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#### **FEATURES**

FOOD SAFETY & INTERNATIONAL TRADE Salmonella prevalence in poultry varies greatly in emerging markets

> Salmonella on raw chicken meat at the retail level varied greatly among emerging poultry market countries in this analysis. BY WALID Q. ALALI, MICHAEL P. DOYLE, **NELSON COX AND ISABEL WALLS**

SUSTAINABILITY IN POULTRY PROCESSING

**Marshall Durbin manages** wastewater with offal vacuuming, water reuse

Marshall Durbin Companies, Jasper, Ala., takes a proactive approach to wastewater pretreatment with aggressive offal vacuuming and water reuse. BY BRIAN H. KIEPPER

INTERNATIONAL PRODUCTION & PROCESSING EXPO PREVIEW

> **International Production &** Processing Expo offers a new name, much larger show

Three integrated tradeshows aim to forge the world's premier tradeshow focused on the meat, poultry and feed industries, with opportunities for learning and conducting business. BY ANDREA GANTZ

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National Geographic wants you to feel guilty about your poultry consumption

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#### Breakers lose access to surplus broiler eggs

Egg Safety Rule refrigeration requirement keeps surplus eggs from broiler breeder farms out of the human food chain.

www.WATTAgNet.com/154858.html

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## Roy Graber named new WATT business editor



**Roy Graber** 

Roy Graber
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WATT Publishing
Company. He
brings to WATT 20
years of experience
in the journalism
industry.

He most recently served as the managing editor of the Winfield Daily Courier in Winfield, Kan. Graber grew up on a farm in Reno County, Kan., where he also lives now. He earned a Bachelor of Science degree in journalism and mass communications at Kansas State University. He has earned numerous awards for his writing, including the Kansas Farm Bureau Golden Wheat Award for Excellence in Agricultural Journalism, multiple Kansas Press Association Awards of Excellence, and an honorary FFA degree.

As business editor, Graber will cover worldwide poultry, feed and pig business for WATT's agriculture magazines and its website, www.WATTAgNet.com. Graber will contribute news, analysis and business trend stories in all the agriculture markets.

"This is another step in building our editorial team in the animal agribusiness sector," said Bruce Plantz, vice president, director of content at WATT. "We now have three editors concentrating on specific topics — business, nutrition and food safety — supporting our chief editors for each of our magazines. Their expertise in these areas will give our readers and viewers greater range and depth of content."

Graber will work from his Kansas office.

)) News updates available at WATTAgNet.com

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#### **FIRST NEWS**

After December 1, he can be reached at rgraber@wattnet.net.

#### **BROILER STATISTICS**

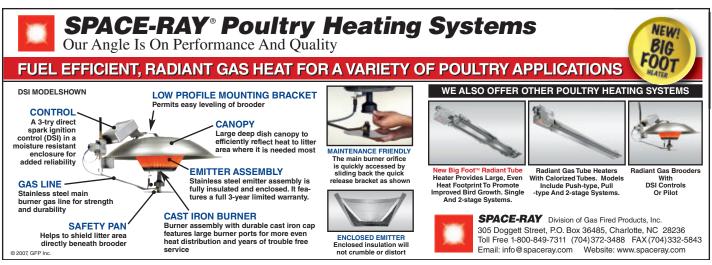
#### US broiler eggs, chicks up slightly at end of October

Commercial hatcheries in the U.S. Department of Agriculture's 19-state weekly program set 186 million eggs in incubators during the week ending October 27, up 1 percent from the eggs set the corresponding week in 2011.

Georgia, Alabama and Arkansas were the top three states in the program, setting 30.17 million, 25.76 million and 20.12 million eggs, respectively. Average hatchability for chicks hatched during the week was 85 percent.

Broiler growers in the program placed 157 million chicks for meat production during the week ending October 27, up 2 percent from the comparable week in 2011, according to the USDA. Georgia, Alabama and Arkansas took the top three spots, with 26.58 million, 19.38 million and 19.26 million chicks placed during the week. Cumulative placements from January 1 through October 27 were 6.99 billion, down 2 percent from the same period in 2011.

For more information and statistics on U.S. poultry, see www.WATTAgNet.com/marketdata.html.



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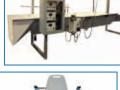


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#### **■ FIRST** NEWS

#### WAYNE FARMS PURCHASE

#### Perdue sells Alabama chicken-processing complex to Wayne Farms

Perdue Farms has announced that

it has entered into an agreement to sell its chicken-processing complex in Dothan, Ala., to Wayne Farms, as part of its ongoing strategy to focus on branded products and strategic customer relationships.

The Dothan processing facility primarily supplies commodity-based products, which do not align with the company's current strategy, said Perdue. The sale will not affect Perdue's customers: branded and valueadded production from Dothan will be consolidated into existing capacity at other Perdue facilities, especially those with lower grain transportation costs and all-vegetarian-fed programs. The sale will include the Dothan processing plant, Dothan hatchery and a feed mill and grow-out office DeFuniak Springs, Fla. Perdue will continue to operate a hatchery in Samson, Ala., to support the Perry, Ga., processing plant. The closing will not affect Perdue's breeder operations in Florida and Alabama.

"While the Dothan plant no longer fits our strategies, I'm pleased Wayne Farms will be able to utilize the plant and especially pleased that they intend to keep all the employees and grower contracts," said Jim Leighton, president of Perdue Foods. "Wayne Farms is a leader in business-to-business sales and Dothan's capabilities are good fit. The pending sale is a win for both companies, the employees, the growers and the Dothan community."

Both companies expect the sale to close in December.

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#### CAPITAL INVESTMENT

#### Poultry processor Peco Foods expanding feed mill, processing plant

Poultry processor Peco Foods is investing \$13.8 million in expanding a feed mill in Newark. Ark., and a

processing plant in Batesville, Ark., a plan which will add 300 jobs to the area, according to the company.

Peco Foods is headquartered in Alabama, and also has complexes in Mississippi. "Peco Foods' expansion into Arkansas was an excellent decision for us and we look forward to a long and successful partnership with the City of Batesville and the state," said Mark Hickman, president and CEO of Peco Foods.

Peco Foods processes more than 4.2 million birds and 22 million pounds of ready-to-cook poultry each week. The company employs more than 4,900 people.

