ACES NM STATE MAGAZINE

COLLEGE OF AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES

VOLUME 13 | FALL 2025

NMSU rodeo wins big at college finals

SADDLE UP!

Josh Bachman

HEART-TO-HEART CONVERSATIONS

Santa Fe County 4-H member Johni Gallegos, center, listens to NMSU President Valerio Ferme speak as part of the From Campus to Community: NMSU Extension Impact Tour. Read more about the tour on Page 34.

FROM THE DEAN

It is with great pride and excitement that we share with you the fall 2025 edition of *ACES Magazine*. This issue highlights many of our programs that are making a significant impact on New Mexico's youth, the state's economic development, and the education of students who have chosen ACES as their academic home.

In these pages, you can read about our newest Ph.D. program, statewide projects like 4-H and FFA, outreach activities and groundbreaking research across various disciplines. You can also get to know some of our students and learn about their successes in diverse areas, such as the rodeo team, which proudly represents NMSU at the highest levels.

We are equally proud of the transformative work carried out through our Extension programs, which reach more than 600,000 New Mexicans every year. These efforts include partnerships with Native American communities and critical evaluations of environmental challenges. This summer, NMSU President Valerio Ferme visited all 33 Extension offices and experienced first-hand the breadth and depth of our programs and their impact on communities.

This issue also highlights the extraordinary students, faculty and alumni who elevate our college. One exemplary alumna was Rose Marie Valdes Pangborn. The daughter of an immigrant father from Chihuahua, Mexico, and a mother from Las Cruces, Pangborn became a renowned and beloved researcher in the science of sensory analysis.

We hope you enjoy this edition of *ACES Magazine* as much as we have enjoyed bringing it to you. May the remainder of this year bring success and inspiration. We look forward to welcoming you to our open house next spring.

Rolando A. Flores Galarza
Dean and Chief Administrative Officer

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FALL 2025

ON THE COVERS

Front: NMSU student Kate Wiening performs during the NMSU rodeo team's home rodeo. Read more about the team's historic 2024-2025 season on Page 30.

Back: Shad Cox observes a herd of cattle at the Corona Range and Livestock Research Center. Read more about the center on Page 20.

NMSU photos by Josh Bachman

Luis Ochoa Cadena is pursuing a Ph.D. in applied and agricultural biology, a new program offered by the Department of Entomology, Plant Pathology and Weed Science.

Josh Bachman

FILLING THE GAP

NMSU launches first Ph.D. in applied and agricultural biology

BY KARMINA CONDE

NMSU has a long, rich history of advancing agriculture in New Mexico. It is now planting seeds for its newest legacy as the Department of Entomology, Plant Pathology and Weed Science unveils its first Ph.D. in applied and agricultural biology.

The new program is a milestone that not only celebrates NMSU as a leading institution for research and education but reaffirms its commitment to addressing agricultural challenges in the Southwest. Its first cohort started this fall.

The program trains students how to evaluate harmful organisms and develop tools to protect agriculture, food security and human health. Students also study beneficial species and discover ways to conserve their ecological benefits, including natural pest control. It provides research assistantships and undergraduate teaching opportunities, helping students build both scientific expertise and professional experience.

Ricardo Ramirez, EPPWS department head, said the new degree fills a long-standing gap in the department's academic offerings. He spoke from his experience of getting his bachelor's and master's degrees at NMSU but going out of state for his doctorate.

"Just from the outside looking in and being a student here previously, I could see that there was a need for a Ph.D. program," Ramirez said.

The idea for the Ph.D. program originated within the department, Ramirez said, as faculty recognized the importance of offering an advanced research path to develop future leaders in applied biology. Stakeholders at all levels had expressed a clear need for a program tailored to New Mexico. The department also offers two bachelor's degrees and a master's degree.

Josh Bachman

From left, Ochoa Cadena, Lohith Siva Venkata Ramakrishna Koyya, Ram Singh Insa and EPPWS Department Head Ricardo Ramirez. The three students are part of the first cohort in the new Ph.D. program.

"It helps us attract New Mexico students because now that we have the opportunity here, we can keep the expertise in New Mexico," Ramirez said.

Colorado State University has a similar program, but what's unique about the one at NMSU is its emphasis on cross-training students into a single doctoral program to address challenges unique to the Southwest.

