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# NEWS

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## National Toxicology Program Study Reaffirms Sodium Nitrite Safety

A comprehensive study by the National Toxicology Program (NTP) has reaffirmed that sodium nitrite is a safe food additive which protects the public health. NTP is one of the world's leading scientific authorities on the safety of various chemicals and additives and its findings help lay to rest any concerns about its safe use as a curing ingredient.

The results of NTP's multi-year rodent study, in which rats and mice were fed massive doses, produced no meaningful evidence that nitrite causes cancer in laboratory rats and mice. The results were reviewed and voted upon by a panel of nine expert toxicologists and pathologists in a public meeting May 18 in Research Triangle Park, NC. In reaching its conclusions, the panel reviewed an NTP staff report about the rodent study and considered comments and oral testimony from AMIF and expert witnesses.

Specifically, the subcommittee found the study showed no evidence of

carcinogenicity in male and female rats, no evidence in male mice and equivocal evidence (a classification treated as "insufficient evidence") in female mice.

### Experts Testify About Safety

Gary Williams, M.D., a world-renowned pathologist and professor at New York Medical College testified on behalf of the American Meat Institute Foundation. Eugene McConnell, DVM, M.S. Pathology, who recently retired after heading NTP's testing division, provided expert analysis that was included in Williams' testimony and in written comments provided to NTP.

In his testimony, Williams pointed out that not only did sodium nitrite fail to produce clear evidence of cancer, it actually showed a strong, dose-response reduction of some cancers in rodents. The most significant finding was nitrite's protective effect against leukemia, which some

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## California Committee Votes Not To List Sodium Nitrite Under Proposition 65

California's Developmental and Reproductive Toxicant Identification (DART) Committee June 2 affirmed sodium nitrite safety when it voted not to list the curing ingredient as a developmental toxicant under the state's Proposition 65 law.

The Committee's findings echoed an earlier decision by the state's Department of Health Services that sodium nitrite should not be listed. In California, when substances are listed, products that contain the substance must carry warning labels. Restaurants that serve products containing listed substances or workplaces that use listed chemicals

also must post placards.

Sodium nitrite, an essential component of cured meats, was caught up in an effort to "mass-list" chemicals that are tracked by the Environmental Protection Agency on its Toxic Release Inventory.

Sodium nitrite prevents the growth and toxin production of *Clostridium botulinum*, the causative agent of botulism. Its use is carefully regulated by the Department of Agriculture and its benefits have been documented by the fact that no cases of botulism have been associated with cured meats since nitrite has been routinely added by industry.

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## AMIF Consumer Research Reveals Knowledge Gap About Risks of Listeriosis, Botulism

New AMIF consumer research shows consumers lack important knowledge about listeriosis and botulism and how to prevent these foodborne diseases.

The research was part of a poll of 1,002 adult Americans conducted April 21-24. Questions also were posed about the level of concern about health risks of nitrite – concerns that should be laid to rest following the National Toxicology Program’s findings in May (*see story, page one*).

Twenty-three percent of those polled said they had never heard of *Listeria*. Of those who had, misperceptions about who is at risk of listeriosis were evident. Although *Listeria* poses the greatest risk to pregnant women, the elderly and the immune compromised, the most reported “at-risk” group by those surveyed was children under five (although, among the young, only newborns under a year old are classified as high-risk for listeriosis). Only one percent of respondents said people with AIDS were at risk and only eight percent said pregnant women were at risk.

The most identified means of protecting oneself from *Listeria* was cooking food thoroughly (82 percent), followed by washing hands (75 percent), avoiding unpasteurized milk (60 percent), reheating hot dogs (58 percent), cooking eggs fully (57 percent), not eating raw shellfish (57 percent), reheating cold cuts (44 percent) and avoiding soft cheese (37 percent). Shellfish and eggs are not typically sources of *Listeria*.

