



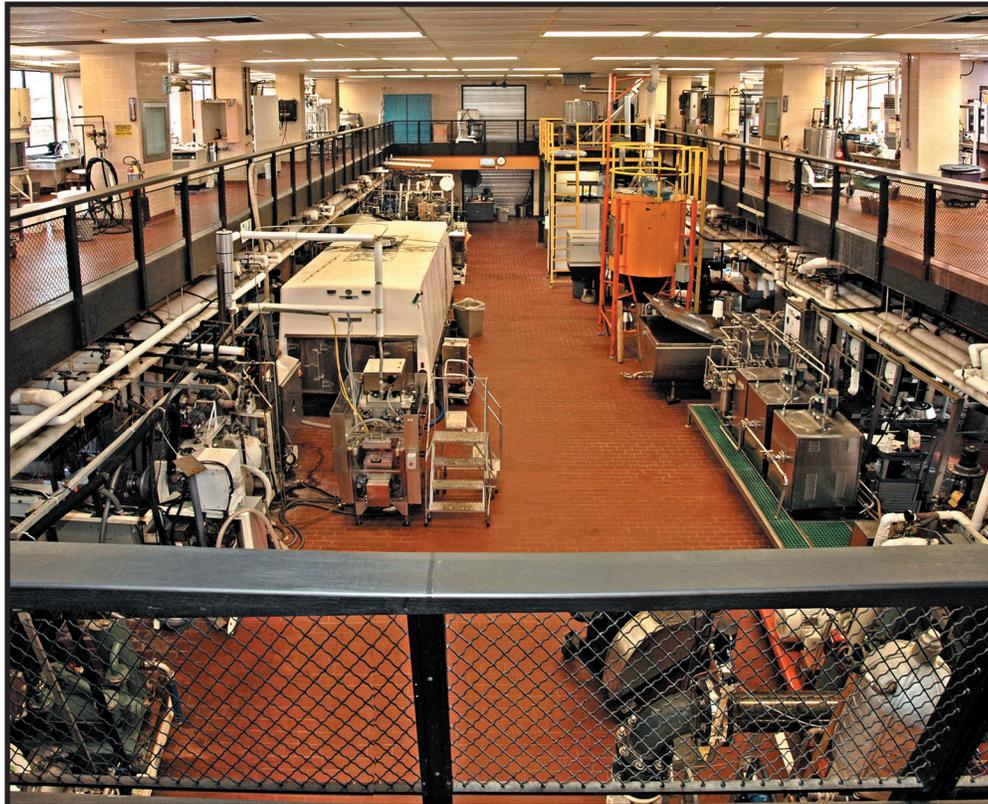
## EASTERN REGIONAL RESEARCH CENTER

*Where people and facilities are in place to conduct research programs of national importance.  
We welcome opportunities to collaborate with sister agencies, academia, and industrial partners.*

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# ERRC Pilot Plants and Facilities



More than 20,000 sq. ft. of space with utilities and equipment for research  
at pilot and near commercial scales.

Food and bio-based processing pilot plant (10,000 sq. ft.); Dairy processing pilot plant (2,000 sq. ft.),  
Center of Excellence in Extrusion and Polymer Rheology (CEEPR);  
Grains pilot plant (2,000 sq. ft.); BSL-2 containment pilot plant (2,000 sq. ft.);  
BSL-2 challenge facility (2,000 sq. ft.); Bio-Fuels pilot plant (1,000 sq. ft.); Tannery (3,000 sq. ft.)

# ERRC Pilot Plant Equipment

## Bio-Based Products

Size reduction and mixing devices  
Batch and continuous chemical reactors, 1 to 1000 L  
Evaporators  
Dryers: shelf, freeze, tray, drum, and belt types  
Dry and wet milling systems  
Oil extraction and purification

## Bio-Fuels

70 L Continuous Dry Grind Ethanol Processing Facility  
60 L and 300 L Fermentation Systems  
3" Pilot Scale Pyrolysis and Gasification Reactor  
Pilot Scale Bio-Fuel Centrifuges and DDGS Dryers  
Numerous Pilot Scale Mills for Feedstock Reduction and Fractionation  
Ethanol Co-Product Extraction and Purification Systems

## Dairy Processing Technologies

Fluid milk and food processing  
HTST-UHT pasteurizer  
Microfiltration systems  
Universal pilot plant system for milk processing  
Microfluidizer  
Spray dryers  
Ultra-high pressure (UHP) system (QFP-6,2 L vessel)  
Parr vessels for super critical CO<sub>2</sub> extraction and reaction

### Cheese plant

Kusel vats

### Extrusion and molding (CEEPR)

Twin screw extruders (APV MPF-50, W&P ZSK-30)  
Injection molder (Demag)

### Mathis laboratory film coater

## Food Safety Technologies

### Produce safety

BSL-2 containment pilot plant  
Dump-tank hot water surface pasteurizer  
Produce washers: brush, rod/reel, and vibration types

### Juice and beverage safety

Integrated process and packaging line, 200 L/h  
Pulsed electric field system  
Radio frequency electric field system  
Dense-phase carbon dioxide system  
Aseptic bag filler

### Meat & ready-to-eat product safety

Vacuum-steam-vacuum flash pasteurizers  
UV belt-tunnel

## Tannery

### Tanning drums

10 10-L (Dosemats: 4-in-1 and 6-in-1)  
4 pilot-scale drums (max. capacity 2 to 4 sides)

### Side production equipment for fleshing, wringing, splitting, drying, staking, and milling

Molissa staker, dryers (toggle, paste, Cartigliano vacuum)

### Finishing spray booth

### Constant temperature/humidity room

### Mechanical property testing equipment

