeated previous criticisms. It ordered new restrictions in how the committee handled future inquisitions.



Like the United States', Europe's health agencies have fought a decades-long public awareness campaign to convince people voluntarily not to abuse antibiotics, with little success.

In contrast, Europe's livestock producers still await their reprieve from "scientific consensus" that giving up farm antibiotics is necessary to protect human health. Despite warnings 10 years ago from the European Union's own Scientific Committee for Animal Nutrition, a diverse panel of expert animal scientists, that the science did not support a ban, most in the medical and regulatory communities now consider Europe's ban a *fait accompli*, says Ian Phillips, PhD, emeritus professor of medical microbiology at University of London—a done deal. But it requires a purposeful disregard of the evidence to "move on," as they urge farmers to do. Let's examine:

ANIMAL HEALTH SUFFERED

It is now well established by the Danes themselves that when the full ban took effect by 2000, pig producers reported increased disease, death loss and performance losses, most often due to ileitis that was obviously being controlled by the low level use of antibiotics. Within a year, the country's average weaning age went up by three days in an attempt to compensate for the 25 percent death loss jump. Producers experienced lighter average weaning weights, less uniform weights and more disease.

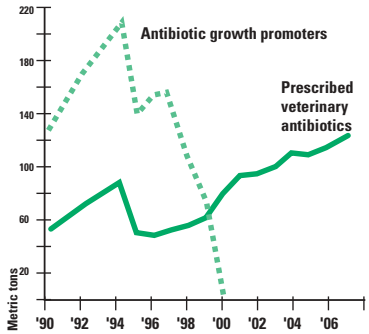
That increase in disease outbreaks led to a leap in use of therapeutic antibiotics by 30 percent in 2000. It hasn't stopped rising since, according to the latest figures. Similar patterns of increased drug use to treat disease after outlawing low-level use for growth occurred in other countries, most notably Sweden, France, Germany, the United Kingdom and the Netherlands, which continues to see "a tremendous increase" in antibiotic use, according to that country's tracking agency, even as herd numbers fall.

HUMAN RESULTS LACKING

More importantly, after 10 years, results in human health are scant—a reality WHO dodged in its praise of the "successful" Danish legislation. WHO simply dumbed down the definition of success by saying Denmark had "achieved a reduction in the reservoir of resistant microorganisms in food animals." There's no dispute animal resistance rates have fallen, if only among some animal-specific, non-pathogenic indicator strains.

But that's a red herring, according to those who challenge the consensus. The crucial question is what effect the growth promoter ban has had on resistant bacteria in humans that may plausibly have originated from farm animals. In particular, that includes the "zoonotic" bacteria *Campylobacter* or *Salmonella*—true pathogens that can both colonize animals and also cause human disease when they contaminate food—as well as "indicator" bacteria like *Enterococcus faecium*, normal inhabitants of the intestines of both animals and people which typically remain harmless, even if they become resistant to antibiotics.

Danish veterinary antibiotic use



TREND CONTINUES. Programs aimed at decreasing their use notwithstanding, the number of vet prescriptions written for disease treatment in Denmark has increased every year since growth-promoting antibiotics first began phasing out. That argues even at "growth promoting" levels, antibiotics help keep animals healthy.

For *Campylobacter,* it appears the ban has demonstrated there's little connection between the use of animal drugs and resistance in humans. Its rate of resistance against the human macrolide erythromycin hasn't significantly changed in a decade, and it remains above the macrolide resistance rate in poultry. Plus, the resistance rate in humans has not risen despite an increase in veterinary macrolide use to treat disease. Both those trends are contrary to what you'd expect to occur if the two drug uses were connected, Dr. Phillips suggests.

Meanwhile, *Campylobacter's* resistance rate in humans against the fluoroquinilones ciprofloxacin and nalidixic acid further suggest something beside animal use is to blame. Fluoroquinolone use in food animals is low to nonexistent in Denmark now, yet human resistance has increased four-fold in the last decade. Although Danish public health authorities try to link that trend to imported poultry which might have been raised using fluoroquinilones, Dr. Phillips and others have questioned whether the numbers can justify the magnitude.