For the Record

Straight talk about antibiotic use in food-animal production

Sponsored by ALPHARMA Inc. Animal Health

INSIGHTS ON THE ISSUE

The problem with mundane fact: It spoils such a compelling story

"'Contrariwise,' continued Tweedledee, 'if it was so, it might be; and if it were so, it would be; but as it isn't it ain't. That's logic.'"–Lewis Carroll, Alice's Adventures in Wonderland, 1865

One of history's infamous propagandists once noted that the key to effectively hoodwinking the public is to tell the big lie boldly and often. Sheer quantity of repetition eventually outweighs its obvious nonsense. Case in point of the great lie that assumes truth through simple longevity: The modern food safety movement's bible, Upton Sinclair's *The Jungle.*

Still required reading in many high-school American literature courses, Sinclair's novel captured a nauseating picture of early 20th Century Chicago's packinghouses. His account of floor sweepings, rotted offal, unborn fetuses, and even the occasional employee all ground, stuffed, linked, boxed and sold to breakfast consumers reportedly put even then-President Teddy Roosevelt off feed. A century later, it continues to falsely illuminate the danger of permitting greedy food producers to operate free of government's big thumb.

There's just one problem with it, notes Lawrence W. Reed, president of the Mackinac Center for Public Policy, a Michigan-based research and educational institute that promotes free-market solutions to public issues: It wasn't true.

Sinclair himself admitted he never actually witnessed any of the conditions he novelized, nor that he had any interest in changing meat inspection. What was actually his literary call for the great Socialist workers' revolution had in fact, Sinclair later lamented, "…aimed at the public's heart and by accident…hit it in the stomach."

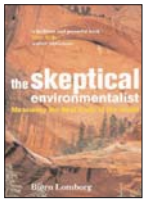
Yet *The Jungle* continues to demonstrate the power of a compelling story—truthful or not—to sway public sentiment, Reed notes. Most critics now credit it with leading to the modern food-safety inspection system, notwithstanding the fact that the system was already in place by the time the book was written. An authoritative 1906 USDA report shot down point-by-point the worst of Sinclair's claims, calling some of them "willful and deliberate misrepresentations of fact." Still, even modern book reviewers continue to call it "historically accurate" and "a brilliant study."

"Myths die hard," Reed concludes.

For the Record

Dismissing the scientific facts as less important than its alarmist agenda, today's consumer-panic industry seeks to stampede ill-informed consumers right over your freedom to use antibiotics in food production. This series, sponsored by a grant from ALPHARMA, is designed to unite the industry behind the truth and safeguard our scientifically proven ability to provide healthy supplies of meat, milk, poultry and eggs. Questions or comments about what you can do to help us set the record straight? Please contact Karen.DeQuasie@Alpharma.com.

Now and then, truth comes to call



Enabled by a consumer press that's more than willing to do its public relations, the anti-science environmentalism that underpins the movement to ban farm antibiotics seldom gets called on the carpet for playing fast and loose with its facts.

Enter Bjorn Lomborg, former Greenpeace member and a Danish statistics professor. Indignant at the writings of former Maryland professor Julian Simon—who persuasively argued that science, industry and increasing population was improving, not harming, the environment—Lomborg set out to factually counter Simon's claims. He failed.

His resulting *The Skeptical Environmentalist: Measuring the Real State of the World,* (New York: Cambridge University Press, 496 pages) has stung the environmental movement by shining an insider's light on its scientific and ideological shortfalls. Required reading for anyone using science to counter the environmentalists, it shows that occasionally the truth wins out.

Also in this issue:

For the record

Myths die hard. Today's movement to ban antibiotic use in agriculture plays on those food-scare myths to advance its cause in the face of weak or non-existent science.

Time to separate fiction from fact in the antibiotic debate

For the record

Advocates of banning food-animal antibiotics overstate estimated use by including antibiotics that have little or no important use in human medicine.

Opponents of using safe antibiotics in animals cloak their call to action in scientific investigation, deliberation and logic. Too often, though, their alarms are based on simply repeating assumptions that bear little relation to facts:

Fiction 70 percent–or 60 percent, or 80 percent, depending on the source–of all antibiotics produced in this country are used in livestock. Almost all go to improve growth, rather than control disease.