#### H5N1 PREVENTION EFFORTS

# US funds international partnership against H5N1 in high-risk regions

The United States Agency for International Development has provided more than \$20 million to support the ongoing U.S.-Food and Agriculture Organization partnership against H5N1 highly pathogenic avian influenza and a widening focus on potential emerging pandemic threats.

The partnership focuses largely on "hotspot" areas, such as Bangladesh, China, Indonesia and Vietnam.
Funding will also go to regional coordination to support surveillance and avian influenza prevention in Cambodia, Laos, Nepal and Myanmar, which are threatened by the disease's continuing persistence in neighboring countries. "The U.S. government has been key in generating international support to combat avian influenza and to reduce the chances for a human

pandemic by assisting the FAO and others to address the threat in animals before it spills over into humans," said Food and Agriculture Organization Chief Veterinary Officer Juan Lubroth. The partnership has resulted in a better understanding of what drives disease emergence and what measures to take to prevent disease, according to involved researchers.



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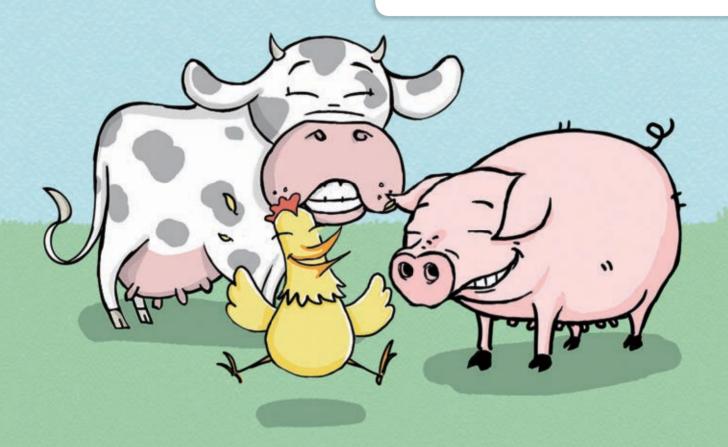
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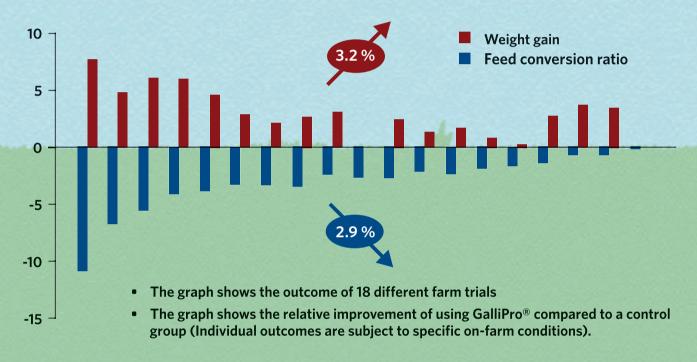






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## WashingtonUpdate National Turkey Federation

BY JOEL BRANDENBERGER

## Poultry industry prepares for changing political landscape

s we write this column at Halloween, Election Day is less than a week away. By the time you read this, the election results will be more than a month old. One thing is certain; whoever won will need to address quickly some important issues facing the poultry and chicken industry.

#### Renewable Fuel Standard

At least one item will take center stage almost immediately, and that is the Environmental Protection Agency's pending decision on the Arkansas and North Carolina request (supported by thousands of comments from turkey and chicken producers) for a waiver of the Renewable Fuel Standard. EPA officials have indicated they will make a decision by the statutory deadline of November 13. If so, that's something else that will have occurred before the article is printed, but there also is a chance EPA could miss the deadline by a week or two. Regardless of EPA's decision, though, it will be incumbent on Congress and the administration to take a comprehensive look at the Renewable Fuel Standard and consider making fundamental changes to the ethanol mandate.

In 2012, the Renewable Fuel

Standard required 13.2 billion gallons of corn-based ethanol to be blended into gasoline. Next year, without any intervention, the amount is likely to be close to 14 billion gallons. The historic drought has brought about a clear crisis in the availability of corn, and it will have taken at least four months for the government agency in charge of the Renewable Fuel Standard to respond officially to the crisis. In the meantime, leaders of other government agencies are being cheerleaders for the ethanol industry, and no one who needs corn or ethanol really knows what to expect going forward. In 2012, we've seen how inflexible Renewable Fuel Standard is in responding to disasters and how the law no longer reflects market realities.

# Other major issues for Congress or the executive branch to deal with:

Lingering questions about the GIPSA marketing rule. In 2011, Congress held the worst aspects of the rule in abeyance, and USDA itself trimmed other excesses. Still, uncertainty remains about the final scope of the USDA effort.

The new poultry inspection system. USDA earlier in 2012 posed a sweeping modernization of the poultry inspection process, one that

will enhance the safety of the food supply. The department hopefully will publish a final rule before the year is

initial proposals.



Center for Veterinary Medicine has proposed what appears to be a common-sense approach for managing the future of antibiotic use in animal agriculture. But, many in Congress want to micromanage the process and ignore sound science along the way. Hopefully, the new Congress will show restraint, and FDA's final guidance on "production" antibiotics will fulfill the promise of the agency's

Antibiotic resistance. FDA's

The outcome of elections does matter. The poultry industry needs decision-makers who are honest brokers seeking to thoroughly understand all the ramifications of their policy choices. But, the poultry industry can help keep whoever wins honest by continuing the grassroots efforts that have brought us to the brink of success on a number of the policy issues discussed above.

Joel Brandenberger is president of the National Turkey Federation.

## Poultry Perspective RY PALIL AHO

# Worldwide chicken, pork consumption forecast to continue increasing

he market share of red meat in 1970 (mostly beef and pork) was 75 percent of total U.S. meat consumption while the consumption

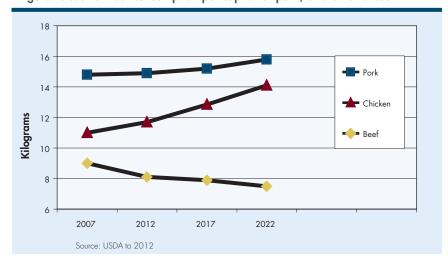
of poultry (mostly chicken and turkey) was just 25 percent. Over the years, while the total consumption of meat remained remarkably stable near 200

Figure 1. US per capita consumption of red meat and poultry



In the US, red meat consumption continues to trend downward and chicken continues to trend upward. By 2015, the market share of these meats is expected to be the same.