Critically, the program supports sustainable and value-added agriculture, one of the nine priority sectors for economic growth in New Mexico. Each student's dissertation will be rooted in research that contributes to the state's agricultural economy, tackling threats impacting farms and ecosystems across the state. Graduates will be prepared for careers in research, public service, regulatory compliance, higher education, chemical industries and professional consulting.

"One of the most important components of our training is knowing how to approach questions when things go wrong," Ramirez said. "For instance, with pest outbreaks, how do we actually figure out and manage what's there and come up with a solution or develop tools to solve the problem? That's what we're trying to train our students to become: leaders and practitioners helping a farmer or homeowner faced with these issues."

The program's long-term vision is to produce professionals capable of leading complex biological work that supports the health of agriculture and communities alike. It also reflects the university's commitment to grow local talent and contribute to a stronger statewide economy.

"We want our students to be leaders as they move on to their careers," Ramirez said, "and we hope that some of those careers are here in New Mexico. But also, if there are other opportunities in other places where our graduates are leaders, that shows New Mexico in a really good light."

BEAUTY *in* BUGS

Insect-inspired student art takes flight in Skeen Hall

BY TATIANA FAVELA

Whether they have colorful wings, multiple legs or eyes, or even stingers on their behinds, insects serve an essential purpose – and their beauty has inspired a new permanent wall exhibit in NMSU's Skeen Hall.

Titled "Insects in Art," the exhibit is a kaleidoscope of more than two dozen paintings, drawings and mixed-media pieces created by NMSU students over the past eight years. It came together through a collaboration between Scott Bundy and the University Art Museum.

Bundy, a professor in the Department of Entomology, Plant Pathology and Weed Science, teaches an undergraduate course designed to expose students to the world of insects and other arthropods living in various environments. The class, which is open to students from all academic backgrounds, includes a creative assignment where students draw inspiration from insects to craft a visual art piece.

"I've been doing it for several years, and every year, I get some cool art that people come up with," Bundy said. "I've been wanting to display it for years, to have a place to say, 'Look how amazing insects are,' and to show the things people have done in my class."

The exhibit features more than two dozen paintings, drawings and mixed-media pieces created by students over the past eight years.

Courtney Uldrich, collections curator at the University Art Museum, led the team tasked with bringing the exhibit to life along a second-floor wall in the northeast corner of Skeen Hall. Uldrich's team also included Maya Jo Yurcic, curatorial intern, and Olivia Juedeman, collections assistant.

"I was given the opportunity by Courtney to take the lead on this project from start to finish," Yurcic said. "This included creating an inventory list for all the artworks, designing the artwork layout on the wall, creating object labels and a title design on vinyl, and installing the works with the help of my colleague, Olivia Juedeman."

Juedeman added, "Together, we installed around 25 pieces using security hardware. While installation can be tedious, Maya Jo's meticulous pre-planning of the layout made the process go by fast."

From left, Maya Jo Yurcic, Courtney Uldrich, Scott Bundy and Olivia Juedeman. Bundy teamed up with Uldrich, Yurcic and Juedeman to create the exhibit.

Some of the artwork dates to 2017 and includes sketches, paintings and 3D pieces that capture the diversity and detail of insects.

"I've always looked forward to new things students come up with, and some of them have really impressive artistic abilities," Bundy said. "Students come from all over campus – some are art students, and others are not, but they just have an inspiration to create something. It's amazing to see the differences in talent and how they interpret their inspiration from insects."

Bundy hopes the exhibit will lead to future collaborations with the University Art Museum.

"We all have our different expertise, and mine is insects, and I love to show how photogenic and amazing they are," he said. "I'm excited to continue doing more of those types of things."

He added that the exhibit will grow and change over time, with the addition of new student artwork.

"I am a staunch believer that everyone is an artist, and I am so glad to see that Dr. Bundy also sees that in his students and was able to display their work in such a lively and accessible way," Yurcic said. "Collaborations like this, between the University Art Museum and the larger NMSU campus, are so special, and we invite them to happen as often as possible."

Atcitty continues mission of IRD

BY TATIANA FAVELA

Cherylin Atcitty has dedicated much of her career to preparing the next generation of Native professionals to manage tribal lands and natural resources. Now the director of Indian Resources Development at NMSU, Atcitty supports Native students and tribal communities in developing leadership skills that balance cultural heritage with technical expertise in land stewardship.