Fact This nearly 40-year-old contention that wonder drugs are being wasted by being cast before swine greatly overinflates their usage. Advocates typically base their use figures on an assumption that every animal receives the maximum-labeled dosage over its lifetime. In other words, if their assumptions were applied to human medicine, it would be akin to assuming every U.S. citizen takes every possible FDA approved antibiotic every day. On the contrary, when the animal-health industry estimates usage based on the most accurate direct measure–sales of ingredients–the figure comes closer to these:

- About 45 percent of the antibiotics produced in the United States are used in animals, including not just food animals, but pets as well.
- Of that amount, 86 percent are used to treat or prevent disease.
- That means slightly over 6 percent of all antibiotics used are intended for prophylactic or sub-therapeutic use.

Fiction Antibiotics are growing less effective against human disease because they're used in animals.

Fact It is true that some human antibiotics are becoming less effective. But in one of their most shameless rhetorical sleights-of-hand, anti-drug advocates blame producers for that increased resistance, while they virtually ignore the overwhelming contribution made by the abuse of antibiotics in human medicine.

Pound for pound, humans use about 10 times the tonnage of antibiotics as farm animals, according to one veterinary researcher. Over-prescribing and other misuse by humans is far and away the largest cause of today's increase in resistance, according to the World Health Organization and the American Medical Association–both of whom inexplicably also support restricting use in animals. WHO estimates that 40 percent of all antibiotics used in human medicine are unnecessary. *A Journal of the American Medical Association* study, for instance, reported that in one year doctors wrote 12 million antibiotic prescriptions for colds, bronchitis and other respiratory infections—90 percent which are caused by viruses that don't respond to antibiotics. It's no coincidence that the No. 1 predictor of whether a patient will develop a drug-resistant infection is whether that patient was taking an antibiotic in the previous three months.

Fiction Science has established a link between feeding antibiotics to animals and the development of resistant bacteria in humans.

Fact For more than three decades, advocates have repeated as fact the still-unproven theory that germs resistant to animal drugs—transmitted to people through their food—are eventually going to return us to some medical Stone Age by ruining human drugs.

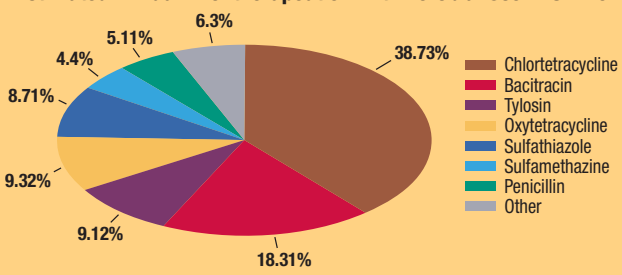
Yet, their search for a smoking gun to directly prove that theory still fails them. Widely publicized recent efforts include:

- A May 1999 Dutch study tracked 27 cases—two fatal—of drug-resistant *Salmonella*-based food poisoning back to a pig herd found to be infected with the same *Salmonella* strain resistant to fluoroquinolones, a class of antibiotics. Despite the American Society for Microbiology hailing the study as the smoking gun, the study's own authors write that fluoroquinolones hadn't been used in the herd that year, and that it was impossible to determine how the herd was infected with resistant *Salmonella*.
- An April 2000 study followed the case of a Nebraska farm boy suffering *Salmonella* poisoning resistant to the antibiotic of choice for treating the disease. Researchers used the fact that *Salmonella* from one neighboring cattle herd matched his strain to conclude that "…resistant strains of *Salmonella* in the U.S. evolve primarily

One example of usage misrepresentation

Misunderstanding of animal production coupled with outright deception often leads to antibiotic use estimates that grossly overinflate their prevalence. One such example is found in the notoriously flawed report, *Hogging It – Estimates of Antimicrobial Abuse in Livestock,* by Margaret Mellon, Charles Benbrook and Karen Lutz Benbrook. Its "assumptions and informed judgements" claiming US swine producers use 10.3 million pounds of "nontherapeutic" antibiotics annually includes 43,000 pounds of efrotomycin (Producil), a product that – although approved – was never brought to market and has never been available to producers.

Estimated Annual "Nontherapeutic" Antimicrobial Use in Swine



Source: Hogging It - Estimates of Antimicrobial Abuse in Livestock, by Margaret Mellon, Charles Benbrook, and Karen Lutz Benbrook

in livestock." But the authors gave only passing glance to holes they leapt over to make the conclusion:

- There was no evidence the cattle were treated with any antibiotics, including ceftriaxone, the antibiotic in question.
- There was no evidence the boy either ate contaminated meat or came into contact with contaminated manure.
- The *Salmonella* strain that matched the boy's was not from his home cattle herd, but from a neighboring herd the boy had not visited in the two weeks before his illness.
- The researchers recognized that other environmental factors like birds and wild animals could have spread the resistant organism.