When asked true and false questions about botulism:

- Fifty percent said it is true you can get botulism from cured meats (yet botulism is no longer associated with cured meats since sodium nitrite has been routinely used by the meat industry).
  - Seventy-two percent said it is true you can get botulism from home-canned foods. The Centers for Disease Control and Prevention says this continues to be a source of botulism.
  - Forty-seven percent said it is false that botulism is deadlier than any other foodborne disease, although statistics show that it is among the most deadly.
  - Twenty-six percent said it is true that botulism is one of the milder foodborne diseases, which is clearly not the case.
  - Eighteen percent said you could be vaccinated against botulism. While there is an antidote, there is no vaccine.
- Meanwhile, when asked about possible health

risks posed by hot dogs, 13 percent of Americans unaided said that hot dogs contained sodium nitrite, although sodium nitrite is the very ingredient that prevents *Clostridium botulinum* outgrowth and toxin production on cured meats.

Fifteen percent of Americans said yes, they had heard that pregnant women should avoid nitrite-containing foods like cured meats. This response is likely a reference to a theory put forth by one epidemiologist who has alleged that nitrite can harm developing fetuses. The theory has gotten publicity, but is not supported by the bulk of the science. Notably, the State of California’s Developmental and Reproductive Toxicant Committee – an expert panel of independent scientists — in June said that there is no evidence to justify “listing” nitrite as a developmental toxicant under Proposition 65 (*see story, page one*).

AMIF will use the data to illustrate for media and influential health groups what knowledge gaps exist about these issues and to urge them to help reach out to appropriate populations.

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## Mandatory Nutrition Labeling to be Proposed for Fresh Meat, Poultry

Under a rule to be proposed this Fall, retailers will be required to provide nutrition information on fresh meat and poultry through product labels or point of purchase materials. According to an announcement from USDA, the required information will include fat, calories and cholesterol content.

Under the terms of USDA’s nutrition labeling regulation published in 1993, retailers of fresh meat and poultry were asked to display or label nutrition information prominently at point of purchase. The rule stated that if 60 percent of retailers did not voluntarily comply, USDA would propose mandatory labeling. A USDA survey indicated that retailer compliance is a few percentage points short of the required target, which has now triggered rulemaking.

AMI helped develop the Meat and Poultry Nutrition Facts program to provide display posters with nutrition information on more than 30 cuts of beef, pork, lamb, veal, chicken and turkey. The program has been widely used by retailers since the late 1980s.

## Point of Purchase Information Won't Persuade Consumers to Buy Irradiated Product, Research Shows

### *Real Test Begins As Irradiated Meats Make Their Way Into Marketplace*

Point-of-purchase information about irradiation may be insufficient to persuade consumers to buy irradiated meat products, according to a new University of Georgia study "Consumer Acceptance of Irradiated Beef Products."

Study authors Arbindra Ramal, Stanley Fletcher and Kay McWatters collected data in a simulated supermarket setting. A panel of 212 consumers was asked to purchase two packages of four cuts of beef, including ground beef, ground chuck, top round steak and rib eye steak. The cuts were labeled in the traditional fashion or as irradiated. Participants shopped a second time after a poster about the benefits of irradiation was placed in display cases. Exit interview questions included the intention to buy irradiated product, willingness to pay more, cooking and storing practices and general food safety knowledge.

Not only was the irradiation poster unlikely to prompt consumers to accept irradiated product, it actually made some consumers less likely to buy the product. Some consumers who bought irradiated product the first time bought traditional product after seeing the poster. According to the researchers, other means of education – like mass media – may be necessary. To that end, the AMI Foundation has alerted interested press about its expertise in this area and has had extensive interaction with reporters in an effort to balance news stories.

In addition, there was an inconsistency identified in this research between consumers'

expressed intent to buy the product and actual purchase behavior. The researchers speculate that there may be a critical level of food safety concern needed to prompt consumers to buy irradiated meat.

The results did indicate that consumers who tended to store refrigerated ground beef longer before cooking or freezing were more likely to select irradiated ground beef. They also found that female, married, educated and employed shoppers were among the most likely irradiated beef consumers.

#### **Real Test Begins**

Just after the research was concluded, the real test began in the marketplace as several retailers began offering irradiated ground beef.

Huisken Meats in Minnesota was the first to introduce irradiated meat in 250 stores in five states and response reportedly has been positive.