"For the past year, I have had the privilege of working with tribes across New Mexico to promote educational opportunities and support workforce development in agriculture, natural resources, engineering, energy and business," Atcitty said.

IRD works to increase the number of Native students pursuing careers in natural resource management.

With a bachelor's degree in biology and a master's degree in environmental science, Atcitty brings a wealth of experience to her role. Raised on the Navajo Reservation and currently living on tribal Pueblo lands, she understands the importance of serving tribal nations.

"When I first read the job description for the IRD specialist role, I felt as though it had been written specially for me," she said. "The mission of IRD aligns perfectly with my core values of land stewardship, service to tribal communities and a deep commitment to uplift our youth. I knew this was where I could make the greatest impact."

Under Atcitty's leadership, IRD aims to support students of all experience levels, including those who may not yet realize the value of their skills, and build lasting relationships with tribal communities.

Josh Bachman

Cherylin Atcitty has served as the director of Indian Resources Development since 2023. IRD is a statewide program housed in the College of ACES.

"Whether it's supporting youth programs, helping coordinate career pathways or partnering on community-based projects," she said, "IRD is here to help as a bridge between tribal nations and higher educational institutions."

Castillo returns to NMSU to lead 4-H

BY TIFFANY ACOSTA

Growing up in Hatch, New Mexico, Jaime Castillo was a member of FFA, and during a routine meeting as a freshman, Castillo met a man who steered him toward his professional career.

"My inspiration to go into ag education and Extension began with Dr. Leon Wagley," he said, referring to the former head of NMSU's Department of Agricultural and Extension Education. "From that day forward, Dr. Wagley would send me holiday cards and call my parents to check on me and my academic progress."

Because of that connection, Castillo earned his bachelor's and master's degrees at NMSU and a Ph.D. at Ohio State University – all in agricultural education.

After college, Castillo worked for NMSU's Cooperative Extension Service as an Extension specialist and 4-H agent in Otero County prior to a 20-year career with the United States Border Patrol. He returned to NMSU in April 2025 to serve as the department head for 4-H Youth Development.

"I was fortunate to have had many diverse experiences while working as a USBP agent, throughout the United States and internationally," Castillo said. "These experiences allow me to approach Extension and 4-H Youth Development from a different perspective."

As department head, Castillo seeks to enhance training and development opportunities for 4-H personnel and agents; foster greater collaboration between the state 4-H office and county 4-H agents; and expand resources to reach new audiences, among other priorities.

Josh Bachman

After a 20-year career in law enforcement, Jaime Castillo joined NMSU in 2025 to serve as the department head for 4-H Youth Development.

"Jaime has brought a breadth of experiences that are needed to lead 4-H in New Mexico," said Jon Boren, director of NMSU's Cooperative Extension Service and associate dean for the College of ACES. "He is a valued member of our leadership team."


Josh Bachman

Ian Ray, left, and Christopher Pierce were among the recipients of the 2025 NMSU Intellectual Property Award for their work as part of NMSU's Alfalfa Variety Team.

IP Award honors research team behind climate-ready alfalfa

This spring, NMSU's Alfalfa Variety Team received the 2025 NMSU Intellectual Property Award. The team consists of three ACES researchers: Ian Ray, emeritus professor of agronomy; Christopher Pierce, Plant and Environmental Sciences ag research specialist; and Soum Sanogo, professor of entomology, plant pathology and weed science.

Presented by NMSU's Arrowhead Center and the Office of Research, Creativity and Strategic Initiative, the IP Award recognizes NMSU faculty or staff who have developed intellectual property and demonstrated work to realize societal, industrial and commercial benefits.

"I was very pleased when the NMSU Arrowhead Center notified me that our team was selected for our diligent work in commercializing the outcomes of our alfalfa breeding and genetics research," Ray said. "Alfalfa plays a critical role in ensuring the sustainability of U.S. and New Mexico agriculture by diversifying crop rotations, providing highly nutritious livestock feed and enhancing soil quality."

In 2024, the Oregon-based cooperative Mountain View Seeds received the seed production and marketing rights to "NuMex 501," "NuMex 801" and "NuMex 802" under the branding of Climate Ready Alfalfa. All three varieties are suited for different climate zones in New Mexico and regions outside the state with similar climates.

