

ERRC Highlights: 1940–2000			
Year	Innovation	Outcome	Links
1940s	Key advances in synthetic and natural rubber.	U.S.-made synthetic rubber production increased from 18 million to 2 billion pounds annually, an achievement essential to the Allied victory during World War II.	Penicillin and the War Years (pdf) ; scroll to page 7, “Wartime Rubber Research.”
1950s	Key food-processing steps led to instant mashed potatoes.	The new instant mashed potatoes represented a \$400 million annual business, reversing a downward trend in U.S. per capita consumption of potatoes.	White Potatoes (pdf)
1960s	Lightweight, porous “puffed” foods.	Revolutionary dried-foods process preserves flavors and nutrients and led to cost-effective explosion-puffed commodities, such as blueberries used in muffin mixes.	John F. Sullivan, batch explosion-puffing system.
1960s	Method to keep concentrated milk from gelling in cans after sterilization.	Adding polyphosphates as a stabilizer in evaporated milk extends the length of time after canning before the onset of thickening. The practice, which allows canned milk to keep pouring longer, has been adopted by industry.	Milk & Dairy Products (pdf)
1980s	Dairy products are available today for the millions of consumers who have a deficiency of the enzyme that allows them to digest milk sugar called lactose.	Scientists used an enzyme, called lactase, from nonhuman sources to break down about 70 percent of milk sugar (lactose) into the simpler sugars—glucose and galactose. These lactose-free products nourish dairy-intolerant consumers.	Milk & Dairy Products (pdf) Lactase enzymes evaluated
1980s	Textile process for bleaching tough stains from wool destined for fine apparel.	Resulted in a very white wool, free of dark fibers, that is both cost-effective and competitive with foreign imports.	Wool and Mohair (pdf)
1990s	Low-fat mozzarella cheese.	Tasty, healthier mozzarella cheese with only 10 percent fat—about half the fat of regular mozzarella—became available to schools in 1995.	Celebrating 15 Years of a Healthy School Lunch Option
1950s – 1990s	Advanced U.S. leather tanning technology and safety while reducing pollutants and recycling byproducts.	From new leather tanning agents to creating safer work environments, ERRC discoveries led to a range of new products from durable shearlings—or tanned sheepskin with the wool still attached—to protectants for historical, leather-bound books.	Leather and Hides (pdf) USDA Scientists Turn Hide-Tanning Waste into High-Value Products
1990s	Pathogen Modeling Program (PMP), an online suite of food-safety models.	Helps researchers predict pathogen behavior in foods that contain spoilage organisms. Accelerates use of predictive food-safety models by food-industries. New and updated predictive data continue to be added to the PMP.	Poultry Pathogen Models for Predictive Microbiology Integrated Pathogen Modeling Program PMP Models