



Cornell Institute of Food Science

The Cornell Institute of Food Science (CIFS) is a multidisciplinary team of faculty, staff, and students working together to advance Cornell's land-grant mission of teaching, research, and extension. It is an umbrella program with members coming from Cornell's two food science departments, one on the main campus in Ithaca and the other at the New York State Agricultural Experiment Station in Geneva, as well as from other departments with food science interests. Currently, CIFS membership numbers about sixty faculty and staff people from the following units: Food Science-Ithaca; Food Science and Technology-Geneva; Agricultural and Biological Engineering; Agricultural, Resource, and Managerial Economics; Animal Science; Chemical Engineering; Fruit and Vegetable Science; Horticultural Sciences; Nutritional Sciences; Plant Breeding; Psychology; and the U.S. Plant, Soil, and Nutrition Laboratory.

Vision

The Cornell Institute of Food Science will be the world leader in food science education and research for the benefit of people everywhere.

Mission Statement

The Cornell Institute of Food Science is an educational institute whose mission is to educate undergraduate and graduate students for careers in the food industry, academia, and government; to promote and facilitate research programs that will enhance the wholesomeness and availability of food and add value to raw agricultural products, with a particular emphasis on New York State products; and to transfer research-based information and technology to consumers and the food systems of New York State, the nation, and the world.

Core Programs

Teaching, research, and extension programs of CIFS are integrated through the educational mission that is fundamental to each of them.

- The **teaching program** is designed to support high quality instruction in food science for undergraduate and graduate students.
- The **research program** is designed to discover and apply scientific knowledge. Graduate students are integral to the research effort and this research experience provides a major part of their educational development and training.
- The **extension program** is devoted to extending knowledge generated through research to targeted audiences, including consumers, the food industry, and government agencies.

Three distinct programs that encompass the teaching, research, and extension efforts of faculty, staff, and students in CIFS have been established:

Food Quality Program. Food quality, a major factor affecting food choice by consumers, is determined by the appearance, flavor, aroma, texture, stability, and nutrient content of foods. The mission of this program is to enhance the quality of foods available in the market place through developing improved methods for measuring food quality, studying the physical and chemical factors that determine quality, and examining relationships between foods and health.

Food Safety Program. This is an inter-disciplinary program that integrates research, teaching, and extension to enhance the microbial and chemical safety of raw and processed foods. In cooperation with the food industry and regulatory agencies of New York State, the northeast, and the nation, the program focuses on understanding chemical, microbial, and environmental factors affecting the safety of foods.

Processing Technologies for Value-Added Food Products Program. This program focuses the efforts of several academic disciplines on the processing and manufacture of value-added foods and ingredients. Program activities are designed to help meet the growing demand for novel food products and processes in a cultural environment of increasing ethnic diversity, urbanization and sophistication, and a business environment of vigorous global competition.

Specialized Programs

In addition to its core programs, CIFS faculty and staff direct numerous specialized programs:

- **Cornell Analytical Laboratories.** Cornell Analytical Laboratories offer extensive analysis and methods development capabilities in compliance with Good Laboratory Practices. Pesticide and other chemical residues in raw and processed food products can be determined using modern analytical techniques. This laboratory also serves as the Northeast Regional Laboratory of the USDA IR-4 Program for the registration of minor-use pesticides.
- **Cornell Dairy.** The Cornell Dairy includes a licensed dairy processing plant, a dairy store, and an ice cream shop. It processes milk from the Cornell dairy herd, supplies dairy products to the campus, and assists with teaching, research, and extension programs.
- **Cornell Vinification and Brewing Technology Laboratory.** A 2,000 ft² pilot plant designed and equipped for fermentation studies. It is a premier site, serving winemakers, brewers, scientists, suppliers, and students, for collaborative research and development in winemaking and brewing arts and sciences.
- **Cornell Wine Research and Outreach Program.** This program supports the growth of premium farm wineries and large commercial wineries in New York State by disseminating current information about winemaking technology, by providing analytical services for trouble shooting and product development, and by conducting basic and applied research.
- **Food Processing and Development Laboratory (FPDL)-Ithaca.** The professional staff in the FPDL is available to assist clients ranging from the small entrepreneur to the large global company. Facilities include a 10,000 ft² pilot plant equipped with a wide selection of pilot-scale equipment, available for use by clients on a contract basis.
- **Fruit and Vegetable Technology Pilot Plant-Geneva.** A 10,000 ft² facility available to industry and devoted to the preservation and processing of fruits and vegetable products. Extensive equipment inventory can be arranged for a wide variety of processing, testing, and scale-up operations such as FDA required heat penetration studies in new or reformulated canned products.
- **Milk Quality Improvement Program (MQIP).** MQIP is a program funded by the New York State Milk Promotion Board. The objectives of this program are to assist New York State dairy plants in improving the quality of dairy products and to monitor and make recommendations to improve the quality of raw milk produced in New York State.
- **Northeast Center for Food Entrepreneurship (NECFE).** NECFE is a joint effort between the New York State Food Venture Center and the Center for Food Science at the University of Vermont. The NECFE provides comprehensive assistance through services, outreach and research to entrepreneurs starting food manufacturing businesses, thus promoting economic development in rural communities.
- **Northeast Dairy Foods Research Center (NEDFRC).** NEDFRC is a cooperative research and extension effort between Cornell University and the University of Vermont. Its purpose is to conduct dairy product research that will solve technical problems and enable the dairy industry to develop new dairy products that will satisfy changing consumer needs.

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