

# For the Record

Volume 6, Issue 2 — April 2007

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

## WHAT WE HAVE HERE, IS A FAILURE TO COMPUTATE

“Adding antibiotics to chicken feed for growth promotion is not cost-effective,” pronounced the February press release from Johns Hopkins’ School of Public Health, [promoting new research](#) from the school. “The results of our study help dispel the myth that growth-promoting antibiotics are vital to raising poultry,” said Jay Graham, lead author of the study.

The apparent contradiction that the management practice—*any* management practice—in a business which measures its costs in fractions of a cent could simultaneously become both widespread and cost-ineffective seemed to have escaped the Baltimore MBA. And it likely comes as shocking news to the estimated nine in 10 pork producers and two-thirds of broiler producers who invest money to use antibiotics. Nevertheless, it echoed a [regularly repeated theme](#) underlying the movement to ban many uses of farm antibiotics: Producers continue to use them out of lazy habit and ignorance of economics.

### TAKE A ‘BUSINESS PERSPECTIVE?’

“The public health community has long had concerns about the potential misuse of antibiotics in food animal production,” said Dr. [Ellen Silbergeld](#), PhD, a co-author of the [Johns](#)



WHAT I DON'T UNDERSTAND IS HOW ALL THREE OF US MANAGED TO GET THE FIGURES WRONG!

[Hopkins work](#). “Our study considered the economic costs and benefits..., and the results suggest that the industry should rethink its practices from a business perspective.”

Everyone has a right to her opinion. Dr. Silbergeld and the study’s third author serve on the faculty advisory board for the university’s [Center for a Livable Future](#), a “sustainable-living” education and action center vocally opposed to industrialized food production.

Everyone, however, doesn’t yet have a right to their own mathematics. When anti-technology advocates try to yoke economics into the service of ideology, they may find its black-and-white nature can make it a fickle handmaiden when it stubbornly insists they do the math correctly. This time, they didn’t.

### Also in this issue

- Antibiotics are not cost effective in food production? Subjecting the sound bites to the harsh light of simple math
- Stop lying to poor consumers to get in their wallets, one consumer activist demands
- The peeping Tom aspect of today’s consumer infatuation with small, low-input farms

### For the record...

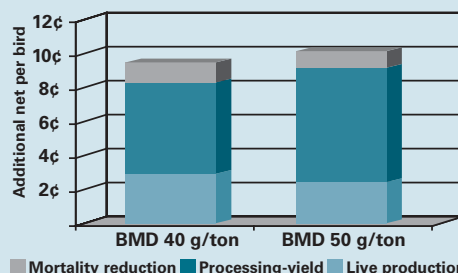
Everyone has a right to his own opinion, but not to his own math. Activists’ use of economics to attempt to dismiss the importance of food animal antibiotics are hiding ideology behind the skirts of science.

### Economic analysis should include all the values of antibiotics

The Johns Hopkins authors ignored potential improvements in chicken value owing to antibiotics’ impact on flock health and yield. Recent AlphaPharma research comparing non-medicated birds against medicated birds infected with a mild *Clostridial* challenge shows the dramatic difference medication can make.

Source: AlphaPharma Inc. Assumes \$175/ton feed cost, 5.5-lb. liveweight, \$1.50/lb. breast meat value, 23¢/lb. processing cost, \$2.25 per 50 g BMD, 0.04¢/lb. for each 1 percent difference in mortality.

### Economic return vs. non-medicated



# POULTRY STUDY WAS PIONEERING. AND WRONG

Once the news wires picked up the Johns Hopkins press release—along with one echoed from the activist coalition [Keep Antibiotics Working's](#) PR machine, dozens of newspaper, Internet and broadcast outlets across the country repeated the contention: “Antibiotics in chicken feed have long been targeted by critics as a health issue,” the Associated Press said, “but a new study...says they also are a money-loser for poultry farmers.”

What not a single press report mentioned—save a lone exception in the ag media—was that the study authors, through either ignorance of the economics of contract poultry production or blind allegiance to the predetermined conclusion that farm antibiotic use was bad, had gotten their math wrong.

## ‘FIRST EVER’ ANTIBIOTIC ECONOMICS STUDY

Published in the journal [Public Health Reports](#), the Johns Hopkins study claimed to be “the first economic analysis of the use of antibiotics in poultry.” Graham,

Dr. Silbergeld and emeritus environmental engineering professor Dr. John Boland, PhD, assigned their own cost and return estimates to publicly available production data generated by poultry producer [Perdue Farms](#). They concluded the net effect of using the antibiotics in feed was a loss of 0.93¢ per bird.

