

Texas A&M University

Summary

Project Directors

Texas A&M University: Dr. Bhimu Patil, Director, Vegetable and Fruit Improvement Center (E-mail: b-patil@tamu.edu)

University of Agricultural Sciences, Dharwad, India- Dr. Sharangouda Patil, Vice Chancellor (E-mail: sapatil_uas@rediffmail.com)

Partnership Efforts to Improve Human Health: Education and Research Exchange among Faculty, Students and Industry Experts

Lead U.S. institution: The Texas A&M University, TX; **Lead Indian Institution:** University of Agricultural Sciences, Dharwad (UASD), India; **Other Co-operating U.S. institution: Other partners** are Monsanto Company, Chesterfield, MO; Karnataka Grape Growers Association, Bijapur, India; National Research Center for Sorghum, Hyderabad, India; Rallis, Research Institute, Bangalore, India; Shraddha Agri. Service and Consultancy, Hubli, India.

1. Targeting overall health **encompassing new strategies such as:**

- a) shifting from past production-oriented interventions of Green Revolution, to better marketing opportunities through producing food with healthful properties (objective 5)
- b) establishing national forums. initiate dialogues to promote and sustainability of Indian agriculture as a major driving force of global economy (objective 4)
- c) encouraging the use of cutting edge technologies (objectives 1-3, 5)
- d) integrating preventive health and nutrition education to improve human health and reduce child malnutrition (objective 5)
- e) expanding health and nutrition assistance into urban areas, beyond village setting where it is primarily based (objectives 6).

This multidisciplinary bi-national project with multi pronged integration of research, extension and education strategies aims to substantiate the health benefit claims and as a result lead to the promotion and popularization of certain indigenous Indian fruits, vegetables and whole grains rich in bioactive phytochemicals. **The project will thus lead to novel contributions through prevention and treatment of diseases, by opening windows of opportunities for a niche market with a premium price and added value for nutritionally rich crops that are part of Indian agriculture.**

The **overall goal** of this program is to understand the properties of bioactive compounds in vegetables and fruits, and the value of nutritionally enhanced grain crops through interdisciplinary research, teaching and extension efforts. The TAMU Vegetable and Fruit Improvement Center is the leader in establishing the first-of-its-kind interdisciplinary center in 1992 to link agriculture and medicine. This project will help in establishing a similar interdisciplinary center in the UASD. After achieving the “proof-of-concept” through the ongoing research and education at several interdisciplinary centers in the United States, the outcome will be used to develop educational modules and outreach materials targeting health professionals, Extension Agents, dietitians and the general public.

This project will enable to attract and support the students, faculty and industry experts in India through a comprehensive, multifaceted and culturally relevant educational and research programs to improve human health. The offered course curriculum will enable Indian youth to consider careers that deal with protection and conservation of the environment within the scope of agriculture, fiber and natural resources management. The **specific objectives** of this project are:

1) To expand the ongoing unique and successful multi-disciplinary, multi-state, and multi-institutional course entitled **“Phytochemicals in Fruits and Vegetables to Improve Human Health”** to the UASD.

2) To demonstrate the impact and success of interdisciplinary research and outreach activities to improve human health in the United States of America to the Indian students, faculty and industry representatives.

3) To implement joint graduate degree programs between TAMU and UASD.

4) To convene an international conference on **“Food for Health”** and establish national forums and discussion groups to promote human health.

5) To developing **educational aids on bioactive phytochemicals** in fruits and vegetables for specific target groups such as health educators, Extension personnel, dietitians, and educators of practitioners of dietetics, students, producers, and consumers.

6) To further expand TAMU **VICKids** program on health and nutrition education into urban areas in India beyond a village setting, where it primarily has been based, through **‘Eat a Rainbow’** and **‘What is a Serving’ target actions** and develop a CD-Rom of these activities.

This project will **develop**: 1) new relationships among the partners that will continue **beyond the grant period** to create synergism for continuous growth, 2) a unique educational approach for the interdisciplinary course to maximize program quality to improve human health, 3) unique educational videotapes, CD ROMs, and a home page on ultimate health benefits from fruits, vegetables and whole grains. The project milestones, achievements and roadblocks will be assessed at regular intervals throughout the project period to measure the degree of realization of each objective.

Dissemination plans include: 1) brochures, web-based fact-sheets, animations, training sessions, classroom lectures, face-to-face interactions, discussion groups and workshops, 2) Syllabi, course schedules, slide sets, and lecture notes will be posted on the web site, and 3) presentations and publications in conferences including ALO annual conference.

During 2001-2003, Texas A&M University hosted 55 visiting scientists and trained on different aspects of agriculture research.