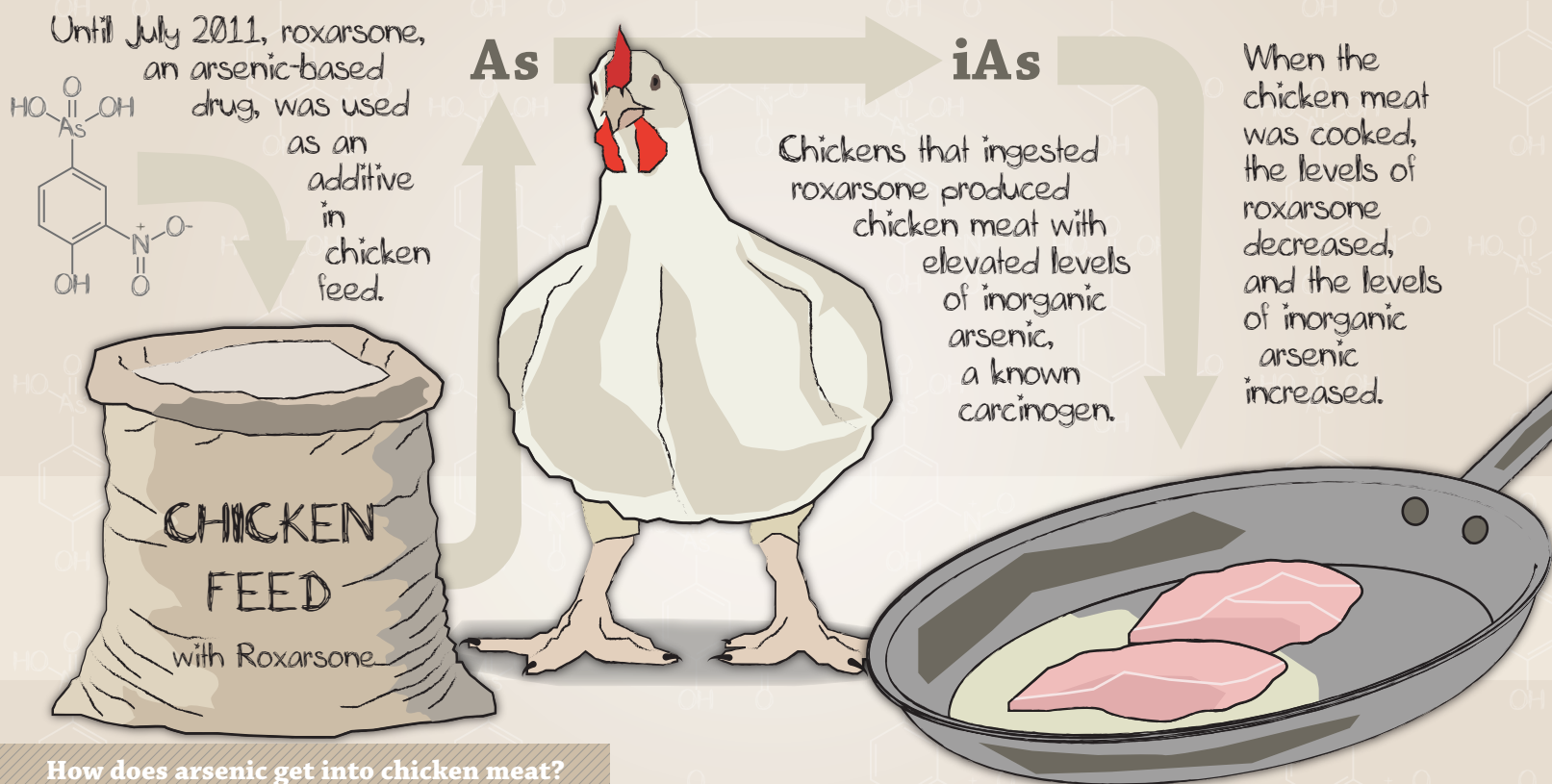


# Arsenic in Chicken Meat

Keeve E. Nachman • Patrick A. Baron • Georg Raber • Kevin A. Francesconi • Ana Navas-Acien • David C. Love



Until July 2011, chickens were routinely fed roxarsone, an arsenic-based drug, and similar products, to their chickens through their feed. Poultry producers did this because arsenic is believed to speed the growth of chickens, and to give chicken meat a pink color that's pleasing to the shopper's eye. Arsenic-based drugs were also approved to prevent parasites in the chicken's gut. This study shows that chicken meat from chickens likely raised with roxarsone had elevated concentrations of inorganic arsenic (a known carcinogen) compared to USDA Organic chicken.

In 2011, the leading U.S. marketer of roxarsone voluntarily suspended its sale. There is no ban on arsenic-based drugs, and producers are free to use them if they choose to.



**JOHNS HOPKINS**  
BLOOMBERG SCHOOL  
of PUBLIC HEALTH

[jhsph.edu/clf](http://jhsph.edu/clf)

JOHNS HOPKINS  
CENTER for A LIVABLE FUTURE

## Key Findings

- The level of inorganic arsenic in chicken likely raised with roxarsone was 2.3 micrograms per kilogram of meat, an elevated concentration compared to USDA Organic chicken samples.
- Roxarsone was found in 45 percent of the tested samples of conventionally-grown chicken, and it was not detected at all in the 37 USDA Organic chickens.
- Cooking the chicken that tested positive for roxarsone decreased the levels of roxarsone but increased the concentration of inorganic arsenic in the meat. It seems likely that roxarsone is converted into the more carcinogenic form during cooking.

## Public Health Concerns

- Roxarsone is still approved for use by the FDA and could come back on the market at any time; currently, there are no laws to protect consumers from being unnecessarily exposed to a carcinogen in this way.
- Nitarsone, an arsenical drug that is chemically similar to roxarsone, is also approved and currently being marketed for use in chickens and turkeys.

## Who We Are

Based within the Bloomberg School of Public Health, The Johns Hopkins Center for a Livable Future (CLF) is an academic center that conducts and promotes research and communicates information about the complex inter-relationships among food production, diet, environment and human health.



## Research Summary

Researchers purchased 142 chicken breasts from 82 stores in 10 cities across the U.S., representing 60 unique chicken brands. Sixty-nine chicken breasts came from companies deemed “conventional,” 36 were conventional but antibiotic-free, and 37 were USDA Organic. Half of each chicken breast was tested after cooking, the other half left raw for testing. A team at the University of Graz in Austria analyzed each sample for total arsenic concentrations, and more specifically for concentrations of roxarsone, inorganic arsenic, and methylated arsenic species.

## Strategies for Action

- FDA should protect public health by withdrawing its approvals of all arsenic-based drugs, including roxarsone.
- Congress should pass legislation to permanently ban all arsenic-based drugs from food animal production.
- Consumers should purchase USDA Organic chicken.

**Full Title:**  
**Inorganic Arsenic, Roxarsone, and Other Arsenic Species in Chicken Meat:  
a US-Based Marked Basket Sample**

**Abstract available at:**  
<http://ehp.niehs.nih.gov/1206245/>