

Environmental Health Science in the Development of Food Policy

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Good health is what everyone wants. Healthy food is an absolute necessity for the creation of good health. The field of environmental health science provides a vast quantity of information that makes possible the production of healthy food. Giving attention to environmental health science in the development of food policy will help insure that this knowledge is used to its best effect.

Thinking critically about current food contamination issues reveals how environmental health science figures in food policy. Two food contamination issues of major significance to consumers are addressed below.

Persistent Organic Pollutants Contamination of Animal Fats

During the past 100 years the manufacture and use of certain halogenated hydrocarbons has gradually led to the contamination of the global environment. These substances are highly resistant to natural break-down processes. They are also soluble in fats. Because of these two characteristics, persistent organic pollutants (POPs) accumulate to the highest levels in organisms at the top of food chains. Humans occupy the top of food chains. Wolves, coyotes, beluga whale, and polar bears also occupy the top of food chains. Many species of organisms have body burdens of POPs. Consumption of animal fats is the major exposure route for this group of anthropogenic chemicals.

All peoples of the Earth bear body burdens of POPs, but those who consume relatively large quantities of animal fats have the greatest accumulation of POPs in their fat tissues. First Nations peoples with diets composed largely of fish and wildlife have received particularly heavy POPs exposures.

Waste animal fat from slaughter facilities is commonly used in the production of feeds for food animals. Cattle are fed hog and poultry fats. Hogs and poultry are fed cattle fat. This feeding practice is largely responsible for the elevated levels of POPs in animal fat foods, including: meats, dairy products, and eggs.

The scientific research literature of POPs exposure impacts on human health is vast and rapidly growing. Scientific knowledge now supports the conclusion that POPs exposure at current levels of food supply contamination imposes a significant quantity of disease risk upon the average consumer of animal based foods. Damages to health associated with POPs exposure include: cancer, type 2 diabetes, cardiovascular disease, immune system dysfunction, impairment of sexual function, autoimmune diseases, impairment of cognitive function, attention deficit hyperactivity disorder (ADHD) and obesity.

A groundbreaking public health policy document titled, "Persistent Organic Pollutants: Impact on Child Health" was published in 2010 by the World Health Organization. (WHO, 2010) This report recommends that health arena leaders take action to minimize the exposure that children around the world receive to POPs.

POPs exposure minimization can be accomplished via a number of strategies. The strategies involving action to reduce the presence of POPs in the environment and food supply include: banning the production and use of POPs such as brominated flame retardants, clean-up of POPs contaminated sites and establishing a prohibition against the use of animal fats in the feeding of food animals. POPs exposure minimization can also be accomplished by implementing strategies that motivate exposure avoidance behaviors. Principal among these strategies is POPs exposure minimization education. Such education involves providing the general public with a clearly set forth warning describing the POPs exposure health hazard and recommending limited animal fat consumption.

Opportunities for food policy making involvement on the issue described above are numerous. A prohibition on the feeding of waste animal fats to food animals can come to exist as a result of food policy making. Food policy must come to encompass food safety education. When it becomes known to environmental health science experts that a particular pollutant or group of pollutants is causing harm at current levels of food supply contamination, it must be a required action of governmental public health entities to provide the public with a warning of the food contamination health hazard. Food policy making can take a leading role in establishing this requirement. Yet another role for food policy makers on POPs contamination is advocacy for the banning of the use of brominated flame retardants. Diligent advocacy by food policy makers would go far in motivating the US Food and Drug Administration (FDA) and the US Environmental Protection Agency (EPA) to take action on brominated flame retardants.

Arsenic Contamination of Rice

Within the past few years it has become known among environmental health scientists that rice from a wide array of sources contains harmful levels of arsenic. This problem appears to exist both in the case of conventional and organic rice. The FDA has recently tested more than 1000 samples of rice and found significant contamination. (FDA, 2014)

Arsenic is a known human carcinogen. There is no level of arsenic exposure that is free from cancer risk. Low dose chronic exposure to arsenic imposes a significant quantity of cancer risk.

Food policy making represents a major avenue for dealing with this contamination issue. Just as stated above, food policy can support the establishment of a requirement for action by governmental public health entities to warn the public of the contamination health hazard. People want to minimize their exposure to known human carcinogens.

Warning consumers about the presence of arsenic in rice empowers individual decision making not to consume contaminated rice.

When food policy making is illuminated with state of knowledge environmental health science, production of healthy food will be well within our grasp. Every food policy making institution should have the capability to use environmental health science knowledge. The New York State Council on Food Policy should endeavor to engage an environmental health scientist who is interested in participating in the development of food policy.

References

Food and Drug Administration, 2014. Arsenic in Rice and Rice Products

<http://www.fda.gov/food/foodborneillnesscontaminants/metals/ucm319870.htm>

World Health Organization, 2010. Persistent Organic Pollutants: Impact on Child Health

http://www.who.int/ceh/publications/persistent_organic_pollutant/en/index.html