Achieving Perspective to Feed a Hungry World

TRENDS IN FOOD SAFETY: PERCEPTION VS. REALITY

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We Live in a Noisy World Today

- Media captures the opportunity to gain viewers and readers with scary, often misleading headlines (Foster Farms)
- Social media adds to the misrepresented facts
- Food scares are easy to start, and very difficult to reign in when the noise makers are deaf to evidence and science.
- A nervous public votes with its pocket book
- Unfortunately, when it comes to the debate about using technology to increase production, the world’s hungry people don’t get to vote with their pocket book.
Power of the Media

SLIMED
What the hell happened
Perception vs. Reality

- Foodborne illnesses down 26% from 2002-2011
- Foodborne outbreaks down 42% from 2002-2011
- Media hits for foodborne illness outbreaks up 150% in same period
- Media hits for recalls of food up 250% in same period (Peanut Corporation of America; Wright Egg Farms; Jensen Family Farms; Hallmark/Westland; Salinas Valley Spinach farm, Foster Farms)
Average Incidence of Foodborne Illnesses Linked to Listeria, E.coli and Campylobacter
Average Media Coverage of Foodborne Illnesses
Linked to Listeria, E. coli and Campylobacter
Media Coverage of ALL recalls due to Foodborne Illnesses (series 1) vs. recalls due just to the 3 pathogens (series 2)
Reality Struck Home in 2006

- E. coli O 157:H7 linked to spinach sickened 100s
- Lettuce at Taco Bell, not the Ground Beef, was the culprit
- Tomatoes, Onions, Sprouts, Raw Milk all blamed
- Not just beef and poultry any more, so many more headlines telling the news.
Consumers with sufficient purchasing power to have a choice often view technology as purely profit driven and bad for the animals, for them and for their kids.

- rBST
- Beta-agonists
- Hormones
- Antibiotics
- CAFOs
- GMOs
Reality: Technology is not just Beta-agonists and Antibiotics
In the last 100 years, what was the greatest advance in technology to benefit farming in the U.S.? 

Hint, it happened in 1935
More Perception vs. Reality

- MDR Salmonella does not make it a superbug, unless it is resistant to antibiotics commonly used to treat Salmonellosis in humans.
- Thirty times more people die from choking on beef steak than from E. coli O157:H7 infections, but who can you sue for a choking death? Plus the great majority are older men who may have imbibed a little too much and ate a little too fast.
- Ionophores: Antibiotic or Anticoccidial?
Perception: Low Dose Antibiotic Use leads to Antibiotic Resistant Bacteria

- A low dose may prevent or control an infection in the herd or flock
- I suspect many of those calling for a ban of antibiotics in animals raised for food give their prize puppy worming antibiotics every month and don’t think twice about it.
- Without a prevention or control dose, illnesses will result requiring higher doses of antibiotics for a longer time to a larger number of animals
- Is “low dose use” or “high dose use” more likely to cause resistance? We don’t know.
Figure AP1.1. Consumption of antimicrobial agents and growth promoters in animal production and prescribed antibacterials in humans, Denmark

Perception: Only Animals are given Antibiotics for Disease Control or Prevention

- **Reality in Human Medicine**
- **Control**: Administration of antibiotics to students sharing a class room or dormitory setting with a student diagnosed with bacterial meningitis (low dose, not sub-therapeutic dose)
- **Prevention**: Administration of an antibiotic to a person with an artificial or damaged heart valve before undergoing a dental procedure to prevent endocarditis (low dose, not sub-therapeutic dose) and Pre-op IV antibiotics before joint replacements


Reality

- Medical Doctors and other human health care providers treat individual patients when they are infected, and they stay home, wash their hands, cover their cough and don’t spread germs.

- Meat and Poultry Production Veterinarians must treat herds and flocks when a few are sick to prevent the spread of germs.
Multidrug Resistant Salmonella

- **Perception:** The February 2013 NARMS report stated that MDR *Salmonella* was increasing in percentage. Those against the slaughter of animals for food acted enraged and alarmed. “We are standing on the brink of a public health disaster.”

- **Reality:** The February NARMs report shows that for retail chicken and ground turkey, the four most common antibiotics that *Salmonella* showed resistance to were tetracycline, streptomycin, sulfisoxazole and penicillin.

- **Reality:** None of these drugs would be used to treat a *Salmonella* infection. Macrolides, Bactrim DS and quinolones are first line antibiotics for foodborne illnesses and little or no resistance was found in the NARMS study.
FDA’s Comments on the EWG’s report on the NARMS report

- **Reality:** “NARMS data indicates that first-line treatments for all four bacteria that we track are still effective.”

- “We believe EWG is inaccurate and alarmist to define bacteria resistance to one, or even a few, antimicrobials as ‘superbugs’ if these bacteria are treatable by other commonly used antibiotics.”
FDA 2011 report on all “antibiotics sold or distributed for use in food-producing animals”:

- Ionophores 28.3% (30% in 2012) (not used in human medicine at all)
- Not Individually Reported (NIR) 12.0% (Almost none used in human medicine)
- Tetracyclines 41.5% (Of very limited use in human medicine with many better choices available for most infections)
The Reality Facts

- Of the total weight of antibiotics sold for possible use in animals, 82% of that total is either not approved for use in human medicine (the ionophores and most NIRs for example) or are rarely prescribed for use in human medicine as a poor second or third choice drug (chlor- and oxy-tetracycline).

