Wilmot Banda Wijeratne

Education:
Ph.D. (Food Science), University of Illinois, U.S.A., 1985
M.S. (Food Technology), University of Mysore, India, 1970
B.S. (Agriculture), University of Peradeniya, Sri Lanka, 1966

Employment History:

03/2009 – Present	Director of Research & Food Technology, Harvest Innovations, Indianola, Iowa
2003 - 02/2009	Director, Soy Innovations International, Des Moines, Iowa.
1997 – 02/2009	Director of Research & Food Technology, Insta-Pro International, Des Moines, Iowa
1985 – 1997	Assistant Professor (Food Science), University of Illinois
1993 – 1997	Director, International Soybean Program, University of Illinois
1991 – 1993	Associate Director, International Soybean Program, University of Illinois
1985 – 1991	Senior Food Scientist, International Soybean Program, University of Illinois
1981 – 1985	Research Assistant, Department of Food Science, University of Illinois
1974 – 1981	Senior Food Technologist, Department of Agriculture, Sri Lanka
1970 – 1974	Food Technologist, Department for Development of Agricultural Marketing, Sri Lanka
1968 – 1970	FAO Fellow, University of Mysore, India

Achievement Summary:
Wilmot Wijeratne devoted three decades of his professional career to research, development, and technology transfer in the area of grain processing and utilization in food systems with emphasis on soybean. Currently, he is director of research & food technology, Harvest innovations, Indianola, Iowa, U.S.A. Previously he was director of research for Soy Innovations International, Division of Triple "F" Inc., in Des Moines, Iowa, U.S.A. He also held the concurrent position of director of research & food technology, Insta-Pro International, Division of Triple "F", Inc., in Des Moines, Iowa.

In the current position, Dr. Wijeratne is leading research and development efforts to diversify the company product portfolio beyond the traditional soybean focus. Work includes functional ingredients based on combinations of cereal grains, legumes and oilseeds. In the previous tenure he developed new technologies without the use of chemicals leading to a line soy products for human food applications. These products were commercialized through a business model designed to serve the growing niche market for natural, Non-GMO and organic food. He served fifteen years at the University of Illinois, Urbana, Champaign, in various capacities involving research, instruction and technology transfer of soybean processing for food use. His

research areas included non-solvent technologies for soybean oil extraction, soymilk technology, extrusion processing technology, soy-based dairy analogs, meat extenders, oriental soy products and processing of soybean at the household level. During this period he attracted over five million dollars in program support funds from federal, state, private industry and international donor agencies.

Dr. Wijeratne developed, coordinated and taught international training courses intended to transfer the principles and practice of soybean processing technology to entrepreneurs form around the world.

He has provided technical assistance and consulting services for project development, industry evaluation, product diversification, feasibility studies and on-site assistance in start-up of soybean processing plants. In connection with professional activities, he has traveled to Bangladesh, Brazil, China, Colombia, Egypt, El Salvador, England, Ethiopia, Germany, Honduras, India, Indonesia, Japan, Kazakhstan, Kenya, Mexico, Pakistan, Philippines, Russia, Singapore, Sri Lanka, Thailand, Trinidad, Turkey, Vietnam, Ukraine and Zambia.

In addition to soybean processing, Dr. Wijeratne has research and manufacturing experience in fruit and vegetable processing technology.

Work Experience and Accomplishments:

Research and Development:
Research interests include functional grain-based food ingredients, non-solvent technology for soybean processing, improved technology for soymilk processing, soy-based yogurt products, soy-based ice cream products, soybean oil extraction by extrusion aided screw pressing techniques, all natural textured soy products, tofu, tempeh and other oriental soy products, and co-extruded products from soybean, cereals and food legumes.

Dr. Wijeratne researched on methods to improve the flavor profile of soymilk products for potential application in non-oriental countries. Picking up from the classical works of Mustakas, Nelson, Wei and Steinberg in the early 1970s, he developed ways to improve soymilk flavor and incorporated them into training programs. He explored formulation of soymilk to contain adequate solids, protein and fat for downstream processing into dairy analog products. He developed techniques for controlled thermal treatment of soybean to process tofu with milder flavor compared to the traditional oriental counterparts.

Dr. Wijeratne lead a long-term research project to extract oil from soybean by a combination of extrusion cooking and screw pressing. The process emerging from this work has been scaled up and commercialized in the United States and overseas. This has made available a technique for identity preserved processing of specialty soybean and other oilseeds on small scale in a completely chemical-free process. It has provided a technology appropriate for emerging agribusiness in developing nations. He has also extended this work to re-process the extracted soybean meal into textured soy products

for use as meat extender and meat substitutes. This technology is in commercial application.