Colorado Boxed Beef also began distributing its branded product called New Generation in the Florida market, which is populated heavily by elderly consumers who are more at-risk for foodborne disease. Several retailers sold out of the product.

According to Randy Childers, meat managers at Wyndles's Foodland in Plant City, FL, "The response has been very enthusiastic so far. We've had customers drive as far as 60 miles to get the lean, healthy and safe product."

## FASS Backgrounder on Livestock Raised With Biotechnology – Derived Feed Now Available

A new backgrounder which addresses the safety of meat derived from livestock that have been fed crops derived through biotechnology is now available from the Federation of Animal Science Societies (FASS). The backgrounder was developed with editorial, graphic and printing assistance from AMIF.

The four-page fact sheet discusses why genetically modified crops are grown, their safety for food animals and the safety of foods derived from these animals. The fact sheet also discusses

whether or not labeling of foods derived from animals fed biotechnology derived feed is appropriate.

In FASS' view – and in AMIF's – labeling is only appropriate when a product is substantially changed. Foods derived from animals fed biotechnology-derived feeds are no different than those derived from animals fed traditional feeds. Therefore a label would raise a concern where none exists.

Copies of the fact sheet are available on the AMIF web site at <http://www.amif.org/FASSFACTS%20GM.pdf>.



# National Toxicology Program Sodium Nitrite Study

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epidemiologists had earlier suggested was caused by sodium nitrite.

## **Cured Meats Minor Source of Nitrite**

AMIF Food Safety Advisory Committee Member Douglas Archer, Ph.D., head of the University of Florida's Food Science Department and a former FDA official, addressed the panel about the public health benefits of nitrite. Archer pointed out that cured meats are a relatively minor source of nitrite. Ninety-three percent of human nitrite intake comes from nitrate-containing vegetables like spinach (nitrate is converted to nitrite in the mouth) and from the body's own processes. Because nitrite helps prevent botulism and kills pathogenic bacteria, scientists speculate that the body manufactures nitrite as part of its own "defense mechanisms."

In addition, Larry Borchert, Ph.D., adjunct professor of meat science at the University of Wisconsin, delivered testimony on behalf of the

American Meat Science Association about the meat industry's use of sodium nitrite and how levels used to cure meats have declined dramatically over time.

## **Nitrite Compared to Botulism Vaccine**

Former Center for Food Safety and Applied Nutrition Chief Sanford Miller, Ph.D., professor and former dean of the University of Texas Health Science Center, submitted written comments which said "The public health community should be reassured by the findings from this NTP report." Former Health and Human Services Secretary Louis Sullivan, M.D. also weighed in, saying that botulism continues to be a threat in the U.S., but since nitrite has been added to cured meats, no cases of botulism have been associated with cured meats.

"In my view, sodium nitrite has done for botulism what many vaccines have done for childhood communicable diseases," Sullivan said.

## **AMIF Virtual Library Now Available**

In an effort to make pertinent meat and poultry industry research and information easily accessible, AMIF has created and posted a virtual library on its web site <http://www.amif.org>.

The virtual library contains links to databases for literature searches, reference resources, sources for statistical information, industry news, government information and miscellaneous resources.

The library includes links to Agricola, Thomas Food Industry Register, Census of Agriculture, Fedstats and much more.

To access the virtual library please go to AMIF's web site at [www.amif.org](http://www.amif.org), click on "Links" and then click on "AMIF Virtual Library."

## **California Prop 65 Sodium Nitrite Vote**

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The AMI Foundation retained expert toxicologists to show that the body of science does not support a listing. Thirty-five pages of comments submitted in May on behalf of AMIF examined in excruciating detail the research on sodium nitrite and the evidence showing it is not a developmental toxicant and therefore should not be listed.

"We are gratified that the committee voted overwhelmingly not to list nitrite," said AMIF President James Hodges. "Proposition 65 was designed to protect the public health from harmful chemicals. In taking the action it did, the DART committee rejected suggestions that nitrite is unsafe and affirmed its value in protecting the public health."

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