Figure 2. World meat consumption per capita for pork, chicken and beef



pounds per capita (retail weight basis), the poultry proportion increased by 50 pounds while the red meat proportion dropped 50 pounds.



By 2015, the market share of red meats and poultry are likely to each be 50 percent of U.S. meat consumption (100 pounds each). This remarkable shift in meat consumption has, of course, a lot to do with the cost of production of various meats over the years and their price in the marketplace. In a nutshell, chicken got cheaper compared to beef and pork. In 1970 beef was 2.4 times as expensive as chicken while in 2012 that had increased to 3.95 times as expensive.

#### Inflation-adjusted prices

Another way to compare price is to make an adjustment for inflation. Adjusting for inflation determines what an item from the past would cost in today's dollars. When making that adjustment it is interesting to note that beef is about the same price today as it was 40 years ago, pork is about 20 percent less expensive and chicken is about 50 percent less expensive. Red meats lost

Worldwide, poultry is steadily gaining on pork consumption, while beef is declining.

market share to those meats that are significantly less expensive today than they were 40 years ago. Americans are still quite willing to spend money on red meat. Of the total amount spent by Americans on meat, 75 percent goes to red meat and only 25 percent goes to poultry. Economically speaking, it would be correct to say that Americans have a great desire, even a preference, to purchase red meat. However, it is also undoubtedly true that Americans appreciate the ability to fill in the other 50 percent of their meat consumption using only 25 percent of their dollars spent for meat. Given the feed conversion advantage of poultry meats compared to red meats and the persistently high grain prices that appear to be a fact of life in the 21st century, it can be expected that poultry will continue to gain market share on beef and pork in the U.S. as well as worldwide.

#### Worldwide trends

When looking at the entire world, pork, despite being more expensive than chicken, currently has the highest per capita consumption at 15 kg (33 lbs) due, in part, to the strong preference in China for pork. Pork is followed by chicken at about 12 kg (26 lbs) and then beef at 8 Kg (18 lbs). If current trends continue, beef consumption will slowly decline over time, pork consumption will rise slowly and chicken consumption will rise faster, gaining on pork. Eventually, chicken may surpass pork, but it looks like it may take another 20 years.

Paul Aho, Ph.D., Poultry Perspective, Storrs, CT 06268; email paulaho@ paulaho.com

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# Unscientific thinking about Salmonella control hampers food safety progress

HACCP in poultry inspection has to be judged objectively on its merits, not by what we wish that it might have done.

BY JOHN CASON

>>> Several recent scientific papers have concluded that only limited data are available to judge whether national *Salmonella* control programs have had an impact on human illness rates. There is no limit,



A hypothesis has to falsifiable to be considered scientific.

however, on the supply of speculative interpretation that is available, including a common style of analysis that can be described as unscientific thinking.

A 2003 study by the usually reliable National Research Council observed, "The overall decline in salmonellosis would be even greater except for the concurrent increase in infections due

to S. Newport (up 32 percent)." The fact is, however, that there always seem to be some serotypes that are increasing in human salmonellosis and others that are decreasing, so discounting the increases may not be a realistic way to judge the overall situation.

Concerning *E. coli* O157:H7, the study observed, "The fact that no sustained decline has been observed yet may mean that the established zero tolerance for this pathogen does not offer protection, or perhaps it was effective and blunted what otherwise would have been an increase." The National Research Council

also found that limited data is not really a problem: "It may not be statistically valid to compare the two data sets [Baseline and HACCP]; however, because of the vast number of data sets collected, a decrease in *Salmonella*-positive samples can be clearly observed since the implementation of the *Salmonella* standard."

#### Hypothesis must be falsifiable to be scientific

A hypothesis has to be falsifiable to be considered scientific; that is, there must be reasonably obtainable data that might cause rejection of the hypothesis. The possibility that HACCP for raw meat and poultry has reduced human illness may not be falsifiable because of unscientific thinking.

The Food Safety and Inspection Service said last year, "It is possible that reduction of salmonellosis due to one food product such as chicken could be negated by the increase in salmonellosis due to another product or unrelated vehicle, such as produce, thus causing the stable case rate in recent years." The thinking on the part of FSIS seems to be that an improvement has to be there and, therefore, must be covered up by an increase in a product inspected by a different agency.

A recent peer-reviewed journal paper compared hospitalization rates of elderly patients with salmonellosis before and after implementation of HACCP. There was no overall improvement, with fewer cases in some regions, more cases in some, and no change in most. The authors observed, however, "It is possible

that the hospitalization rate would have been even higher if no regulation were introduced at all."

#### Scientific proof or wishful thinking?

Several journal papers that studied *E. coli* as an indicator of *Salmonella* reported non-significant differences in *Salmonella* prevalence when carcasses were sorted into groups based on *E. coli* counts, but still described *E. coli* as a good indicator or said that *Salmonella* prevalence was lower despite the result of statistical testing.

One of the early reviewers of the original HACCP rule wrote, "FSIS often expressed a 'feeling' that by the mere institution of regulatory measures, food safety benefits would ensue because plants would be compelled to begin microbial testing." The Modernization of Poultry Slaughter Inspection proposal from earlier this year stated, "FSIS's experience with using post-chill testing for generic *E. coli* ... has led the Agency to conclude that such testing is not the most effective way to prevent contamination from occurring," so FSIS still has that feeling. Proven controls must be available to deal with microbiological contamination,

which cannot be prevented with testing or regulations or standards in the absence of controls.

#### More unscientific thinking

Another example of unscientific thinking can be found in the FoodNet Annual Report for 2002. HACCP in raw meat and poultry was given credit as a contributing factor in a significant reduction in human illness caused by *Salmonella typhimurium*, but HACCP was not blamed for significant increases in illnesses caused by three other serotypes. HACCP was also recognized as a contributing factor in reductions in cases of *Campylobacter*, *Listeria* and *Yersinia*, although HACCP samples from raw meat and poultry were not being tested for those bacteria.

HACCP has to be judged objectively on its merits, not by what we wish that it might have done. Perhaps calling attention to these examples can help put an end to unscientific thinking and lead to more realistic assessments of what HACCP has accomplished.

