



**NUTRITION
INTERNATIONAL**

First World Congress on
the Health Significance of
Garlic and Garlic Constituents

The Willard Hotel
Washington, D.C., U.S.A.

August 28th to 30th, 1990

Sponsor: Nutrition International Company
Co-Sponsors: Pennsylvania State University
U. S. Department of Agriculture

1990 International Garlic Symposium Program

Date: August 28-30, 1990

Venue: The Willard Hotel Washington, D.C., U.S.A.

Chairman: Dr. Robert I. Lin (U.S.A., Nutrition International Co.)

Theme: First World Congress on the Health Significance of Garlic and Garlic Constituents

August 28, 1990. Tuesday

- **INTRODUCTION: An Overview of the Nutritional and Pharmacological Properties of Garlic**
Dr. Robert I. Lin (U.S.A., Nutrition International Co.)

Session I: Garlic Constituents, Chemistry, and Pharmacokinetics

Dr. John Milner, Session Chairman (U.S.A., Pennsylvania State University)

- **The Composition of Garlic and Garlic Products: Some Newly Identified Ones**
Dr. Yoichi Itakura (Japan, Wakunaga Pharmaceutical Co., Ltd.)
- **The Organic Chemistry of Garlic Sulfur Compounds**
Dr. Eric Block (U.S.A., State University of New York at Albany)
- **The Bio-organic Chemistry of Garlic Sulfur Compounds**
Dr. George Barany (U.S.A., University of Minnesota)
- **Pharmacokinetics of Garlic Thioallyl Compounds**
Dr. C. -P. Siegers and R. Pentz (Germany, Medical University of Lubeck)
- **Health Messages: Scientific Foundation and Consumer Benefits**
Dr. John E. Vanderveen (U.S.A., Food and Drug Administration)

Session II: Garlic and Cardiovascular Risk Reduction

Dr. Robert I. Lin, Session Chairman (U.S.A., Nutrition International Co.)

- **Effect of Garlic in Lipidemia and Atherosclerosis**
Dr. David Kritchevsky (U.S.A., The Wistar Institute)

- Inhibition of Cholesterol Synthesis by Kyolic (Aged Garlic Extract) and S-allyl Cysteine in a Hypercholesterolemic Model
Dr. Asaf A. Qureshi¹, Dr. Robert I. Lin², Dr. Naji Abuirmeileh³ and Dr. Nilofer Qureshi⁴ (¹U.S.A., University of Wisconsin, ²U.S.A., Nutrition International Co., ³Jordan, Jordan University of Science and Technology, ⁴U.S.A., Veterans Administration Hospital)
- Dietary Kyolic (Aged Garlic Extract) and S-allyl Cysteine Reduces the Levels of Plasma Triglycerides, Thromboxane B₂ and Platelet Aggregation in a Hypercholesterolemic Model
Dr. Nilofer Qureshi¹, Dr. Robert I. Lin², Dr. Naji Abuirmeileh³, and Dr. Asaf A. Qureshi⁴ (¹U.S.A., Veterans Administration Hospital, ²U.S.A., Nutrition International Co., ³Jordan, Jordan University of Science and Technology, ⁴U.S.A., University of Wisconsin)
- Antithrombotic Action of Ajoene, A Well-Characterized Compound Derived from Garlic
Dr. Rafael Apitz-Castro (Venezuela, Instituto Venezolano De Investigaciones Cientificas), and Dr. Mahendra K. Jain (U.S.A., University of Delaware)
- Anti-platelet Aggregation Constituents of Garlic
Dr. Amar N. Makheja (U.S.A, George Washington University Medical Center)
- Effect of Three Years Treatment with Garlic on the Rate of Reinfarction and Mortality in Patients with Coronary Artery Disease
Dr. Arun Bordia (India, Tagore Medical College & General Hospital)
- Garlic's Cardiovascular Efficacy: A Critical Review
Dr. Jos Kleijnen (The Netherlands, Rijksuniversiteit Limburg)

Session III: Antioxidant, Anti-free Radical and Anti-radiation Effects of Garlic

Dr. Gary Beecher, Session Chairman (U.S.A., U.S. Department of Agriculture)

- Anti-oxidant, Pro-oxidant, Anti-free Radical, and Radiation Protective Properties of Garlic Extracts
Dr. Robert I. Lin (U.S.A., Nutrition International Co.)
- Protection of Cytochromes from Peroxidation by Aged Garlic Extract
Dr. Toshiharu Horie (Japan, Tokyo College of Pharmacy)
- Protective Effects of Aged Garlic Extract against Nuclear Radiation
Dr. Richard S. Geary (U.S.A., Southwest Research Institute), and Dr. Robert I. Lin (U.S.A., Nutrition International Co.)