■ A series of studies and editorials from October's *New England Journal of Medicine* used the discovery of drug-resistant *Salmonella* and *Enterococcus* in grocery store meats to conclude that using antibiotics in food animals must be curtailed. These studies were also reported widely in the consumer press as the final word on antibiotic use in animals, despite several gaps in the evidence, according to the American Veterinary Medical Association's Lyle Vogel:

- The sampling was done before 1998, after which, according to government inspectors, the levels of *Salmonella* contamination fell 51 percent in ground beef, 68 percent in ground chicken and 40 percent in ground turkey, due to industry-driven changes in food handling.
- The incidence data overstate risk because they reflected meat samples that were raw, not cooked—as consumers eat them.
- Discrepancies between the studies' contamination rates at the meat counter and others found in slaughtered animals during inspection suggest it's at least as likely that contamination is coming not from the animals, but somewhere during processing and handling.
- The studies continually fail to show that resistant genes in animal bacteria are transferred to humans and cause disease. Other recent studies, Vogel notes, demonstrate that resistant strains of human *Enterococcus* carry a special gene that has never been isolated from *Enterococcus* carried by either healthy people or animals, and that *Enterococci* from chickens differs molecularly from those in humans.

■ A Baltimore study just reported in the *Proceedings of the National Academy of Sciences* turns to "mathematical modeling" to bolster the theory. The researchers began by assuming that animal use of antibiotics has an effect on drug-resistant bacteria capable of causing human disease (although small, they parenthetically note.) They then employ complex mathematical modeling to demonstrate that the small effect could grow into a critical contributor to human resistance—like sparks that start a forest fire. Though the researchers themselves noted that such glorified guesswork about a process as complicated as disease epidemics is "notoriously bad," they nevertheless used their results to propose strict controls on farm antibiotics. Because, they conclude, "…ordinary surveillance would probably not have sufficient statistical power to detect an increase in [drug-resistant human disease] caused by animal antibiotic use," prudence calls for its elimination. In other words, farm antibiotic use should be curtailed not because it's been proven to contribute to human resistance—but because it hasn't been proven. Disregarding industry cautions that the work is almost completely theoretical, the press predictably called the study "chilling."

Fiction Even if it is only theory, there's so little to lose in banning subtherapeutic use that it's not worth the risk to continue.

Fact Anti-use advocates often overlook the fact that even when these products are used at labeled, sub-therapeutic levels, they are having some degree of effect on disease control. Bacitracin, for instance, controls gut infection by *Clostridium perfringens* and helps maintain a healthier animal that in turn performs more efficiently. Keeping an outbreak in check thus reduces the need to treat disease using other therapeutic drugs that may be more important in human medicine.

Denmark witnessed just this real-world experience after it banned some uses of antibiotics. Livestock and poultry disease incidence increased, therapeutic use of antibiotics increased, and the incidence of antibiotic-resistant foodborne illness in humans showed no decline.

Fiction Producers must use antibiotics to keep animals alive in unsanitary, cramped, crowded, cruel (etc., etc.) factory-farm conditions.

Fact This often-repeated contention reveals the anti-technology ideology hidden behind the junk science of the antibiotics-ban movement. For details, see the previous issue of *For the Record* at www.alpharma.com/ahd/For_The_Record/Alpharma_Newsletter2.pdf

MYTH-BUSTER AMMUNITION TO FIGHT BACK

Not all antibiotics are equal

Another accounting trick used to over-inflate the estimate of antibiotics used in animals fails to recognize the relative unimportance to human medicine of many animal antibiotics.

The Food and Drug Administration now groups animal antibiotics into one of three categories, based on their use in humans and availability of alternatives.

Failing to consider those classifications grossly overstates the risk to human medicine. Ionophores, for instance—the largest class of antibiotics used in fed cattle and an important tool in controlling poultry, swine and cattle coccidiosis—have no use in humans because they can't be absorbed by the intestine. Yet they remain on the hit list for a ban.

All told, 47 percent of the antibiotics used in animals are not used in humans or are not medically important.

For the record

The hysterical opponents of food-animal antibiotics clothe their arguments in scientific garb. But their assumptions and contentions are filled with holes in the factual evidence.