“We have never believed that shaving a few pennies off production costs justified the erosion of our valuable arsenal of antibiotics,” said [Keep Antibiotics Working](#) spokesman Richard

Wood, also executive director of the [Food Animal Concerns Trust](#), a Chicago animal welfare group which also opposes such practices as induced molting in poultry and confinement hog and veal production. “But the fact that

in today’s poultry operations, growth promoting antibiotics don’t even reduce costs just strengthens the case for eliminating them. It doesn’t make sense—or cents....”

U.S. producers should give up their antibiotic habit, he urged, because this new study laid to rest the industry’s defense that antibiotics are needed to efficiently produce food, “using the poultry industry’s own data.”

## WELL. NOT EXACTLY

The original data for the Johns Hopkins paper was borrowed from an earlier study authored by [Perdue's](#) technical services vice president, Dr. Hank Engster, PhD. Published in the [Journal of Applied Poultry Research](#) in 2002, Engster’s study was presented as part of a poultry science symposium clairvoyantly titled: “Making Sense of Scientific Research and Applying It Properly.”

Dr. Engster’s original research carefully tracked changes in gain, survival, feed efficiency, color score, carcass variability and condemnations for 7 million broilers grown in 16 groups of 10 paired houses over 120 trials across three years. Birds were raised under as nearly identical conditions as possible, differing only in the inclusion of unspecified levels of various antibiotics. The results of that massive field study concluded that removing the antibiotics did lead to consistent, though small, declines in feed efficiency, group weight uniformity, individual bird weights and survivability. What it purposely did not do was attempt to estimate the economic impact of those numbers.

[Perdue](#), understandably reluctant to enter any media discussion regarding antibiotics used to grow its chickens, declined to comment directly on the study other than to point out Dr. Engster’s data were not designed for economic analysis. Others have been less reserved.

## AN OVERLOOKED FATAL FLAW

Modesto, Calif., nutritional consultant Dr. Bill Dudley-Cash, PhD, deflated the study’s conclusions in a detailed critique for the feed trade publication [Feedstuffs](#) in February, by pointing out a single, fatal flaw: To calculate the estimated difference in bird value with and without the antibiotics, the Johns Hopkins team used only the per-pound payment they estimated [Perdue](#) made to the contract growers, *not the entire estimated market value of the live bird*.

That error, Dr. Dudley-Cash points out, means the Johns Hopkins team under-valued the added production that came from using antibiotics by 5.5 times. If you swap their assumed average grower payment for a reasonable 25¢ per-pound live-bird value, the improved performance Dr. Engster showed results in not the 0.93¢ net loss they claimed, but a 0.18¢ net average *gain*.

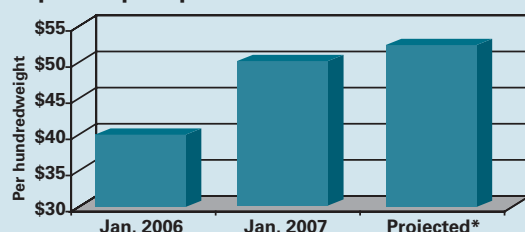
Graham, the doctoral student who lead-authored the study, says they chose to use the grower payment as the valid baseline for valuing the improved performance

*‘We’re going to see references to that article for the next 50 years. And it is absolutely, technically wrong.’*

## We may need all the help we can get

As ethanol eats up more than 4 billion bushels of corn by year’s end, one study predicts the amount of corn available for feed could fall by fully 33 percent. Nutritionists advise pork and poultry producers to take a new look at adding back into rations antibiotics to improve growth and efficiency, which may have been removed for political purposes.

### Expected pork production costs



\* Based on corn at the estimated ethanol industry breakeven price of \$4.05. Source: Ron Plain, U. of Missouri; Iowa State Center for Agricultural and Rural Development

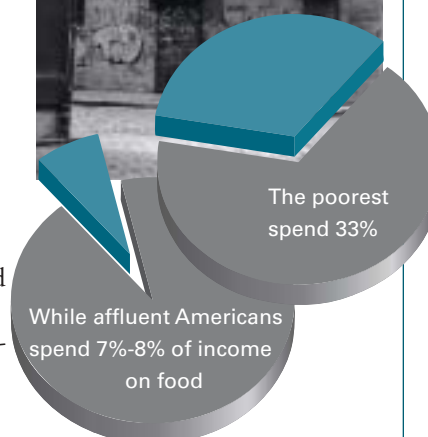
## Anti-technology food marketers are leaving poor food consumers with a poor choice

The “few pennies” added to food production costs by limiting use of technology like antibiotics may seem trivial to relatively wealthy activists and academics. They pay on average only 7 to 8 percent of their income for food. But those pennies are a good bit more immediately felt by low-income U.S. households, [which USDA shows](#) spend over one third of their total pay on food.

