MULTISTATE RESEARCH FUND
IMPACTS

Research ensures a safe, nutritious, tasty bounty for Thanksgiving.



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Multistate projects have made poultry production more efficient and profitable. Research on poultry genetics, nutrition, and housing has improved poultry health and welfare. For example, researchers made genetic discoveries that will help breed turkeys resistant to toxic molds in feed, which would save the industry millions of dollars each year. Studies also revealed factors that influence turkey meat texture and tenderness. To prevent food safety issues, scientists have evaluated prebiotics, antimicrobial sprays, and electrostatic sprayers.



Researchers have found ways to prevent food safety issues in berries, including a tool that helps growers detect fruit fly infestations, a quick test for *Listeria* and *Salmonella*, and practices that reduce pathogens in berries.

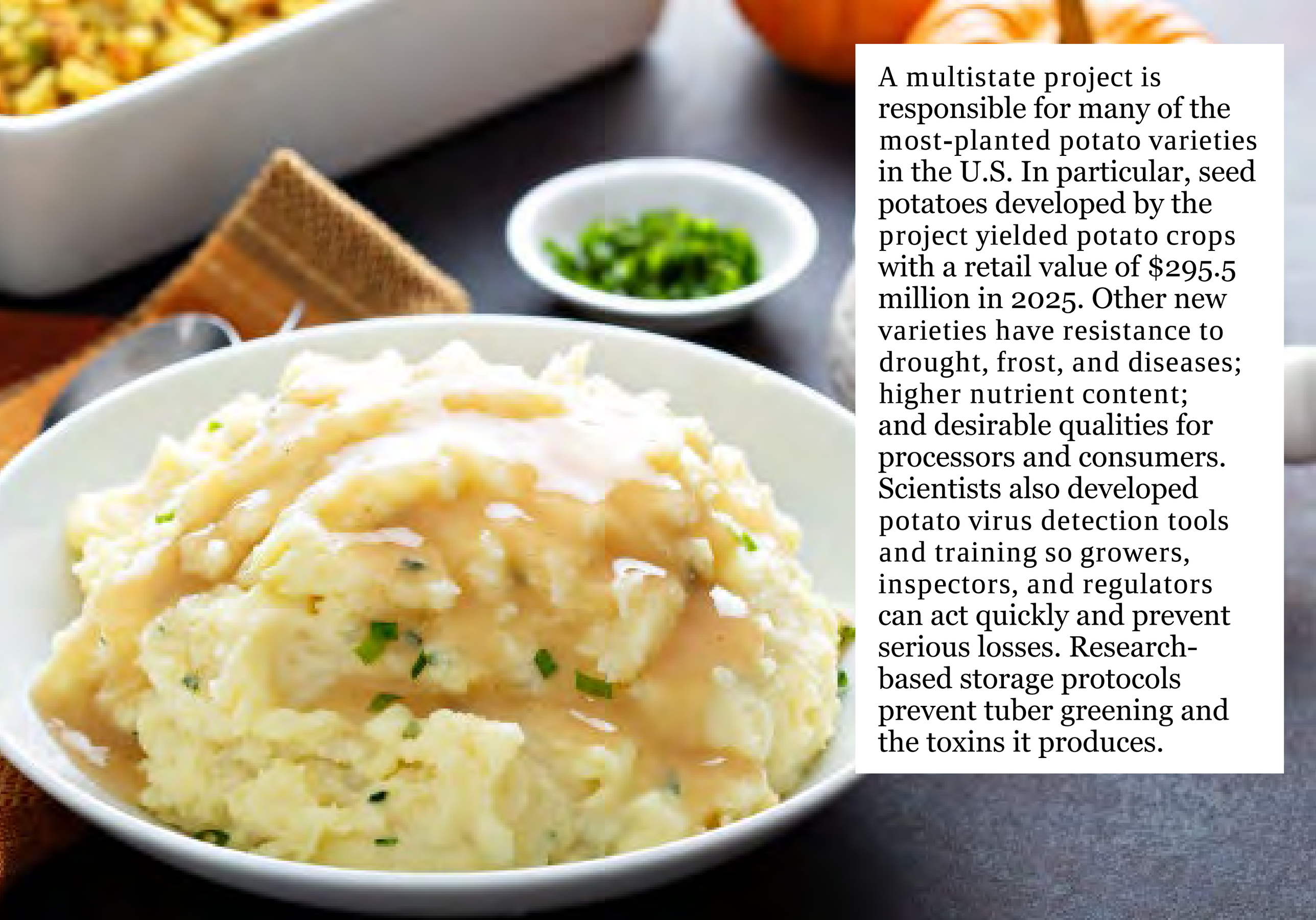
Researchers have found strategies that protect pig health and welfare, improve feed efficiency, and enhance producer profitability. Other studies discovered ways to stabilize the color of pork cuts.