John Cason retired from the USDA Agricultural Research Service in 2011 after 40 years in poultry-related jobs.

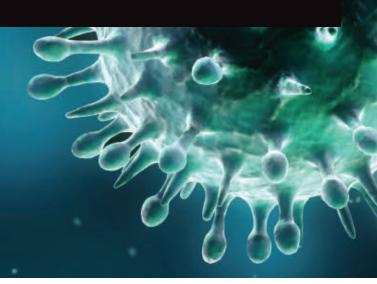
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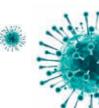


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# Salmonella prevalence in poultry varies greatly in emerging markets

Salmonella on raw chicken meat at the retail level varied greatly among emerging poultry market countries in this analysis.

BY WALID Q. ALALI, MICHAEL P. DOYLE, NELSON COX AND ISABEL WALLS

>>> Globalization of the food supply can impact food safety from both a public health and international trade perspective, but insufficient data exist to develop internationally recognized standards. The pres-

and codes of practice to protect the health of the consumers and ensure fair trade practices in the food trade. Codex Alimentarius standards are established based on risk analysis of scientific food safety data

that are available internationally.

The development of internationally recognized food safety standards for poultry will require the collection of data. For example, there are limited data on *Salmonella* on raw chicken meat. Data obtained from equivalent testing methods on the occurrence of *Salmonella* on raw chicken are not available for many countries, which limits the ability for Codex Alimentarius to set standards that are representative for poultry production worldwide.

Lack of internationally agreed upon standards can impact the ability of countries to develop science-based standards, which may have a negative impact on trade. Some countries have

established a zero-tolerance policy for *Salmonella* in raw poultry, which is an unrealistic standard in most parts of the world.

# MEURINA CO. LIETTA HEXARDE H BRYCHOE N. PHHOE M.A.

Open market in Russia where poultry is sold

ence of *Salmonella* on poultry is an important factor in protecting public health and facilitating trade.

The Codex Alimentarius Commission was established by the Food and Agriculture Organization and the World Health Organization in 1963 to develop harmonized international food standards, guidelines

#### Data collection in emerging poultry production markets

The authors conducted a series of studies to de-





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#### TABLE 1. PREVALENCE OF SALMONELLA ON RAW CHICKEN MEAT FROM RETAIL ESTABLISHMENTS BY COUNTRY

Country	Number of samples collected	% of Salmonella positive samples
China	1,152	52.2
Colombia	1,003	27.0
Russia	678	31.5
Vietnam	1,000	45.9

Salmonella prevalence by retail market varied greatly by country, which may be attributed to the contamination at various points in the supply chain, from live chickens on the farm to the storage conditions at the retail market.

termine the prevalence (i.e., frequency) of Salmonella on raw chicken meat at retail establishments in four countries (China, Colombia, Russia and Vietnam) that currently have a Salmonella zero-tolerance policy on raw chicken. The goals of the project were as follows:

✓ Provide capacity building in these countries on how to

build a surveillance system for Salmonella on raw poultry

- ✓Increase the knowledge of the baseline levels of Salmonella in raw poultry in these countries
- ✓ Provide data that could be used by World Health Organization and Food and Agriculture Organization in international risk assessments
- ✓ Develop internationally recognized standards for Salmonella on raw chicken meat

The long-term goals were to protect the global food supply from contaminants, facilitate fair trade practices and enhance food safety data collection and risk assessment at the local level.

#### Frequency of Salmonella on raw poultry in retail establishments

In China, Colombia, Russia and Vietnam, approximately 1,000 whole chicken carcasses (locally produced, not imported) were collected from different types of retail markets



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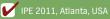






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(hypermarkets, supermarkets, mini-markets and open/wet markets) over a wide geographical region. Using a statistically based sampling plan, the number of samples was detercity, district, and store type were the primary, secondary, and tertiary units, respectively.

Frozen chicken was generally less frequently contami-

### A ZERO-TOLERANCE POLICY CHICKEN MEAT IS AN UNREALISTIC GOAL

UNDER THE CURRENT POULTRY PRODUCTION AND PROCESSING SYSTEMS, BUT COUNTRIES SHOULD STRIVE TO REDUCE THE

LEVELS AS FAR AS POSSIBLE.

nated with Salmonella compared to chicken stored at chilled (4C to 8C) or ambient (greater than 15C) temperatures.

The overall Salmonella prevalence for each country is presented in Table 1. The prevalence by retail market varied greatly in each country, which may be attributed to the contamination at various points in the supply chain, from live chickens on the farm to the storage conditions

(chilled, ambient or frozen) at the retail market. The full publications for the China, Colombia, Russia and Vietnam studies are available in the Journal of Food Protection: JFP

mined based on percentage of chicken consumed (correlated with population size) in each country. Subsequently, a stratified sampling strategy was applied in which province and

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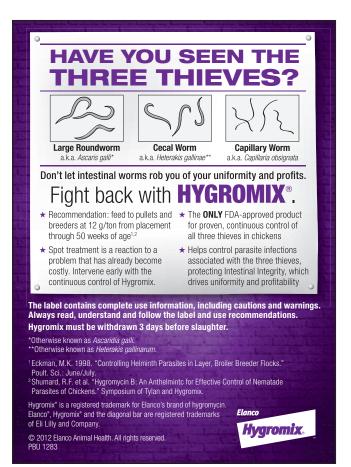
74: 1724–1728 (2011); 75: 1134–1138 (2012); 75: 1469–1473 (2012); and 75: 1851–1854 (2012).

All samples were tested for the presence of *Salmonella* using a whole chicken rinse method recommended by the United States Department of Agriculture Food Safety and Inspection Service.

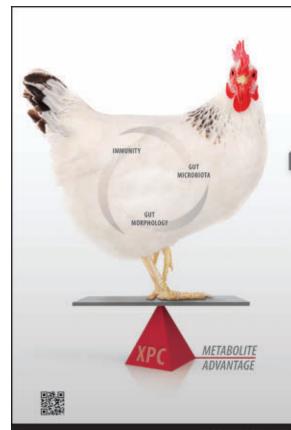
To compare these findings with results from other studies, one must consider the differences in study design, number of samples assayed, microbiological analytical unit (whole chicken versus chicken parts), *Salmonella* isolation methodology, retail store type storage conditions, and food safety practices of poultry production and processing facilities.