Conner bids farewell to ACES after six years


Josh Bachman

Donald E. Conner retired from NMSU in June 2025 after a six-year stint as an associate dean and director of academic programs for the College ACES.

Conner joined the ACES leadership team in May 2019. He was the college's top administrator for its eight academic departments, the NMSU rodeo team, and the New Mexico Agricultural Education and FFA Association office. His responsibilities also included promoting academic achievement, fostering teaching excellence and leadership, and directing the college's recruitment, retention, advising, scholarship, internship and ambassador programs.

"Under his guidance, ACES programs flourished," College of ACES Dean Rolando A. Flores Galarza said, "and his approachable leadership style left a lasting impression on faculty, staff and students, who have always appreciated his dedication, kindness and unwavering support."

Conner came to NMSU via Auburn University, where he had been a faculty member since 1989.


Courtesy

From left to right, starting from bottom row: Karim Martinez, Dianne Christensen and Rick Griffiths. Second row: Amber Benson, Desaree Jimenez and Michelle Stizza. Third row: Phillip Alden, Augusta Ahlm and Gabriel Gomez. Fourth row: Crystal Anaya Garcia, Bryce Jorgensen and Erin Smith. Fifth row: Esther Hernandez, Cindy Davies and Jamie Ortiz. Sixth row: Katherine Turner, Laura Bitner and Joy Czmyrid.

NMSU Extension personnel earn accolades at national conference

The National Extension Association of Family and Consumer Sciences honored several NMSU Cooperative Extension Service agents and specialists during its annual session in September 2024.

"The awards showcase the abilities, quality program efforts and collaborative teamwork that Extension professionals bring to the FCS profession, NMSU and their communities," said Kelly Knight, family and consumer sciences agent in Otero County.

The award recipients included:

Karim Martinez, family life and child development specialist, received the Continued Excellence Award. Martinez and her colleagues also won the national Communications Television/Video Award for their video and social media campaign, "On Common Ground – Mental Health in Rural New Mexico."

Rick Griffiths, family and consumer sciences agent in San Juan County, received the Distinguished Service Award. Griffiths also was honored as the outgoing NEAFCS president.

Dianne Christensen, family and consumer sciences agent in Bernalillo County, and her team earned a third-place award for their "Living Well with Inflation" series.

Bryce Jorgensen, family resource management specialist, also received four individual awards at the state and regional levels.

Robinson wins honorary FFA degree


Courtesy

NMSU's Chaddy Robinson was among a select group of agricultural educators who received the 2024 Honorary American FFA Degree from the National FFA Organization.

Robinson, an associate professor in the Department of Agricultural Economics and Agricultural Business, teaches courses in agricultural marketing, business and management. She also advises the NMSU chapter of the National Agri-Marketing Association.

Active in FFA since 2012, Robinson works closely with the state FFA office and the state FFA sales team. She helps prepare the sales team for national FFA competitions and assists the state office with the Ag Sales and Farm Business Management contests. She develops scenarios for both contests using real-world situations.

"There is nothing that empowers youth like FFA," Robinson said. "It is an incredible organization, and I am so proud that I get to work with these leaders, students and families. As an NMSU faculty member, mother and community member, I believe FFA is the flagship that we should all strive to follow."

Roberts takes AXED in a new direction

BY KARMINA CONDE

The Department of Agricultural and Extension Education at NMSU began a new chapter in January 2025 with the appointment of Richie Roberts as department head.

"One of our primary goals is to continue to increase our undergraduate enrollment," Roberts said. "We're trying to increase opportunities for students, so they have positive experiences while they're here on campus."

Months into his new role, Roberts is taking the department in a new direction. His top priority is providing high-impact educational experiences to students through undergraduate research opportunities, internships and study abroad education. He has already expanded access to graduate education.

"We've moved our graduate programs so they're fully in NMSU Global Campus, and we've seen a massive growth," Roberts said. "When I got here, there were five students on the Global Campus, and now, we have 44 already."

Roberts is also working to establish a new doctoral program, a move that could further strengthen AXED's graduate offerings and reach in New Mexico.