Research has led to sweet potato varieties with disease resistance, environmental adaptations, and desirable color, texture, and taste. Other studies showed cover crops can improve sweet potato yields. To rapidly and accurately assess sweet potato growth, scientists developed sensor and imaging systems.
To overcome labor shortages and sort sweet potatoes during harvest and processing, scientists designed machine vision and automated robotic systems. Other studies explored how carotenoids (the natural orange pigments in sweet potatoes) protect against obesity, nonalcoholic fatty, liver disease, and chronic inflammation associated with Type 2 diabetes.



Working together, scientists have bred beans with higher resistance to pathogens and tolerance to heat, drought, and flooding. Researchers also developed strategies to manage plant-parasitic nematodes (microscopic worms) that damage beans.



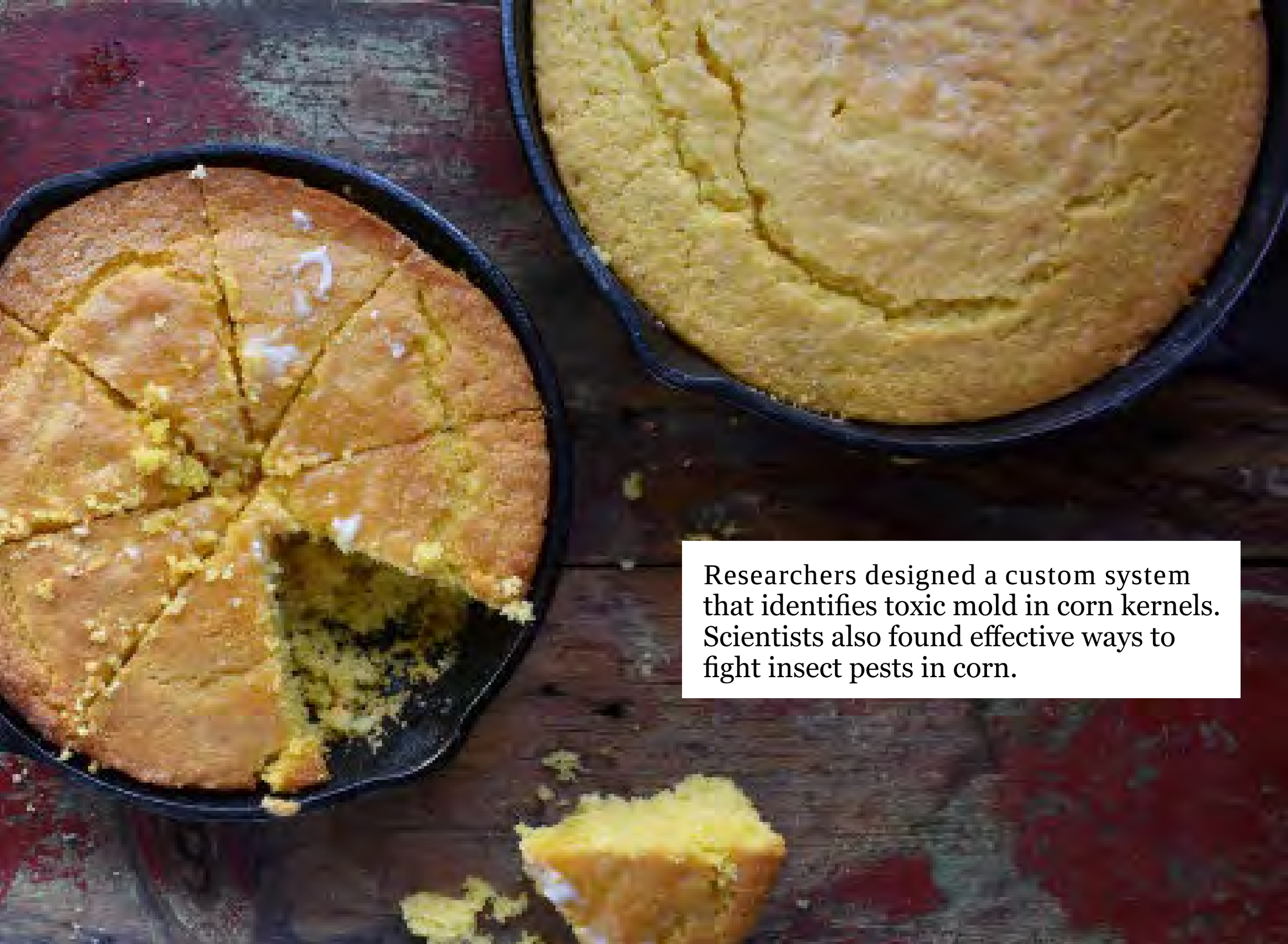


A multistate project is responsible for many of the most-planted potato varieties in the U.S. In particular, seed potatoes developed by the project yielded potato crops with a retail value of $295.5 million in 2025. Other new varieties have resistance to drought, frost, and diseases; higher nutrient content; and desirable qualities for processors and consumers. Scientists also developed potato virus detection tools and training so growers, inspectors, and regulators can act quickly and prevent serious losses. Research-based storage protocols prevent tuber greening and the toxins it produces.

Researchers showed that carotenoids (natural pigments in carrots and other orange vegetables) influence immune response and could be used in interventions that mitigate obesity, cancer, inflammatory bowel disease, heart disease, and more.



