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Announcing the 2014 Tanner Lecture Award Winner: John W. Erdman, Jr., Ph.D.

Does the Processing of Foods Impact Cancer Risk?



John W. Erdman, Jr., Ph.D., Professor Emeritus
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World-wide, cancer continues to be the primary cause of non-infectious disease mortality. It is generally assumed that environmental factors, including diet choice, accounts for a third or more of cancer risk. Because differential food processing operations are used to convert raw materials into final food products, one might ask whether choice of processing techniques or selection of types of processed foods increases or decreases the risk of cancer.

Thermal processing of raw materials offers many benefits including, removal of unwanted components, protection from microbial hazards and enhancing the bioavailability of some important nutrients.

However, excess heating (grilling and broiling) can produce carcinogens. Consumption of fruits, vegetables and whole grains are associated with less cancer risk due to their content of anti-cancer nutrients and bioactive food components. An emphasis in my laboratory has been on dietary factors that reduce prostate cancer risk, including tomato, broccoli, soy and their bioactive components.

Examples will be provided to demonstrate:

1. whether a whole food (tomato) or a single bioactive (lycopene) supplement is best,
2. whether combining more than one food (tomato, broccoli and/or soy) is beneficial, and
3. how thermal processing might influence the activation of bioactives in a food (broccoli).

Much more is to be accomplished in this emerging field of research, but application of current knowledge should help with the war against cancer.

Dr. Erdman is Emeritus Professor of Food Science and Human Nutrition, Professor of Internal Medicine and Professor of Nutrition in the Division of Nutritional Sciences at the University of Illinois at Urbana. Dr. Erdman's training and expertise encompass the nutritional and physiological biochemistry of man and animals. He has authored over 180 original research



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articles on these subjects and has over 350 total publications including other articles and chapters.

He is a member of a variety of professional organizations including:

- The American Society for Nutrition (ASN),
- The Institute of Food Technologists (IFT), and
- The American Heart Association (AHA).

He is past President of the American Society for Nutritional Sciences (now ASN) and has been elected Fellow for ASN, AHA and IFT. He has served on 27 committees for the Institute of Medicine (generally through the Food and Nutrition Board [FNB]), National Academy of Sciences (NAS).

He served on the FNB for 9 years, 6 as Vice Chair and as Chair of the Standing Committee on the Scientific Evaluation of Dietary Reference Intakes (DRIs) and Chair of the Committee on Military Nutrition Research. This committee published the report "Nutrition and Traumatic Brain Injury" in 2011.

For his extensive contributions to the NAS, he was named as Lifetime National Associate of the NAS in 2001 and was elected as a Member of the Institute of Medicine, NAS in 2003. Other honors include:

- Receipt of the Samuel Cate Prescott Award for Research from IFT;
- The William Cruess Award for Teaching from IFT;
- The Borden Award from ASN;
- Being named as an Original Member in Agricultural Science by ISI as an Highly Cited Researcher (top 0.05%); and
- Several University of Illinois Excellent and Outstanding Teaching awards.

He is a member of the Board of Trustees of ILSI- NA. Dr. Erdman is past Executive Director of the Mars Science Advisory Council and is currently Executive Director of the Wrigley Science Advisory Council (part time position). He is senior editor of the 10th Edition, Present Knowledge of Nutrition published in 2012.

Dr Erdman received his B.S., M.S., M.Ph., and Ph.D. in Food Science from Rutgers University.