

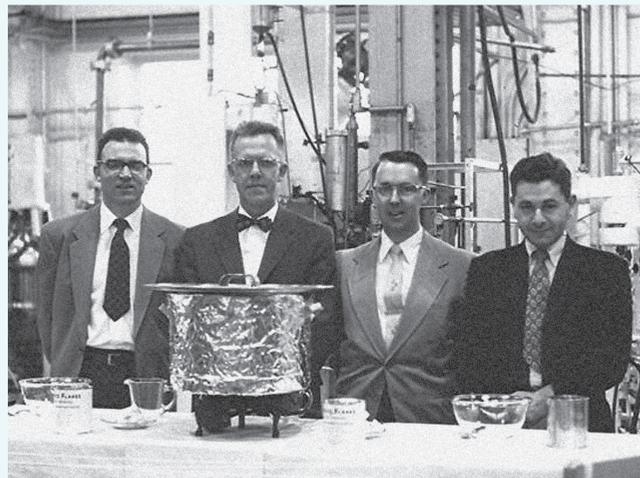


Agricultural Research Service

Eastern Regional Research Center (ERRC)

Historical Achievements

- National Historic Chemical Landmark Award for developing a dehydration process for creating instant potato flakes
- Developed tanning procedures that increased leather stability and strength
- Developed methods to produce lactose-free dairy products
- Developed procedures for creating low-fat cheese
- Developed a safer process to cure meats without nitrosamines



Prototype drum drier for producing dehydrated potato flakes.



Lactose-free milk products derived by ERRC research.

Current Research Units

- Molecular Characterization of Foodborne Pathogens
- Residue Chemistry and Predictive Microbiology
- Dairy and Functional Foods
- Sustainable Biofuels and Co-Products
- Biobased and Other Animal Co-Products
- Food Safety and Intervention Technologies



Adjusting pyrolysis conditions while the reactor is loaded with bioenergy feedstock.



Examining oysters before transport to the laboratory to detect disease-causing viruses and bacteria.

Pilot Plant Facilities and Equipment

- 20,000 sq. ft. pilot plant
 - Food and bio-based processing
 - Dairy processing
 - Grains
 - BSL-2 containment
 - Fermentation
 - Tannery
 - Sensory lab
- Drying: spray, shelf, freeze, tray, drum, and convective
- Batch and continuous chemical reactions
- Fermentation
- Evaporation
- Size reduction, mixing, and classification. Dry and wet milling
- Ultra-high pressure system Parr CO₂ extraction
- Oil extraction and purification
- Extrusion and molding
- Dairy processing: milk processing, cheese making and testing, rheometers with mixing, film coating, microfiltration and microfluidization
- Pasteurization: hot water, UV, CO₂, RF, PEF, VSV flash, HTST-UHT, and hyperbaric systems for liquid and produce
- Integrated liquid processing line
- Dry-grind ethanol processing and distillation
- Thermochemical bio-mass to bio-oil conversion (Fast Pyrolysis)
- Hide processing
- Controlled environment testing; Tensile, shear, cyclic, burst, flex, abrasive, and acoustic