#### Prevalence of Salmonella on poultry in retail establishments

Taking these factors into consideration, the prevalence of *Salmonella* at retail establishments in countries that have implemented *Salmonella* control programs at the



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#### FOOD SAFETY & INTERNATIONAL TRADE

production and processing levels was as follows:

- ✓4 percent (n= 877) in the United Kingdom
- ✓3 percent (n = 232) in New Zealand
- $\checkmark$ 4.2 percent (n = 212) in the United States



Chicken in supermarket in Vietnam

✓Zero (n = 40) in Sweden

Alternatively, *Salmonella* prevalence on raw poultry in countries with limited *Salmonella* controls in their poultry production and processing practices was as follows:

- $\checkmark$ 60 percent (n = 60) in Portugal
- ✓36 percent (n = 772) in Belgium
- ✓35.8 percent (n = 198) in Spain
- ✓57 percent (n = 72) in Thailand

The authors are currently collecting enumeration data on the levels of *Salmonella* on raw poultry in these countries. Quantitative data will enhance our understanding of the risk of acquiring salmonellosis through consumer exposure to raw chicken meat and determine what could be an appropriate quantity of *Salmonella* on chicken carcasses that would pose a minimal risk to human health. We are also serotyping *Salmonella* isolates from chicken carcasses and deter-





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mining their antimicrobial susceptibility profiles.

#### What do these data tell us?

Salmonella is frequently found on raw poultry, but interventions can be used to reduce the prevalence at a low frequency. Reducing the levels of Salmonella on raw poultry should lead to a reduction in salmonellosis. A zero-tolerance policy on raw chicken meat is an unrealistic goal under the current poultry production and processing systems, but countries should strive to reduce the levels as far as possible.

Data developed in these studies can be useful for the development of common international standards for *Salmonella* on raw poultry by the Codex Alimentarius Commission. Such information may also be helpful for national governments and industry to identify intervention opportunities as well as con-

trol points in poultry production and processing in the surveyed countries to reduce *Salmonella* contamination at the retail level.

#### References:

Codex Alimentarius Commission (CAC), 2007.

Principles and guidelines for the conduct of microbiological risk management (MRM), CAC/GL 63-2007

WTO 2012; http://www.wto.org/english/tratop\_e/

sps\_e/spsagr\_e.htm

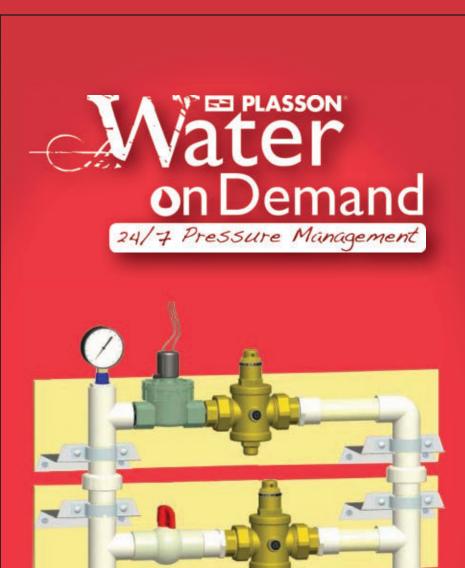
Walid Q. Alali and Michael P. Doyle are with the Center for Food Safety, University of Georgia, Griffin, Ga. Nelson Cox is with the USDA Agriculture Research Service, Russell Research Center, Athens, Ga. Isabel Walls is with the USDA National Institute of Food and Agriculture, Washington, D.C.







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# Marshall Durbin manages wastewater with offal vacuuming, water reuse

Marshall Durbin Companies, Jasper, Ala., takes a proactive approach to wastewater pretreatment with aggressive offal vacuuming and water reuse.

BY BRIAN H. KIEPPER



Marshall Durbin in Jasper, Ala., received Honorable Mention in the pre-treatment treatment category at USPOULTRY's 2012 Clean Water Award's presentation in Nashville, Tenn. Accepting the plaque is Amanda Durham, wastewater supervisor, and James Faison, vice president of science and quality assurance, third from left. The plaque was presented by Dr. Brian Kiepper, left, University of Georgia, and the late Jim Walsh, Georgia Tech Enterprise Innovation Institute, far right.

>>> When Marshall Durbin Sr. made the decision in 1932 to add live poultry to his two retail fish stands in Birmingham, Ala., he set his fledging food company on the path to become what is today the 19th largest U.S. poultry producer. Marshall Durbin Companies is a family owned and operated poultry integrator whose leadership reigns passed from Marshall Durbin Jr. to his daughters Melissa and Elise in 2001.

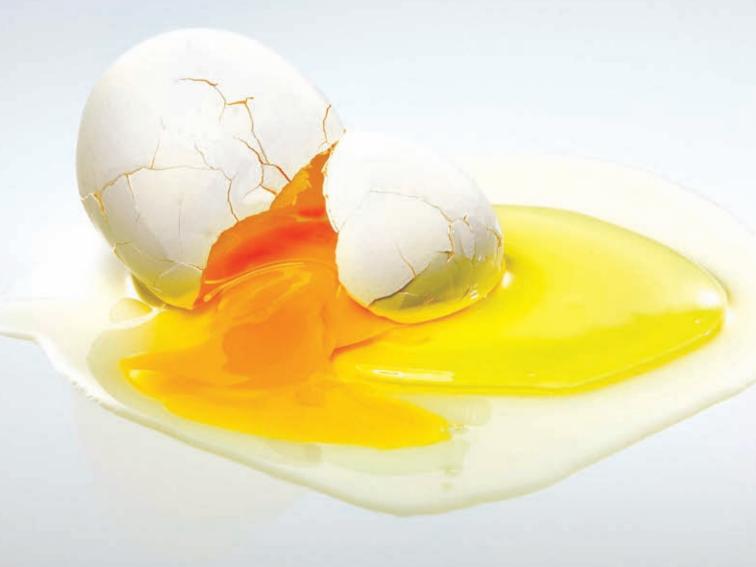
Marshall Durbin Companies generated \$326 million in sales during 2011, employs 2,000 people and operates poultry processing plants in Jasper, Ala. and

# Marshall Durbin Companies: Facts and Figures

- Founded in the 1930s by Marshall Durbin Sr.
- Family owned and operated
- >19th largest poultry producer in the U.S. with 2,000 employees
- Total sales of \$326 million in 2011
- >2 processing plants, 3 hatcheries (3 million eggs weekly), 2 feed mills (9,700 metric tons weekly)
- Operations in Alabama and Mississippi
- >Weekly output: 2.35 million broilers, 9.68 million lb live weight, and 7.65 million lbs RTC product

Hattiesburg, Miss. The company produces 7.65 million pounds of ready-to-cook chicken a week, with 65 percent of that production supplying the foodservice industry.