SPEAK UP YOUR ROLE IN THE ISSUE

Why we sponsor For the Record

The growth of the junk-science industry and development of the "nanny state" that aims to tell us all how to live our lives has changed how those of us in livestock production must respond to criticism. In the past, we usually had the relative luxury of standing patiently above the shouting match, satisfied to allow the false and unscientific attacks on our practices eventually to collapse under the weight of their obvious absurdity.

Edward Seed, ALPHARMA Inc.

No more.

Faced with a consuming public that no longer understands and accepts sound agricultural technology, our industry risks great loss by not setting the record straight whenever falsehoods arise.

Like you, we at ALPHARMA share a fundamental belief that our products fill a critical need in protecting the safety and abundance of our food supply. We are committed to their continued, prudent use and will use our leadership in the industry to help protect their availability. We will not stand quietly by while that fundamental belief is attacked through poor science, shrill cliche and nonsensical assumptions.

That's why we sponsor this series of informational newsletters, *For the Record.* We believe consumers want to hear the good news that their food is safe. We believe they share an inherent desire to understand how modern technology will meet the needs of a growing world. We believe they are hungry for a source that offers the truth, not "spin."

That offers an opportunity for all of us committed to the future of affordable animal production to get busy getting the facts out. It's time we all set the record straight.

Edward Seed, Vice President
Swine Business Unit
ALPHARMA Inc. Animal Health

MEDIA RELATIONS THAT GET YOUR STORY OUT

Present yourself as the voice of reason

The computerization of news and other information has led to one frustrating phenomenon. Any reporter now writing about antibiotic feeding can search and almost instantly retrieve other past news that's been reported on the issue—much more quickly than in the old days of paper clippings. The effect is twofold: First, it gives "legs" to the stories, widening their dissemination. Second, errors in original stories are often picked up and repeated, adding shelf life to the myths, cliches and junk science that a single source can start.

That makes it more important than ever to counter such falsehoods whenever you find them. Whether as a source for a local newspaper, in an Internet discussion forum, or as a public speaker before local groups, producers can make themselves a valuable voice of reason, if you remember a few Do's and Don'ts:

DON'T cede the battle. As much as you may hate getting involved in the dialog, it's become necessary. Letting the other side repeat false information without response only permits myths to flourish. Challenge misinformation by calling reporters and suggesting follow-up stories, writing letters, volunteering to speak on panels.

DO plan ahead for media inquiries. Local reporters may seek you out for comment. Determine who will handle such calls for the operation. If you plan to let employees or managers handle them, make sure you discuss what will be said and how you want the operation represented.

DO seek out long-term relationships with local journalists and thought-leaders. Invite reporters to visit your operation. Suggest relevant story ideas and angles that help educate the community about the risks of over-regulating food production with no scientific justification. Feed editors information, on or off the record. Offer suggestions for helpful sources.

DON'T downplay your importance as a quotable authority. Much of the disinformation about antibiotic use in agriculture survives because of reporters' simple ignorance about today's agriculture. Despite their reputation, journalists are usually in search of knowledgeable sources they can trust. Your intimate knowledge of something as simple as average feed consumption can often point out glaring errors in junk science reports that a reporter might never spot. Plus, local business and science reporters often sift through papers in academic journals for story ideas. Offering your expertise in helping review, interpret and understand what they find can help get your side heard.

DON'T frame the debate in their terms, but in yours. Even if you're responding to a negative report, emphasize the positive: Talk about the industry's self-regulation to improve product quality, the efficiency of today's producer that makes high-quality food affordable for everyone, your stewardship over the land. Focus your messages broadly on the health and well-being of animals and the affordability of food, rather than narrowly on antibiotic resistance.

DON'T lose your temper, but don't lose your passion either. Often what makes a source attractive to reporters and the public is their obvious love of a subject and the special vision that results. Communicate your passion for agriculture and your defense of the values that underpin your decision, and the public will better trust your production decisions like using antibiotics.

DO think in terms of pictures and sound bites. It's a sad fact that today's consumer has about a 4-second attention span. Work to distill your message to a clear and quick image. Remember, slogans are powerful because they focus the issue: Affordable food, preserving family farms, freedom to make individual choices.

Coming in the next issue of For the Record:

- The future battle: Eliminating food-animal antibiotic feeding promises only to embolden the Nanny Culture to go after other tools that help ensure a safe, plentiful and affordable food supply.
- Natural foods or natural poisons: the myth of organics as a safe alternative to modern food production practices.