Researchers studied the survival and transfer of pathogens during processing of leafy greens and showed how temperature affects pathogen growth in leafy greens. Other scientists developed a method for irradiating complex-shaped fresh fruits and vegetables like spinach and broccoli, which are easily damaged by traditional sanitation methods that use heat.



Researchers designed a custom system that identifies toxic mold in corn kernels. Scientists also found effective ways to fight insect pests in corn.

Scientists developed wheat with high lysine, an essential amino acid with many health functions. Other research studied *Salmonella* survival in flour and showed grain processors best practices to prevent outbreaks of toxic molds.



To control weeds and improve pumpkin yield and quality, researchers developed cost-effective biodegradable plastic mulch. Scientists also designed an automated, robotic device to rapidly and accurately gather data in pumpkin fields.

Researchers developed innovative treatments that reduce *Salmonella* in spices and other low-moisture foods, which are difficult to sanitize with traditional methods.



New apple tree rootstocks have increased apple yields by 20% and apple size by 10%, resulting in gains of over $200 million. Other projects designed a mechanized harvest-assist device that can eliminate ladder falls and increase the number of apples harvested per second 50%. Growers are using recommended treatments and protocols to prevent spoilage while storing apple crops worth tens of millions of dollars.



Multistate research has helped predict, detect, and manage pecan pests. Over the years, these efforts have helped save the U.S. pecan crop from devastating injury.



Researchers found ways to reduce fungal infections in barley during malting, keeping beer free of the toxic molds. Other scientists are breeding desirable hop varieties.

Multistate research is helping wine grape growers in the U.S. select varieties that suit their growing conditions, have higher yields, and produce wines that are desirable to consumers and competitive internationally.