

The NMSU Farmington Agricultural Science Center (ASC) conducts research to support fundamental and applied science and technology research to benefit New Mexico's citizens in the economic, social, and cultural aspects of agriculture, natural resource management, and family issues.

Research is conducted in soil and crop evaluations and their intersect with community wellness, economic development potential, water conservation, and environmental stewardship.

VISION

Building agricultural and community resilience with innovative science that respects regional cultural values in the Four Corners Region (Navajo Nation and beyond).

MISSION

The mission of the New Mexico State University Agricultural Science Center at Farmington is to conduct research, demonstration, and educational programs that will best fill the needs of the agricultural community of San Juan County and the Navajo Nation in particular, and the State of New Mexico, Four Corners Region, and United States in general. -1968 Charter

ONGOING RESEARCH

While the Farmington ASC is a physical location located about 10 miles south of Farmington, its research, educational, and outreach activities extend well beyond into the surrounding Four Corners Region. The core activities focus on agronomic and horticultural cropping systems and into several multi-disciplinary transects with community development, health, and resiliency themes.

Specific ongoing studies include, potato response to irrigation and nitrogen fertilizer are being investigated with the intent of exploring the best intervals of water and nitrogen input to ensure water and fertilizer conservation while maintaining high yield, quality, and improving crop water productivity.

Farmington features one of three ASC vineyards established in the state testing 12 table grape varieties, grown using a "Y" trellis system. Other trials of specialty crop evaluations include ancient and heritage grains, chili pepper, jujube, and cherries.



VALUE ADDED TO NEW MEXICO

- Center pivots and drip irrigation
- Specialty, commodity, cover crop, and certified organic crop production
- Agroforestry; Environmental and agricultural soil quality monitoring
- Agricultural Photovoltaics

The College of Agricultural, Consumer, and Environmental Sciences is an engine for economic and community development in New Mexico, improving the lives of New Mexicans through academic, research and Extension programs.

ACES Pillars for Economic and Community Development



RECENT IMPACTS

- Farmington ASC viticulture enables the evaluation of potential wine and table grape varieties for fresh market sales, local consumption, and quality commercial wine production. Sensory evaluations with students determined high likability of fresh, locally produced table grapes. Impacts can contribute to a diversified, value-added product allowing commercial winemakers across the Four Corners to expand agritourism opportunities.
- An investigation was launched to establish the first and second-year optimum nitrogen fertilizer application rate of corn after 3 to 5 years of irrigated alfalfa production. Findings could potentially increase corn growers' net economic returns while reducing contamination of soil and groundwater from applied nitrates.
- Few healthy eating, school-based interventions have been rigorously evaluated in American Indian communities. Type-2 diabetes is a serious issue on the Navajo Nation and a multi-billion dollar healthcare burden. Since 2009, Farmington ASC faculty have been partnering with Public Health researchers from the Fred Hutchinson Cancer Research Center to examine the transects of horticulture and diabetes risk reduction through the Yéego! Healthy Eating and Gardening curriculum. Implemented in Shiprock, Chinle, and surrounding communities, students in the intervention schools, ate significantly higher servings of fruits and vegetables than those in comparison schools, with impacts to reduce type-2 diabetes risk and associated health care costs in youth and their families, with the ultimate goal of impacting public policy across the Navajo Nation.

COMMUNITY OUTREACH

Farmington ASC community engagement occurs at multiple scales, from backyard gardens to center-pivot field production. Field days and farmer visits form the basis for traditional place-based outreach. This outreach-oriented research enables Farmington ASC faculty to work with communities to address solutions that promote both gardening and healthy eating among Navajo elementary school children and their families. The Farmington ASC continues to assist farmers with understanding the impacts of the Gold King Mine spill of 2015. The impact of this work aids a broader effort in San Juan County, NM to reduce the stigma of the spill and build resiliency and economic growth of Northwestern NM's agricultural sector. Of note, the Farmington ASC is participating in the National Science Foundation funded Transformation Network led by University of New Mexico. With > 50 faculty across six universities and community partner, the Transformation Network's aim is to promote cross-disciplinary, convergence research in watershed sustainability across the intermountain western U.S. This work supported the Indigenous Farmer's Needs assessment survey in 2024 to guide future research in controlled environment agriculture, soil health, and food/energy/water nexus topics.

