

From Labs to Lives

How Research Funding Solves Real-World Problems

USDA-Funded Research Advancing Sustainable Food Systems

At UC Davis, Professor Md Shamim Ahamed develops engineering solutions to help grow food more efficiently in greenhouses and indoor farms. His federally funded research focuses on controlled environment agriculture, where temperature, light and water are carefully managed to produce in places facing climate stress, water shortages and extreme heat. A key challenge is energy, which can make up nearly half of the cost of indoor food production.

Helping Humanity

Ahamed designs smart greenhouse materials that deliver the exact light plants need while reducing excess heat. His team has developed glazing systems that can cut energy and water by up to 50 percent. These advances can lower food costs, reduce water use and help farmers produce food year-round in changing climates. Federal funding allows this long-term work to continue, ensuring practical solutions reach farmers and communities that depend on stable, affordable food supplies.

// Federal funding is critical to finding solutions that will work for farmers over the long term. It has allowed us to develop technologies that can reduce both energy and water use by up to 50 percent.”

— Md Shamim Ahamed, Ph.D.



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