In 1959, Marshall Durbin constructed a processing plant in Jasper. The plant was originally designed to handle 9,600 birds per hour. Today, the Jasper facility processes 1.2 million broilers per week, generating approximately 1 million gallons of high-strength process wastewater daily that is pretreated on-site prior to discharge into the City of Jasper municipal sewer system.



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#### ■ SUSTAINABILITY IN POULTRY PROCESSING

#### Honorable mention in CWA

Marshall Durbin Companies takes a proactive approach in the Jasper plant's environmental programs, which was the key element in earning the facility the U.S. Poultry & Egg Association's 2012 Clean Water Honorable Mention Award in the pretreatment category. The USPOULTRY Clean Water Awards judging team was impressed by the Jasper facility's pretreatment plant performance as evidenced by a review of two years of process wastewater effluent data.

#### Pretreatment plant performance

Wastewater pretreatment plant

performance is measured by the quality of the effluent discharged. As shown in Table 1, the Jasper plant's only permitted parameter is

The Jasper plant operates at only 63 percent of its permitted biochemical oxygen demand, averaging 1,573 pounds per day over the past two years.

### TABLE 1. MARSHALL DURBIN'S JASPER, ALA., PROCESSING PLANT WASTEWATER PRETREATMENT SYSTEM MONTHLY AVERAGE EFFLUENT RESULTS

	Effluent concentration (mg/L)			Effluent loading (lb/day)					
Parameter	Pretreatment permit limit	Plant effluent	% Used of limit	Pretreatment permit limit	Plant effluent	% Used of limit			
Biochemical oxygen demand	nl	187	na	2,500	1,573	63%			
Total suspended solids	nl	71	na	nl	602	na			
Oil and grease	nl	8	na	nl	69	na			
nl = no limit; na = not applicable									





pounds per day of biochemical oxygen demand set at 2,500 pounds per day. The Jasper facility has only used 63 percent of the permit capacity, averaging 1,573 lb/day of BOD over the past two years. However, the company's proactive attitude means that the Jasper plant doesn't stop its wastewater monitoring at BOD.

James Faison, vice president of science and quality assurance, oversees the operation of the Marshall Durbin in-house laboratory in Jackson, Miss., which regularly runs not only BOD analysis on Jasper's wastewater samples, but total suspended solid, oil and grease, total Kjeldahl nitrogen and ammonia, as well.

"We have the advantage of being able to see our wastewater results very quickly, often much sooner than if we sent our samples to an outside lab. I can be on the phone with the wastewater supervisor in Jasper immediately after results are available to discuss any issues we are having at the plant," Faison said.

#### Minimizing environmental impact

Beyond effective pretreatment system performance, the most impressive aspect of the Jasper plant's operations in the minds of the USPOULTRY judges is the staff's approach to minimizing environmental impacts in the handling of processing offal and potable water use as well as in the training of new environmental staff. Examples of this proactive approach include:

✓A 13-point offal vacuum system that allows for dry transport of offal directly from the production floor to

- offal transport trailers, bypassing the wastewater pretreatment system
- ✓A water reuse program focused in three areas that reduced the potable water demand of the facility
- by over 300,000 gallons per day

  A training program for new environmental program employees that
  focuses on teaching the importance
  of offal removal from the wastewa-

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ter stream early in the pretreatment process

#### Dry transport offal vacuum system

In 1998, the Jasper plant un-

derwent a series of major upgrades including the addition of a second processing room and substantial improvements to the facility's fastfood deboning capabilities. At the

same time, Marshall Durbin made the proactive decision to install a 13-point offal vacuum system that allows byproducts from various points on the production floor to be dry transported directly to the offal transport trailers.

"The vacuum systems allow us the ability to totally bypass the wastewater pretreatment system," said Ronnie Eddy, the Jasper facility director of processing. "The philosophy being that if you don't put [offal] in the water to begin with, you don't have to spend all the resources needed to take it back out. So we now have 13 points on the processing floor, like at the neck and oil sack removal stations, on the [evisceration] line for intestines following [giblet] removal and a hopper by the reprocessing line for condemned parts, where offal can be moved by vacuum to the offal trailers. The main motivation for installing the system was to reduce the amount of soluble BOD we had entering the wastewater pretreatment plant."

"We also vacuum our blood directly to our offal blood tanks," added Amanda Durham, the wastewater supervisor at the Jasper facility. "So before any water hits the floor in the blood room, workers use a hose to vacuum up all the blood they can. That cuts out a tremendous amount of soluble BOD from the wastewater we have to treat."

#### Water reuse

In the mid-1990s, the Jasper plant was utilizing 1.3 million gal-



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lons of potable water each day during processing. It was at this point that a concentrated effort was made to significantly reduce the potable water demand at the plant using water reuse systems, which has reduced water demand by over 300,000 gallons per day. "Ronnie and the rest of the staff here have been instrumental in making the Marshall Durbin water conservation program work in Jasper," said Faison. "Anytime you can cut between 300,000 gallons from your fresh water demand everyday consistently, you are really doing something."

Read more: West Liberty Foods stays sustainable with high-tech wastewater pretreatment www.WATTAgNet.com/154729.html

The water reuse program in Jasper includes a dedicated treatment system that allows effluent from the pretreatment dissolved air flotation unit to be recycled for use in backwashing and cleaning the offal screens, and for the recycling of water in the feather transport flumes. In addition, a water recycling system has been installed on the vacuum pumps that were added to the plant for the dry offal removal system. "And don't forget," added Faison, "all this has been done while increasing production by 15 percent."

