

NATIONAL FOOD RESEARCH INSTITUTE

Established: 1934

Location: 1-4-12 Shiohama, Koto-ku, Tokyo

Cable Address: FOODRESINST

Director: Tatsuo TANI

Total Number of Employees: 129 (Research personnel: 89)

Outline of Works:

The Institute conducts research on storage and extended utilization of agricultural commodities, domestic or imported, principally rice, wheat, barley, corn potatoes, soybean and other beans, fruit and vegetables. Post harvest and storage behaviors for better acceptance and processing qualities are studied. New technologies, as well as traditional including fermentation, enzyme applications, packaging, freeze-drying, CA storage and food irradiation are investigated. Foods, food products and processes are evaluated in terms of nutrition, sensory analysis, or deleterious contaminations.

Recent Principal Findings:

Manufacture of dextrose from sweet potato and corn starch.
Isomerization of glucose to fructose by enzymatic and alkaline processes.
Evaluation of eating qualities of different rice varieties by correlated parameters of physico-chemical and sensory analyses.
Freeze-drying of foods and food materials.
New textured food materials from soybean.
Nutritional evaluation of cereal proteins in respect to amino acid balance.
Characterization of microorganisms on cereal grains in storage.
Clearance of aflatoxin contamination in commercial traditional fermented foods.
Methodology of sensory analysis of foods.
Application of texturometer to food texture and rheology.
Post harvest behavior of fruits and vegetables under low-temperature distribution systems.
Sprout inhibition of potatoes and onions by irradiation treatment.
Gamma-ray induced high-protein mutants of rice varieties.
Analysis of international food consumption patterns by computer simulation.
Heavy metals contaminating in foodstuffs.
Quality changes in film-packaged foods.

Publications:

Report of the National Food Research Institute. (In Japanese with English summary, annual, free exchange)
Food-Its science and technology. (In Japanese, annual)
Series for Extension of Food Technology. (In Japanese, annual)

Organization and Main Research Themes:

- General Administration Division (2 sections)
- Research Planning and Coordination Division (2 sections)
- Grain Storage and Processing Division (4 laboratories)—Physical and chemical properties of cereal grains, principally rice and wheat, in connection with processing and storage; Control of insect pests and microorganisms during the storage of cereal grains.
- Food Processing Division (4 laboratories)—Physical and chemical

- Director—studies of starches and starch derivatives; Starch-sugar interconversion in intact potato tuber; Automated sugar analysis of honey; Baking and enzyme applications; Fats and oils.
- Horticultural Food Division (3 laboratories)—Post harvest properties, utilization and processing of fruits and vegetables; Freeze-drying and freezing of food products; Controlled atmosphere storage.
- Fermentation Division (5 laboratories)—Improvement and standardization or traditional fermented food manufacture including *Shoyu* and *Miso*; Fermentation and food microbiology in general; Mycotoxins in food-stuffs; Microbial resources development including single-cell proteins.
- Nutrition Division (4 laboratories)—Nutrition of cereal proteins; Amino acid composition of food proteins; Biochemistry and histochemistry of soybean seed protein body; Processing of soy proteins; Food packaging related to quality change.
- Food Analysis Division (5 laboratories)—Instrumental analysis of food components and contaminants; Sensory analysis of foods and food products; Food standards and food additives; Application of ionizing radiation to food preservation, and pest control.
- Shinjo Branch (1 section and 4 laboratories) (Shinjo City, Yamagata Prefecture)—Chemical composition, quality and processing technology of horticultural products.