In collaboration with researchers from other countries, Dr. Wijeratne worked on optimizing the use of soy flour in many food products including Chapaties, Gulab Jamun, Tortilla, Nshima, Rotties, Sweet goods, baked goods and pasta products. He also developed pre-cooked convenience food products from combinations of soybean and traditional food legumes consumed in developing countries.

Dr. Wijeratne conducted research to evaluate new soybean varieties developed through biotechnology and conventional breeding to assess their performance in food processing in comparison with the respective parent varieties.

Instruction/Training:
Dr. Wijeratne developed, executed and taught international training courses in soybean processing technology. These programs were conducted at the University of Illinois under the aegis of the International Soybean Program (INTSOY). Off-site programs were conducted in Sri Lanka, Zambia and Egypt. He instructed some 200 entrepreneurs, researchers and students from 25 countries who attended these training programs.

Technical Assistance Services:
Over the past 30 years, Dr. Wijeratne provided technical assistance/consulting services to private and public institutions, international research institutions, donor agencies and non-governmental institutions. In this regard he has traveled in Bangladesh, China, India, Pakistan, Philippines, Indonesia, Thailand, Singapore, Sri Lanka, Vietnam, Ethiopia, Kazakhstan, Kenya, Russia, Nigeria, Zambia, Zimbabwe, Ecuador, Colombia, Japan, Trinidad, Brazil, El Salvador, Turkey, Egypt and Ukraine. These services were provided jointly in the case of long-term projects and individually in the case of short-term projects.

Selected Individual Technical Assistance Services:
1. Bangladesh: Service provided to the Mennonite Central Committee (MCC) in Dhaka for a feasibility study on a small scale soybean processing project
2. China: Service provided to the Harbin City Government (Heilongjiang Province) on investigating shelf life problems faced by the local tofu industry.
3. India: Service provided to the International Crop Research Institute for the Semi Arid Tropics (ICRISAT) Center, Hyderabad, by participating in an expert consultative panel on food use of legumes. Collaborated with ICAR-Sponsored soybean development program in technology transfer.
4. Philippines: Service provided to Food and Agricultural Organization (FAO) Accelerated Soybean Production and Utilization Program (ASPUP) in project design.
5. Thailand: Service provided to FAO Regional Office for Asia and the Pacific by participating in an international expert consultative panel on development of a regional soybean network.

6. Sri Lanka: Service Provided to the Canadian International Development Agency (CIDA) soybean development program by equipment recommendations, on site assistance in installation and commissioning of a soybean processing plant.
7. Vietnam: Service provided to the Bich Chi Powder Factory, Bich Chi City, for supply of equipment, installation and commissioning of soybean processing plant.
8. Kenya: Service provided to Thomas N. Trone and Associates, Nairobi, for plant design and product formulation for manufacture of soy-based weaning food.
9. El Salvador: Service Provided to Planta Soyavyn (NGO), San Salvador, for development of a project plan on soybean processing and utilization.
10. Indonesia: Service provided to DAI/Ministry of Small Scale Agro-industry on upgrading the traditional tofu industry in the greater Jakarta area.
11. Brazil: Service provided to the Municipal Government of the City of Curitiba, Parana State, in development of soy-based food systems for nutritional improvement of the urban poor of the city.
12. Turkey: Service provided to the American Soybean Association Regional Office for Middle East and North Africa by presenting lectures on soybean processing for food and feed uses.

Selected Joint Technical Assistance Services:

1. Egypt: Served as team leader in a long-term project for introduction of soybean technology to Egypt. The three-year, $1.7 million project involving training of 35 persons, establishment of a center for technology transfer, coordination of business-to-business linkages between local and U.S. agribusiness, and conducting a series of seminars. Brazil: Services provided to Centro Nacional Pesquisa de Soja (CNPSo), Londrina, for design of a project on incorporation of soybean in an improved food system.
2. Ukraine: Assisted an U.S. agribusiness in the design and implementation of an USAID/CNFA-funded joint venture project proposal with Ukrainian partners for an integrated project involving soybean and corn production, processing and marketing. Following successful funding, provided processing plant design, equipment profile, and staff training services to the project.
3. Trinidad: Directed a regional workshop on soybean processing and utilization for Central America and the Caribbean under the auspices of the Illinois Soybean Association. The event was held in Trinidad in collaboration with Escuela Agricola Panamericana, Honduras, and the University of the West Indies in Trinidad.