#### Pretreatment system training

To instill the concept that being proactive is the key to effective pretreatment of poultry processing wastewater, all

new environmental program employees at the Jasper plant begin their training at the first step in the pretreatment process, the offal screens. The Jasper facility utilized internally fed mechanical rotary screens in

series to remove large solids (e.g., feathers, viscera and heads) from the wastewater stream prior to additional physical and chemical treatment.

"It's very important that the [new wastewater em-

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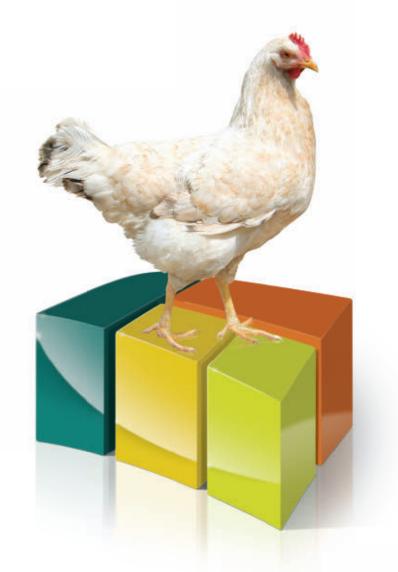




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ployees] know what's coming into the system and how to deal with it initially," said Durham. "Keeping solids out of the rest of the treatment system is the key to how well we can treat our water. The system after the screens is designed to remove soluble BOD. If we don't control the solids up front, then the rest of the system downstream won't work. That's the most important thing new operators need to learn."

#### Bentonite clay

Finally, to aid in the removal of soluble BOD from the final effluent. the Jasper plant utilizes a bentonite clay system. "We were having issues holding down our soluble BOD levels on a consistent basis and tried a number of chemical programs," Faison said. "We then tried adding bentonite clay to the system, and, once it was dialed in, it has been good at reducing our effluent BOD by 300-500 milligrams per liter. The only disadvantage has been an increase in sludge production, but once we established an approved sludge land application system with Terra Renewal the system has performed very well."

"It's not uncommon to see facilities that find themselves in a reactive mode when dealing with environmental issues" said the late Jim Walsh, senior research engineering at the Georgia Institute of Technology, and one of the members of the USPOULTRY Clean Water Awards judging team. "It's very impressive to see a facility take such a proactive approach to controlling their environmental impacts in such a way that allows them to control their own destiny."

Brian H. Kiepper, Ph.D., assistant professor and extension poultry scientist, Poultry Science Department, University of Georgia, Athens, GA 30602-2772; Phone: (706) 542-6776; Email: bkiepper@uga.edu

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# International Production & Processing Expo offers new name, larger show

Three integrated tradeshows aim to forge the world's premier expo for the meat, poultry and feed industries. BY ANDREA GANTZ



>>The 2013 International
Production & Processing Expo
— the exciting new collaboration

resulting from the integration of the International Poultry Expo, International Feed Expo, and the

International Meat Expo — will bring together more than 1,100 exhibitors and an anticipated 25,000 attendees from over 100 countries to the Georgia World Congress Center in Atlanta from January 29-31, 2013.

Hosted by the U.S. Poultry & Egg Association, the American Feed Industry Association, and the American Meat Institute, the Expo will highlight the latest technology, equipment, and services used in the production and processing of poultry, meat and feed products, with opportunities for learning and conducting all aspects of business. The trade-

## International Production & Processing Expo

January 29-31, 2013

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Wednesday: 9 a.m.-5 p.m.

Thursday: 9 a.m.-3 p.m.

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show will cover close to 400,000 net square feet of exhibit space, making it one of the 50 largest tradeshows in the United States.

View the 2013 International Expo Guide online Bookmark www.digitalexpoguide-digital.com on your Web browser.

#### 2013 Educational Schedule

#### Conferences (fee-based)

#### **January 28-29**

- > International Poultry Scientific Forum
- > Animal Agriculture Sustainability Summit
- Improving Food Safety, Sanitation and Maintenance
- > Pet Food Conference

#### **January 28**

 Antibiotics Conference — Current Issues for the Poultry and Egg Industry

#### January 29

 Animal Care and Handling —Focus on Poultry Processing

#### January 30-31

Poultry Handling and Transportation Quality Assurance "Train the Trainer" Workshop

#### January 31

- Media Training for Meat and Poultry Professionals
- > Future of the U.S. Egg Industry
- > International Rendering Symposium

#### January 31-February 1

Meat and Poultry Research Conference

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Resuming for 2013 is the

Members to Atlanta program, M2A, which waives the registration fee for attendees from member firms of all three associations.

Show organizers will host a recep-

## 2013 Educational Schedule cont.

Educational programs (included in registration fee)

#### January 29

- AFIA's International Feed Education Program
- Meat and Poultry Processing:A Global Perspective

#### January 29-30

- Consumer Trends Best New Meat and Poultry Products
- Poultry Market Intelligence Forum

#### January 30

- Operations: Risk Management and Lifecycle Analysis
- International Regulatory Topics for Meat
- \*Information is accurate as of press time, and is subject to change.

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tion January 29, from 4-6 p.m. on the respective show floors.

The week of January 28, 2013, has been designated "IPPE Week" and will feature education programs addressing current industry issues. New on the 2013 educational schedule:

Animal Handling: Focus on Poultry Processing; Antibiotic Conference – Current Issues for the Poultry & Egg Industry and more.

#### Registration now open

Attendee and exhibitor preregistration and hotel registration for the 2013 International Production & Processing Expo is open through January 11, 2013. Online is the only way to pre-register for the discounted price of \$40. Visit www.ippe13.org to register and for more information.



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#### ProductReview

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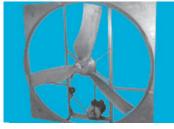
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#### **44** I WATT POULTRY USA

#### **PRODUCT** REVIEW

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www.nutriad.net

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www.magnalight.com

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#### **46 I WATT POULTRY USA**

#### **■ PRODUCT** REVIEW

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www.liphatech.com

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### People&Companies

Bill Lovette, president and CEO of Pilgrim's Corporation, has been elected to serve as 2012–2013 chairman of the National Chicken Council. Serving as vice chairman is Michael Helgeson, CEO of GNP Company.

