

## **Keith Hartley Steinkraus**

March 15, 1918 – October 23, 2007

Dr. Keith H. Steinkraus, Professor of Microbiology and Food Science at the New York State Agricultural Campus of Cornell University received his B.A. degree cum laude from the University of Minnesota in 1939. After working several years in the food industry and the U.S. Army Quartermaster Corps, he returned to academia receiving his Ph.D. degree from Iowa State University in 1951. He became an Assistant Professor at Cornell in 1952, Associate Professor in 1955, Professor in 1962 and Emeritus Professor in 1988. After his retirement, he remained very active in research and publishing until shortly before his death.

Keith grew up in Bertha, Minnesota, and attended a one-room schoolhouse. While a student at the University of Minnesota, he met another former student from the same schoolhouse, Maxine Curtiss. They were married in 1941 and spent 65 idyllic years together until Maxine's death on December 11, 2006. He was even more dedicated to his family than to his research.

His research specialized in indigenous fermented foods and food microbiology. Over a long career at Cornell, he studied fermented foods including tempe, tape, trahanas, idli/dosa, and the fermented fish sauces and soy products of the Far East including miso and tofu. Throughout his career, he worked to share his knowledge and research not only with his Cornell students, but also with an international audience. His interest in fermented foods, unknown in America, was stimulated further by his students at Cornell who came from places like Taiwan, Thailand, Mexico, Kenya, Zaire and Egypt. These students were interested in studying the microbiology of the foods from their own countries, and this interest coincided with and expanded Dr. Steinkraus' research efforts.

In 1959, Dr. Steinkraus was invited by the Interdepartmental Committee for Nutrition for National Defense (NIH) to participate in surveys of the nutritional status of military personnel, their dependants, and the general populations of South Vietnam, Ecuador and Burma. The project was later extended to include Indonesia, the Philippines, Korea, Taiwan, Thailand, and Malaysia. In 1974, UNESCO/UNEP/ICRO invited him to lecture at the Institute of Technology in Bandung, Indonesia. Because of his contributions to the subject, and his teaching experience, Dr. Steinkraus was asked and accepted the responsibility of compiling a book on indigenous fermented foods. The finished reference, a 671 page

Handbook of Indigenous Fermented Foods, was published in 1983 and was the first comprehensive and authoritative book on the subject.

Over the course of his distinguished career, Dr. Steinkraus contributed his knowledge to institutions, students, and colleagues worldwide. He maintained and developed his connections with Asia, consulting on food processing issues in Indonesia and as a teacher and researcher at the University of the Philippines College of Agriculture and the Institute of Technology in Bandung, Indonesia. He lectured as a Visiting Professor in Thailand and Singapore. He was also a Visiting Professor at the Polytechnic of the Southbank, London, in Germany at the Universitat Gottingen, and at the Central Division of Nestle Products Technical Assistance Co. in Switzerland.

Dr. Steinkraus' work had significant international impact; he was the American Delegate to the UNEP/UNESCO/ICRO panel on Applied Microbiology and Biotechnology and worked as a consultant to the United Nations Industrial Development Organization to determine how genetic engineering and biotechnology could be used to help developing countries in Africa. He was a fellow of the American Association for the Advancement of Science, American Academy of Microbiology, Institute of Food Technologists, and the International Academy of Food Science and Technology. In 1985, the Institute of Food Technologists gave him the prestigious International Award for his contributions to the international exchange of ideas in food technology to developing nations.

Keith's physical impression was enlivened by his shock of prematurely white hair, signature bowtie, and forward leaning rapid-fire speech. To students or anyone working in his lab, Keith displayed an infectious, nearly irrational optimism that inspired them to search for solutions to tough problems. This optimism carried over to international venues where he frequently was asked to speak or organize workshops and symposia on indigenous fermented foods. His approach of grounding research in the daily realities of indigenous food producers helped ensure that the right questions were addressed and locally sustainable methods were developed. A particular emphasis in editing and negotiating the publication of his Handbook of Indigenous Fermented Foods and the Industrialization of Indigenous Fermented Foods was to provide information useful in developing countries in a format that was affordable.

His broad experience and first-hand knowledge of indigenous food production problems, methodologies and microflora enabled him to bring his experience in the fields of microbiology, food chemistry and nutrition to bear on problems faced by producers in countries with limited resources for research. He had a great interest in improving the

nutritional status of less developed countries by making nutritious, safe, shelf-stable foods available through locally sustainable production methods.

His trips through rural areas of Southeast Asia and Africa were notable for their grueling timetables and peripatetic itineraries. Travel companions would comment that if you weren't running you were falling behind. He would be taking pictures, asking local producers about production methods and sharing his enthusiasm and knowledge in a torrent. Stairs were taken two at a time. His belief that hunger and poor nutrition were inexcusable drove him to search for solutions before time ran out.

Life in the lab was experienced at a similar pace. Students would be working simultaneously on a wide range of problems important to food producers in their home countries. The atmosphere could be at once exciting and maddeningly chaotic. Keith would bounce from student to student, problem to problem, each quite unrelated and not skip a beat. Having completed a tour of the lab, he would return to his office and type furiously at a manuscript or one of the innumerable letters he wrote to colleagues and meeting organizers before email was in wide use. This continual networking was an outgrowth of his belief that by connecting well resourced labs and students with those working on indigenous food problems, affordable solutions would be found, increasing the supply of regionally palatable foods. His enthusiasm and sense of purpose enlivened discussions and problem solving, blunting sharp disagreements even among students and visiting scientists from wildly different cultural backgrounds.

*Chang Lee, Chairperson; Malcolm Bourne, Roger Cullen*