Honors and Awards:

- UNDP/FAO Scholarship for masters degree program in India, 1968
- UNDP/FAO Fellowship for eight-weeks specialization on soybean processing technology, University of Illinois, 1976;
- International Atomic Energy Agency (IAEA) Scholarship for six-weeks training in food irradiation at Centro de Study Nucleari Della Cassaccia, Rome, 1978
- University of Illinois scholarship for postgraduate study, 1981-1984

Professional Associations:

- Institute of Food Technologists, USA
- American Oil Chemists Society
- Gamma Sigma Delta Honor Society of Agriculture, Illinois Chapter
- University of Illinois Alumni Association
- Soy Foods Association of North America

Selected Publications:

Functional Foods, Wilmot B. Wijeratne, 2000. Invited paper presented at Agro Tech – 2000, Trade Fair, Chandigarh, India. The Confederation of Indian Industry (CII), Northern Region (December 4)

Low Cost Technologies for soybean processing, Wilmot B. Wijeratne, 2000. Plenary Paper presented at the Third International Soybean Processing and Utilization Conference, Tsukuba, Japan (October 17)

Alternative Techniques for Soybean Processing, Wilmot B. Wijeratne, 2000. Invited Paper presented at the Regional Conference on Soybean Processing, Alexandria, Egypt. The American Soybean Association (July 18)

Soybean Processing for Food Production, Wilmot B. Wijeratne, 1999. Invited paper read at the Regional Conference on Soybean Processing for Middle East and North Africa, Istanbul, Turkey. The American Soybean Association (September 6)

Oilseed Processing by Dry Extrusion and Screw Pressing, W.B. Wijeratne, 1999. Invited paper read at the "SOYFOODS '99" Conference, International Quality and Productivity Center, Chicago, IL (April 28)

Alternative Technologies for Primary Processing of Soybean, W.B. Wijeratne, 1999. Invited paper presented at the World Soybean Research Conference-VI/"Global Soy Forum", Chicago, IL (August 4-7).

Extrusion/Expelling, a New Technology for Soybean Processing, Wilmot B. Wijeratne, 1998. Invited paper presented at the National Oilseeds Conference, Afyon, Turkey (November 20-22).

Role of Training in Processing and Food Use of Soybean: W.B. Wijeratne, 1996. Proc. Second International Soybean Processing and Utilization Conference. 149-154, Bangkok, Thailand

Soybean Processing and Utilization, A Training Manual: INTSOY, University of Illinois, 1995, ED. K. Tanteeratarm and W.D. savage (contributing author)

Processing of Soymilk: Problems, remedies and prospects: K.Tanteeratarm, W.B. Wijeratne, A.I. Nelson and L.S. Wei, 1994. Proc. World Soybean Research Conference – V, Chiang Mai, Thailand.

Effect of soy flour and Chickpea flour on the nutritional and sensory properties of Chapaties: R.N. Tripathy, K.C. Joshi, W.D. savage and W.B. Wijeratne, 1994. Proc. World Soybean Research Conference – V, Chiang Mai, Thailand.

Evaluation of commercial soymilks: D.B.T. Wijeratne, W.B. Wijeratne, A.I. Nelson, K. Tanteeratarm and L.S. Wei, 1994., ASEAN Food Journal

Effect of processing on the composition and texture of Egyptian white cheese supplemented with 10% soymilk: A.M. Hassenein, R. Jiminez-Florez, K.Tanteeratarm, K.E. Weingartner and W.B. Wijeratne. American Dairy Science Association annual meeting, Milwaukee, WI, July 1994

Effects of extrusion and expelling on the nutritional quality of conventional and Kunitz-Free soybeans: Y. Zhang, C.M. Parsons, K.E. Weingartner, and W.B. Wijeratne, 1993. Poultry Science, 72:2299-2306

Extrusion Expelling: A new method for soybean processing: W.B. Wijeratne, 1990. Proc. First International Conference on Soybean Processing and Utilization, Gongzhuling, China (PRC)

Utilization of Legumes as Food: W.B. Wijeratne, 1989. Proc. Expert Consultation on Grain Legumes, International Crop Research Center for the Semi Arid Tropics (ICRISAT), Hyderabad, India

Dry extrusion as an aid to mechanical expelling of oil from soybean: A.I. Nelson, W.B. Wijeratne, S.W. Yeh, T.M. Wei and L.S. Wei, 1987.J. American Oil Chemists Society, 64(9): 1341-1347

Papers Presented:
Over 20 invited papers presented at various forums including the Annual Convention of the Institute of Food Technologists, The Annual Meeting of the American Oil Chemists Society, International Soybean Processing and Utilization Conference, Regional Seminars of the American Soybean Association, International Training Programs at Texas A & M University and the University of Illinois, and Industrial Seminars of the International Quality and Productivity Council.

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