Chris Wallace, JBS United's director of purchasing and an employee of the company for over 34 years, died

www.hired-hand.com HIRED-HAND

September 14 at the age of 57.

www.AnimalSmart.org has started a junior animal science program, a way for kids to learn about science and the animal world.

Z Trim Holdings Inc. announced that the Food and Drug Administration has approved the labeling of Z

Trim products in ground, emulsified and processed meats and poultry.

Aviagen recently hosted the three young poultry farmers who are the recipients of the 2012 Canadian Broiler Hatching Egg Producers Association's young farmers program at the company's facilities in Huntsville, Ala.





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#### **Datelines**

Send trade show, meeting and technical symposium information to: Gary Thornton, *WATT PoultryUSA*, at gthornton@wattnet. net. For a comprehensive list of events plus detailed information go to Events at www.WATTAgNet.com.

#### 2013

#### **JANUARY**

#### International Production and Processing Expo 2013

**29-31** »Georgia World Congress Center, Atlanta, GA, United States, www.ippe13.org

#### **FFBRUARY**

#### MeatXpo 2013

**10-13**»Las Vegas, NV, United States, www.meatxpo.org

#### MARCH

#### 2013 USPOULTRY Environmental Management Seminar

**12-13**»Louisiana Marriott Hotel, New Orleans, LA, United States, www.uspoultry.org

#### Midwest Poultry Federation Convention 2013

**13-14**»St. Paul RiverCentre, St. Paul, MN, United States, www.midwestpoultry.com

#### 2013 USPOULTRY Feed Mill Management Seminar

**20-21** Doubletree Hotel, Nashville, TN, United States, www.uspoultry.org

#### **APRIL**

#### 2013 USPOULTRY Human Resources Seminar

**22-24** Sandestin Golf & Beach Resort, Destin, FL, United States, www.uspoultry.org

#### MAY

#### 2013 USPOULTRY National Breeders Roundtable

**2-3**» Airport Marriott Hotel, St. Louis, Missouri, United States, www.uspoultry.org

#### 2013 USPOULTRY Poultry Processor Workshop

**15-16** Embassy Suites Atlanta Centennial Olympic Park, Atlanta, GA, United States, www.uspoultry.org

#### JUNE

#### 2013 USPOULTRY Financial Management Seminar

**24-26**»Orlando, FL, United States, www.uspoultry.org

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- ➤ The National Research Council's (NRC) Nutrient Requirement publications for swine and beef
- Salmonella in Feed Research Coalition
- ➤ The Council on Food, Agricultural and Resource Economics (C-FARE) study on "How will we feed livestock as agriculture evolves in the 21st century."
- United Nations Food and Agriculture Organization (FAO) Life Cycle Assessment of Feed Ingredients project
  - Quantify Carbon Footprint
  - Greenhouse Gas Emission Database
  - Measure Environmental Impact

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For more information, contact us at: WWW.IFEEDER.ORG ifeeder@ifeeder.org (703) 650-0142

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# PoultryUSA

#### MARKETING AND SALES TEAM

#### **USA-based Sales Staff:**



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For information about Marketplace advertising, contact Ginny Stadel. Phone 815-966-5591, Fax 815-968-0941, E-mail: gstadel@ wattnet.net. WATT PoultryUSA rate is: \$165 per inch per insertion (1-time rate), \$150 per inch per insertion (6-time rate), or \$140 per inch per insertion (12-time rate). The production charge is included except for ads with excessive makeup demands. Logos are acceptable. Make your classified stand out - add color for an additional \$40 per color per insertion.

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#### **Editor's Comment** BY GARY THORNTON

# National Geographic wants you to feel guilty about your poultry consumption

ot every consumer survey provides an accurate picture of the world. They all have their unique purposes and biases. Take the National Geographic Greendex survey, which ranks people around the world based on the environmental impact of their consumer behavior.

Tsk-tsk, fellow Americans! Based on the 2012 Greendex, you have a lot to account for with your chicken and beef consumption ... and all those TVs and PCs per household ... have you no shame?

The Greendex, which measures consumer behavior in 17 countries in housing, transportation, food consumption and goods, purports to track changes in sustainable consumption at the global level and within specific countries.

National Geographic makes no secret of the purpose: "The Greendex is meant to encourage consumer awareness and provide consumers with global reference points for comparing their own consumption patterns."

#### Calculate your environmental sin

You can calculate your own personal Greendex by using the online Greendex calculator. No-nos include consumption of beef, chicken and seafood.

Consumption of bottled water also brings demerits. The Germans are especially naughty in this, say the surveyors.

Good behavior, on the other hand, includes consumption of locally grown vegetables and a willingness to pay environmental premiums wherever possible.

Worldwide, consumers who feel most guilty about their environmental impact are least to blame, say our accusers at National Geographic. Americans are the least green and among those feeling the least guilty, they say.

## Good environmental players in the developing world

The top-scoring (good) consumers of the 2012 Greendex are in the developing economies of India, China and Brazil, in descending order. "Those in emerging economies continue to round out the top tier of the Greendex ranking, while the lowest scores are all earned by consumers in industrialized countries. American consumers' behavior still ranks as the least sustainable of all countries surveyed since the inception of the study in 2008, followed by Canadian, Japanese and French consumers," say the surveyors.

Chicken consumption, the surveyors lament, is high among a majority of consumers in most of the countries surveyed. Mexicans, Argentineans, Australians, Hungarians, Spanish and Americans, in that order, lead the way in their at-least-weekly consumption. And, compared to

2010, Argentinean, British, Mexican and Russian consumers are now more likely to eat chicken more often.



And so much work
is still to be done by National Geographic.
Consider this survey finding: "Consumers
across the 17 countries are yet to be
fully aware of the negative impact beef
consumption has on the environment
— consumers in the countries surveyed
are more likely to disagree that meat is
bad for the environment than they are to
agree." Shocking, don't you think?

#### Another moral dilemma

Well, here is a bigger problem for National Geographic and the Greendex. People in developing countries around the world are struggling, yearning to be able to eat more poultry and beef and seafood. If they could, they would now; and when they can, they will. What's more, if our very socially responsible friends at National Geographic were to be successful in shaming them from consuming meat proteins (which won't happen) and they chose not to one day own TVs and PCs, who's going to watch Nat Geo and take the online surveys?

Well, there's another moral dilemma for them. ■

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