Can it work here? Wait … Did it really work there?

Before the U.S. industry takes the World Health Organization's recommendation to make the Danish-style antibiotic ban work here, it may be prudent to re-ask one question: Did it really work all that well there?

X Drug use remained high. When the Danes first phased in the ban on low-level antibiotic use in the finisher, disease problems were minimal, and the finishing phase accounted for such a large proportion of antibiotic use, that the country's overall average antibiotic use did decline significantly. However, when the ban was then applied to nursery pigs, drug use to treat the resulting health problems skyrocketed. Even as growth promotion use fell to almost nothing, overall consumption of antibiotics in food animals increased by over 50 percent between 1998 and 2000. Tetracycline use doubled.

Producers greatly increased their reliance on therapeutic drugs to overcome the diarrhea being held at subclinical levels by the growth-promoting drugs—additional proof that antibiotics used for "growth promotion" often play an important role in long-term disease control. Total drug use in swine today remains at about 60 percent what it was in the mid '90s.

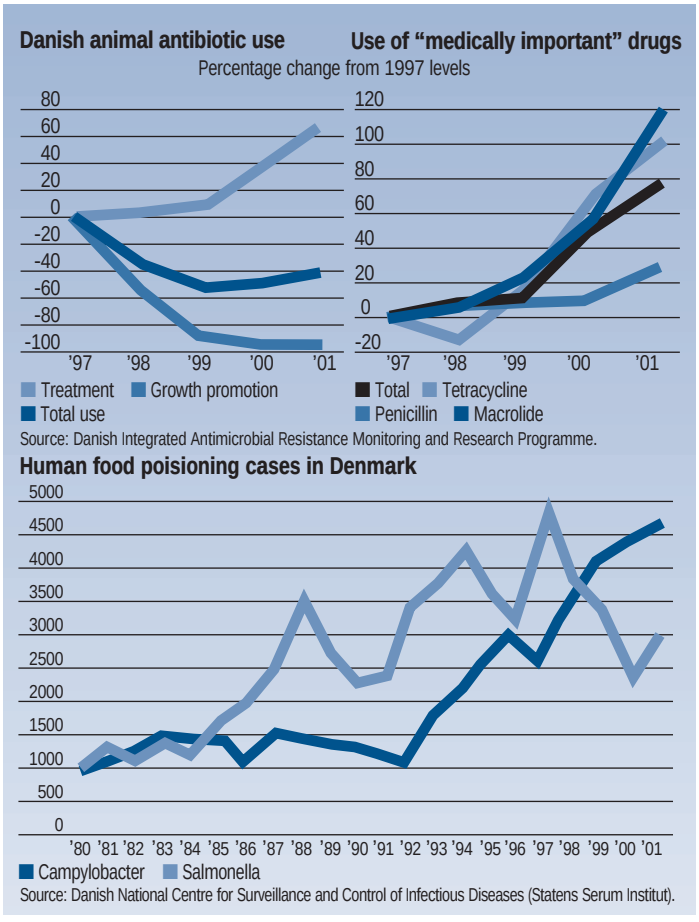
X The use of drugs important in human medicine increased. If the ban's goal was to limit use of "medically important" antibiotics, it had the opposite effect. By removing producers' access to low-level antibiotics that aren't used in human medicine and encouraging the veterinarians' increased use of tetracycline, penicillin and macrolides, Denmark's ban actually increased the theoretical hazard to human health. Use of fluoroquinolones—so hotly debated in this country—increased by a third after the nursery ban.

✓ Drug resistance in animals decreased. The level of drug resistance in strains of *Enterococci* unique to animals has declined in those bacteria sampled from livestock—as you would normally expect once the pressure from antibiotic use was removed.

X Drug resistance in humans did not decline. Even the proponents of limiting antibiotic use concede there's no evidence that *Enterococci* of food-borne origin pose a direct threat as human pathogens. Thus, their argument that reducing resistance levels of such host-adapted, non-pathogenic animal strains will reduce clinically important resistance of human-adapted strains remains purely a matter of faith. The Danish experience—and, in fact, the pattern across Europe in spite of the continent-wide antibiotic bans—did not reward that faith. The number of human cases of salmonellosis and campylobacter has actually increased in spite of the bans.

X Animal welfare has decreased with the removal of the antibiotic growth promoters. The incidence of sickness and death in animals has increased—even while husbandry has improved.

? Danish producers now have a "higher quality" product to sell. The Danes, recognizing the ban puts them at a cost disadvantage in the world market, hope to recoup the costs by promoting their pork as higher quality. Were U.S. producers to follow the same pattern as the Danes, they would have to recoup an additional estimated $450 million to $500 million annually because of the expected productivity losses here following a ban—simply to break even.



For the record

Based on what it has accomplished—and failed to accomplish—the Danish ban is little more than a theoretical success.