- It is my firm belief that it is the 18% where there is overlap that we should focus our attention and discussions on.
Two of the top four classes of antibiotics of critical importance in human health are rarely sold for use in animals:

1. Cephalosporins: 0.2% of all sales for use in animals
2. Flouroquinolones: Less than 0.1% of all sales for use in animals

These two comprise 25% of human abx
Animal vs. Human Use
Little Overlap

82% of the total volume sold for animals
68% of the total volume sold for humans
Macrolides are the drug of choice for many human infections including community acquired bronchitis, community acquired sinusitis, Chlamydia and Lyme Disease.

No last line drug should be allowed to treat a pet dog’s runny nose and cough. If antibiotic resistance develops, those little kids kissing and hugging their doggie are exposed. (Carbapenem)
**Superbugs**

- **Reality:** According to the Infectious Disease Society of America, the list of superbugs related to medical settings had no food-borne or animal connections.
- Others, like Multi-Drug Resistant (MDR) Salmonella, may have connections with food consumption and antibiotic use in animals but these are not necessarily superbugs.
- **Perception:** the Foster Farms related outbreak was more serious because of antibiotic resistant Salmonella.
- **Reality:** The drugs of choice remained effective

- 232 pages long
- 4 pages on antibiotic use in animal agriculture
- “The magnitude of transmission from animal reservoirs to humans remains unknown”
- “More data are needed to identify priority areas for intervention.”
- Only Canada, the U.S. and a few EU countries have antibiotic monitoring systems for humans, animals and food that can be shared and compared.
More Recent Publications

- Princeton Study July 2014
  - Antibiotic use in human medicine world wide is up 36% from 2000-2010
  - Brazil, Russia, India, China and South Africa account for 76% of the increase
  - CDC report in September 2013 said that 50% of antibiotics prescribed for human use in the U.S. are unnecessary and inappropriate
  - President’s Council of Advisors on Science and Technology (PCAST)
This should not be another Pink Slime fiasco

- **Perception:** The Animal Agriculture industry is being painted as irresponsible and inappropriate users of massive amounts of antibiotics in healthy animals, when in fact:

- **Reality:** The current uses and doses of antibiotics in animals have been approved by the FDA as appropriate.
Who Regulates What?
The Simplified version and the Perception

• USDA: Meat, Poultry and Egg Products

• FDA: Most everything else, including shell eggs, dairy products, vegetables, fruits, fish and seafood.
USDA or FDA: The Reality

- **Sandwiches:**
  - Open faced vs. Closed?

- **Pizza:**
  - Pepperoni vs. Anchovy vs. Veggie?

- **Fish:**
  - Catfish vs. Salmon?
FDA or USDA?
Perception vs. Reality
USDA or FDA ???

- Chicken Noodle Soup vs. Tomato Soup
- Turkey Baby Food vs. Carrots Baby Food
- Corn Dogs vs. Bagel Dogs
- Bison vs. beef
- You get the picture
Consumers are relying more and more on animal rights groups for information about livestock and poultry welfare, and using groups affiliated with the animal agriculture industry less and less.

14% said they had reduced pork consumption because of animal welfare concerns.

Those most concerned were female, younger and members of the Democratic party.

Consumers in the Midwest, not so worried. (but we are mostly Republicans and not so removed from the farms of our grandparents.)
Turning Public Perception to Reality

- Turn up the volume using social media, videos, OpEds, public speaking, media relations, grocery retailers and policy makers.
- But tell the truth. Acknowledge there are some bad actors making it tough for all, and that is where PETA and HSUS are getting their videos. Getting into a debate about undercover taping or denying that antibiotic use may increase the risk of resistance leads nowhere. Acknowledge the concerns, and address them honestly and frankly.
- “Stupid is as Stupid does”
- Ag Gag Laws (What are we hiding?)
Other Drivers of Public Perception

- When Chipotle and Chic-fil-A announce they are going antibiotic free, and Whole Foods announces they are going GMO free, the consumers of this country, with little access to scientific evidence to support these corporate decisions, assume that large corporations, with millions of dollars at their disposal know something that they don’t know and they are likely to not only eat at those restaurants (they do) but also to change purchasing habits at grocery stores (they are).
Public Perception vs. Reality re: GMOS

- **Vermont vs. Science:** The state with the most organic farms per capita, the only state with no McDonalds outlet in its capital, and the home of Ben and Jerry’s rBST-free and, soon to be, GMO-free, but pricey, Chunky Monkey ice cream has now signed into law a bill making Genetically Modified food labeling mandatory.

- A law designed to satisfy totally ungrounded fears offoodies that will, if enacted on a broader scale, significantly drive up the cost of food production and decrease productivity of America’s farmers.
Our world is growing, with increasing middle income buyers wanting more than rice on their plates.

GMOs and other technologies are our best bet to feed a hungry world, but the foodies are NOT hungry, those who do not want us to put affordable meat and poultry in the meat coolers are NOT hungry and those that think organic meat and produce and raw milk is healthier are NOT hungry

Who is hungry?
Sober Reality

- It is estimated that on this planet, 3,100,000 children under the age of 5 years die each year from malnutrition and/or starvation (1,2).
- It is known that on this planet, there have been 0 deaths linked to Genetically Modified food in the 20 years since the Flavr Savr tomato reached supermarket shelves in 1994.
- (1) World Health Organization Sept 2013
- (2) Medical News Today June 6 2013
In my opinion, efforts to require GM labeling, banning antibiotic use in food animals for control and prevention, sourcing milk from cows not supplemented with rBST or sourcing beef and pork from animals not finished with beta-agonists, all of which drive up cost and decrease production, are examples of well-fed people with too many “problems” to try and solve while:

- hungry people only have one problem to try and solve.
Thank You for Inviting Me