August 29, 1990. Wednesday

Session IV: Anti-cancer Effects of Garlic

Dr. Herbert F. Pierson, Session Chairman (U.S.A., National Cancer Institute)

- Garlic in Relation to Cancer in Human Populations
Dr. William J. Blot (U.S.A., National Cancer Institute)
- Prevention of 7,12 Dimethylbenz(α)anthracene (DMBA) Induced Mammary Tumors by Dietary Garlic Powder Supplementation
Dr. John A. Milner, Dr. Jinzhou Liu (U.S.A., Pennsylvania State University)
- Modulation of Cancer Antigens and Growth of Human Melanoma by Aged Garlic Extract
Dr. David S.B. Hoon¹, Lan Sze¹, Dr. Robert I. Lin², Dr. Reiko F. Irie¹ (¹U.S.A., UCLA School of Medicine, ²U.S.A., Nutrition International Co.)
- Inhibition of Tumorigenesis by Garlic Constituents
Dr. Hoyoku Nishino (Japan, Kyoto Prefectural University of Medicine)
- Chemoprevention Studies in Animal Models for Colon and Esophageal Cancer Using Diallyl Sulfide
Dr. Michael J. Wargovich (U.S.A., University of Texas)
- Chemoprevention of 1,2-Dimethylhydrazine-induced Colon Cancer in Mice by Naturally Occurring Organosulfur Compounds
Dr. Hiromichi Sumiyoshi (U.S.A., M.D. Anderson Cancer Center)
- Research Approaches to Understanding the Role of Garlic in Cancer Prevention
Dr. Herbert F. Pierson (U.S.A., National Cancer Institute)
- Intralesional Immunotherapy of Murine Transitional Cell Carcinoma Using Aged Garlic Extract
Dr. Donald Lamm (U.S.A., West Virginia University)
- The Preventive Effect of Garlic against N-nitroso Compound-induced Tumorigenesis
Professors Lin Xi Yun & Xing Mei (China, Shandong Medical University)
- Health Benefits of Aged Garlic Extract
Dr. Benjamin H.S. Lau (U.S.A., Loma Linda University School of Medicine)

Session V:

Dr. Eric Block, Session Chairman (U.S.A., State University of New York at Albany)

- Effects of Garlic Compounds on Arachidonic Acid Metabolism and Platelet Aggregation
Dr. Krishna C. Srivastava (Denmark, Odense University)
- Ajoene Prevents Fat Digestion by Human Garlic Lipase *in vitro*
Claire Cudrey, Dr. Youssef Gargouri, Dr. Herve Moreau, Dr. Frederic Carriere, Dr. Marc Lauwereys, Dr. Gaston Matthyssens and Dr. Robert Verger (France, Centre National De La Recherche Scientifique and Plant Genetic System, Belgium)
- Effects of Commercial Garlic Extract on Cyclic Flow Reductions in the Stenosed Coronary
Dr. Laurence W.V. DeBoer, and Dr. John Folts (U.S.A., University of Wisconsin)
- Studies on Hypotensive Effect of Garlic in Rats
Dr. Raimo Hiltunen, and Jari Kiviranta (Finland, University of Helsinki)
- Hypolipidemic Effect of Aged Garlic Extract
Dr. Yu-Yan Yeh, and Shaw-mei Yeh (U.S.A., Pennsylvania State University)
- Electron-topology of Garlic's Biologically Active Thioallyl Compounds
Dr. Isaac B. Bersuker, and A.S. Dimoglo (USSR, Academy of Science MoSSR)
- Comments on Standardization of Garlic Products
Dr. Robert I. Lin (U.S.A., Nutrition International Co.)

Session VI:

Dr. William J. Blot, Session Chairman (U.S.A., National Cancer Institute)

- Garlic and Onion Oil Effects on Mouse Skin Tumor Promotion
Dr. Sidney Belman (U.S.A., New York University Medical Center, to be presented by Dr. Robert I. Lin for Dr. Belman)
- Inhibition of Aflatoxin and Benzo(α)pyrene Induced Mutagenesis by Organosulfur Compounds of Garlic
Dr. Benjamin H.S. Lau (U.S.A., Loma Linda University)
- Effects of Dietary Garlic in Colorectal Tumorigenesis in Mice
Dr. C.-P. Siegers, R. Schiller, and R. Pentz (Germany, Medical University of Lubeck)

- Garlic as An Anti-fungal Agent: Laboratory Studies
Dr. Larry E. Davis, Jin-kun Shen (U.S.A., University of New Mexico, School of Medicine)
- Anti-Viral and Anti-Cryptococcal Properties of Garlic: Clinical Studies
Professors Yan Cai and Jin-yuen Wang (China, Shanghai No. 2 Medical University)
- Anti-mycotic and Anti-adherence Properties of Garlic: *In vivo* and *in vitro* Studies
Dr. Mahmoud A. Ghannoum (Kuwait, Kuwait University)
- Clinical Use of Garlic – A Danish Approach
Dr. Finn Skott Anderson, Denmark, Practicing Physician.

August 30, 1990, Thursday

Session VII:

Dr. Nilofer Qureshi, Session Chairman (U.S.A., Veterans Administration Hospital)

- Neuroendocrinological Effects of Aged Garlic Extract in Control and Stressed Rats
Dr. Richard Kvetnansky¹, Dr. N. Takasugi², Z. Oprsalova¹, D. Jezova¹, Dr. J. Jurcovicova¹ and
Dr. T. Fuwa² (¹Czechoslovakia, Slovak Academy of Sciences, ²Japan, Wakunaga
Pharmaceutical Co.)
- Toxicity Aspect of Garlic
Dr. Osamu Imada (U.S.A., University of Texas)
- Garlic in Experimental Cryptococcal Infections
Dr. Donald B. Louria (U.S.A., New Jersey Medical School)
- Myths, Theories, and Facts about Garlic's Health Benefits
Dr. Robert I. Lin (U.S.A., Nutrition International Co.)
- Garlic in Biology and Medicine: Conclusions and New Perspectives
Dr. Robert I. Lin (U.S.A., Nutrition International Co.)