A non-profit advocacy organization for low-income citizens, the [National Organization for African Americans in Housing](#), reminded FDA of that fact when it complained to the agency in Decem-

ber that milk processors marketing “rBST-free” milk are taking advantage of low-income consumers.

“We worry that low-income consumers—fearing ‘hormones in milk’ but unable to afford the more expensive ‘rBST free’ products—will stop drinking milk altogether and opt for less-healthy alternatives,” executive director Kevin Marchman wrote. Milk marketers are presenting low-income consumers with a horrible choice, he says: spend limited food dollars on higher-priced milk that FDA says is identical to less expensive milk, or serve their families milk they believe to be less safe.



because they believed the contract growers, not Perdue, paid for the feed and antibiotics.

Contract poultry growers categorically [do not pay for their feed](#), but are typically paid a flat fee per pound of bird delivered, for which they supply facilities, water, labor and litter disposal. It’s obvious the John Hopkins study low-balled the return on antibiotics by not using the additional pounds’ total market value. Yet Graham stands by the study’s fatal assumption that market value is irrelevant, arguing contract growers stand the cost of the antibiotic, and thus must compare the value of any added production only against the fee they receive from the integrator, not the market value.

### IDEOLOGY OVER SCIENCE?

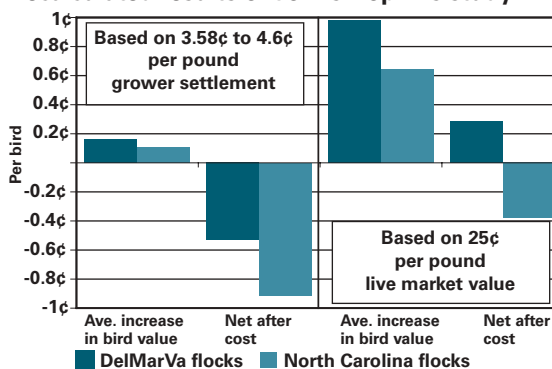
“We’re going to see the reference to that article for the next 50 years,” says Dr. Dudley-Cash. “And it is absolutely wrong. Technically, it’s wrong. You don’t have to argue about nuances or whether it’s their opinion against my opinion. They’re off by a factor of five.... They recognized they’re only using a small percent of the value, and they chose to use it anyway.”

How could an error so transparently obvious to anyone who understands the workings of contract livestock production have escaped the learned authors and the journal’s peer-review process? (Even the [North Carolina State budget](#) Graham himself cites as one source for the study’s grower payment estimate specifically says, “The *integrator* provides feed, fuel, litter, medication, vaccinations and other supplies.”)

The study’s language makes pretty clear that the authors expect their conclusions to support policy decisions to limit antibiotic use, saying growth promotion uses “should be reconsidered,” and that their results would put to rest protestations that antibiotics are necessary.

It bears noting that Dr. Silbergeld, a long-time vocal

### Recalculated results of Johns Hopkins study



Recalculating the study results using a reasonable 25¢ per pound market value no longer supports the conclusions. It’s important to note the study did not account for any improvements in processing yield or flock uniformity, as well.

critic of farm antibiotic use, had a [similar rhetorical bubble](#) pricked by simple math in an April 2005 letter to another journal, *Environmental Health Perspectives*.

Consulting toxicologist Dr. Bruce Bernard, PhD, pointed out that in calculating the risk consumers face of exposure to residues from one specific feed additive by eating fresh chicken, Dr. Silbergeld committed the freshman blunder of getting the number right but the units wrong. The result: She overestimated the exposure by 7,000 percent. Unrepentant, Dr. Silbergeld [acknowledged the math mistake](#) in a follow up, but maintained it did not change her conclusion.

“...Respectability and trust are fragile commodities,” Dr. Bernard wrote in pointing out that it was only one of several mistakes she had made—each of which conveniently backed her opinion. “Anything that causes loss of that trust, whether sloppy work or biased, self-serving presentations..., demeans us all.”

### For the record...

When the Johns Hopkins team calculated the value of the additional poultry produced using low-level antibiotics, they low-balled the market value by using an invalid measure. Using the correct figure turns their conclusion on its head.

### For the record...

While every other industry embraces efficiency-enhancing technology, why should agriculture alone be expected to absorb the human cost of moving backward?

### For the Record,

sponsored by a grant from ALPHARMA Inc., Animal Health, is designed to help unite the industry and provide a unified, rational message on behalf of producers whose freedom to use safe, effective, economical production methods is at stake. Working together, we can set the record straight on antibiotics.

