

Protecting Arizona farmworkers from rising temps

ASU researchers looking for solutions to support one of the state's most essential workforces

By Faith Kearns, ASU News
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By mid-morning in an Arizona field, the heat is already intense. For many young farmworkers, who are part of the essential labor that keeps Arizona's agricultural system running, the workday unfolds under relentless sun.

New research from Arizona State University, published in the [Journal of Agromedicine](#) and [WIREs Water](#), offers a clearer picture of how heat and water access affect worker health, and where practical solutions can make a difference.

The work, supported by [Arizona Water for All](#), a pillar of the [Arizona Water Innovation Initiative](#) led by the Julie Ann Wrigley Global Futures Laboratory in collaboration with the Ira A. Fulton Schools of Engineering, reflects ASU's commitment to supporting Arizona's communities and industries through research-driven solutions. For agriculture, that means supporting both productivity and worker well-being in a warmer, more water-constrained future.

Arizona agriculture is central to the state's economy, relying on more than 160,000 workers to sustain a multibillion-dollar industry. Many of those workers are Latino, including adolescents and young adults who contribute to physically demanding work in temperatures that can exceed 115 F.

"Farmworkers are essential to our food system," said [Fiorella Carlos Chavez](#), assistant professor in community health at ASU's Edson College of Nursing and Health Innovation. "Our research helps us better understand their experiences so we can support safer, more sustainable working conditions."

Understanding heat risks to support worker safety

In a study, led by Carlos Chavez, of 180 Latino farmworker adolescents and young adults in Arizona, more than half reported experiencing at least one symptom of heat-related illness, including muscle cramps, dizziness, nausea and hot, dry skin. Many also described working in environments where risk is a routine part of the job.

“These findings can help us identify where additional support can make a difference,” Carlos Chavez said. “They’re about improving conditions for workers and employers alike.”

The study found that longer work hours and financial responsibilities were associated with higher rates of heat-related symptoms. For many, the need to keep working can outweigh concerns about personal health.

Workplace practices also present opportunities for improvement. While many participants reported receiving safety instructions, fewer described consistent access to ongoing safety meetings or a strong sense of control over their own safety decisions. Strengthening training and communication, along with encouraging regular breaks during peak heat, can help reduce risk while supporting productivity.

Water access as a pathway to resilience

The research highlights water access as a key area for supporting worker health, showing that reliable access to safe drinking water is closely linked to reducing heat-related risks.

Even when water is available, factors such as break timing or distance to water sources can affect how consistently workers are able to hydrate. Addressing these barriers can reduce dehydration and improve overall well-being.

“Water is one of the most practical ways to protect workers in extreme heat,” Carlos Chavez said. “Small improvements in access and use can have a meaningful impact.”

The research also considers broader workforce dynamics, helping identify solutions that are realistic and culturally appropriate, as well as adaptable across different agricultural settings.

Partnering toward solutions in a changing environment

As extreme weather becomes more frequent and water resources remain under pressure, supporting farmworker health is an increasingly important part of agricultural resilience. Farmworkers already face elevated risks from heat exposure, and Arizona continues to experience significant impacts from extreme heat.

Federal guidance, including OSHA’s recommendations for water and shade, offers a practical framework that can help employers reduce heat-related risks in the field.

For ASU researchers, these findings point to opportunities for collaboration among growers, policymakers, researchers and local communities. Building on existing efforts, including improving access to water in the field and reinforcing heat safety practices, can help strengthen both worker well-being and the long-term sustainability of Arizona agriculture.

“We work alongside communities and industries to generate knowledge that leads to practical solutions,” Carlos Chavez said. “This research helps identify ways we can support both workers and the agricultural system they sustain.”

[Amber Wutich](#), director of Arizona Water for All and Regents Professor and President's Professor in the School of Human Evolution and Social Change, emphasized that improving water security is a shared priority with wide-reaching benefits.

“When we ensure reliable access to safe water, we’re supporting workers and strengthening communities while helping sustain Arizona’s agricultural future,” Wutich said. “These are practical, achievable solutions that make a real difference on the ground.”

This story originally appeared on [ASU News](#).

Main image



Farmworkers in a field near San Luis, Arizona. Photo courtesy of Adrian Laborin and Fiorella L. Carlos Chavez

Text image(s)



Water insecurity is a key determinant of heat-related illness risk among Latino farmworkers in Arizona. Limited access to safe drinking water, combined with extreme heat and demanding labor, contributes to dehydration and physiological strain, increasing vulnerability and undermining safety. Photos courtesy of Adrian Laborin and Fiorella L. Carlos Chavez