Do you have questions or comments? E-mail Steve Kopperud at [skopperud@poldir.com](mailto:skopperud@poldir.com) or editor Mike Smith at [CustomMedia@Food360.com](mailto:CustomMedia@Food360.com). Want to read past issues or link to more information on this issue? Visit us online at [www.alphaah.com](http://www.alphaah.com).

## THE HUMAN PRICE WE WILL PAY FOR ANTI-TECH

DARYL OLSEN, DVM, PRESIDENT-ELECT AMERICAN ASSOCIATION OF SWINE VETERINARIANS, AUDUBON, IOWA

When I first got out of school I went to work for an old farmer who regularly complained about the “new wave” of farmer. “This new wave of farmer,” he’d say, “wants to drive a new pickup truck.” Or he’d say, “This new wave of farmer wants to go on vacation every year.

“That just isn’t the way farming is,” he’d tell me.

I remember replying that if that was true, then agriculture was doomed, because I don’t know how we can expect anybody to voluntarily join an industry where they’re not allowed to afford to drive a new vehicle and to take their family on vacation. I’ve been a veterinarian in a small town for 24 years now, and I have watched the inevitable migration of talented people leaving. Kids don’t return to agriculture because it lacks opportunity. And I question how we’re going to stop that talent drain if we insist agriculture must step backward technologically.

Everybody who has history in agriculture wants farming to look like a Norman Rockwell painting—I think that’s how we all long to see it. But if I’m expected to use a slide rule to compete with somebody

running a computer, how successful am I ultimately going to be? How long do you expect I’m going to stay in business?

How can American agriculture compete globally if we’re expected to avoid the technology that every other industry is happily utilizing? How can we tell tomorrow’s brightest young minds that in order to stay in agriculture, they’ll be expected to go backward—away from technology—even while every other industry is embracing technology and industrialization?

Until a day comes when consumers are willing to subsidize long-term inefficiency by paying a lot more money for their food, forcing agriculture to shed technology is only shifting that human cost of inefficiency back onto those who don’t—or can’t—escape to prosperity. We owe tomorrow’s farmers the chance to use technology in order to profit, not merely subsist.



## NATURAL-FARM INFATUATION: LOVE, OR PORN?

A growing interest in all things food coupled with a wider access to media outlets specializing in pandering to that interest spawned a new term in the last decade to describe an unhealthy, unrealistic obsession with food: **food porn**. Used to describe lavish visual presentations of dishes or their preparation in advertising, food magazines and cooking shows, the unseemly side of food porn is best captured by food writer **Molly O’Neill**: material so removed from real life that it can only be used for vicarious culinary gratification. Food professionals, scholars and their amateur groupies often heap the term scornfully upon the heads of common citizens content to satiate themselves by consuming only the porn—without bothering to expend the time, ability or where-withal to actually cook.

If it’s an apt term for consumers of the visually gourmet, it fits equally well with today’s consumer infatuated with the imaginary agriculture of all-natural, local, organic and sustainable farming. The vicarious love affair with Wilber-esque farming in which organic consumers indulge

themselves as they stroll the organic aisle or meander a Saturday morning farmers’ market can only be rightly described as “farm porn:” a gratuitous satisfaction with an unrealistic farming from which the economic, animal-husbandry and labor-related cellulite and moles have been artfully airbrushed away.

Like the other kinds of pornography that indulge the voyeur, farm porn is distasteful because it is dishonest and because it ultimately demeans the participant. It’s underpinned by a historical amnesia that affects too much of today’s lust for “natural food,” says **Rachel Laudan**, a Mexico City historian specializing in history and philosophy of technology and a visiting scholar at University of Texas at Austin.

The fact is, Laudan says, human history is a long story not of seeking natural foods, but instead of “beating food into submission” to improve taste and reliability. For all but the most recent history, our ancestors happily dried, fermented, curdled, salted, sugared, oiled and pickled wild foods to preserve their edibility. “Happiness was not the



“This is the way most dairy farms used to be,” says GRACE’s award-winning, anti-technology **Meatrix II** Internet animation. Many of you may remember the good old natural days a bit differently.

Garden of Eden, full of fresh fruits hanging on the trees,” she says, “but a securely locked storehouse of preserved and processed food.”

Today’s consumer who vicariously revels in an unnatural farm experience by putting a premium on “natural,” **neglects an important reality**, she writes. “No amount of nostalgia for the pastoral foods of the distant past can wish away the fact that our ancestors lived mean, short lives, constantly afflicted with diseases, many of which can be directly attributed to what they did and did not eat.”