Before joining NMSU, Roberts held faculty roles at North Carolina Agricultural and Technical State University and Louisiana State University. He previously taught courses in agricultural teacher preparation, Cooperative Extension Service, leadership, history, philosophy, service-learning, grant writing and other areas.

Josh Bachman

Richie Roberts joined the Department of Agricultural and Extension Education in January 2025 as department head, succeeding Steve Fraze.

Originally from Lane, Oklahoma, Roberts began his career teaching secondary agricultural education before entering higher education. He earned his bachelor's, master's and doctoral degrees from Oklahoma State University, where he studied STEM integration and leadership development in agricultural education.

With energy, experience and a student-first mission, Roberts is guiding AXED into a promising era of innovation and impact.

Torres takes over academic programs

BY TATIANA FAVELA

Robert Torres has returned to the campus where his academic journey began – this time to lead. Torres joined NMSU in June 2025 to serve as the new associate dean and director of academic programs for the College of ACES. He brings a dedication to advancing student and faculty success and upholding the college's land-grant mission.

Torres earned his bachelor's degree in agricultural and extension education in 1986 and a master's degree in the same field in 1987, both from NMSU. He then completed a Ph.D. in agricultural education at Ohio State University in 1993.

His nearly four-decade career has included faculty, research and administrative roles at NMSU, the University of Missouri and the University of Arizona.

In his new role, Torres oversees all undergraduate and graduate academic offerings within ACES, guiding curriculum and faculty development, student recruitment and retention, accreditation and faculty engagement. He works with department heads, faculty, staff and students to ensure programs remain innovative, inclusive and aligned with workforce and community needs.

"The academic programs office is the foundation of ACES, connecting NMSU's land-grant mission to the real-world aspirations of students and the evolving demands of industries," he said. "Through our diverse majors, we prepare students for meaningful careers, advanced studies and civic engagement."

Josh Bachman

Robert Torres returned to the College of ACES in June 2025 to serve as the new associate dean and director of academic programs.

His priorities include strengthening student recruitment and retention, expanding experiential and career-based learning, building interdisciplinary partnerships between and among academic units, and empowering faculty as educators and mentors.

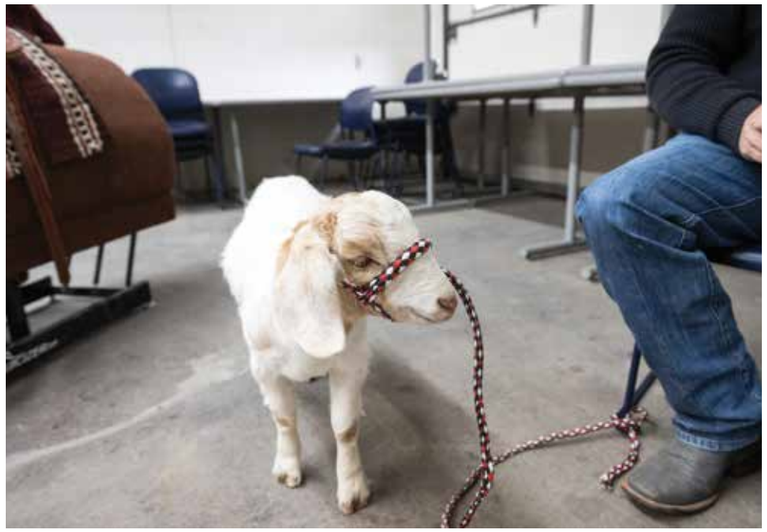
"Ultimately, I want every student who enters NMSU to feel seen, heard, supported and well-prepared to thrive in their field and make a positive impact in their communities," he said.

COURTING a CROWD

On the first Saturday in April, a buzz of excitement permeated the air outside NMSU's Gerald Thomas Hall as curious visitors mingled with staff, faculty and students from the College of ACES. It was the 2025 ACES Open House, which featured indoor and outdoor booths, live mariachi music, ballet folklórico performances, a drone demonstration, a display of amphibians and reptiles, and many hands-on educational activities.

Each spring, the College of ACES opens its doors to the public to showcase its cutting-edge programs and facilities. Now a flagship event for the college, the annual open house draws hundreds of people to NMSU, raising the profiles of the college's academic, research and outreach units and their work in fostering economic and community development in New Mexico. The next open house will take place on April 25, 2026.

Photos by Josh Bachman



TRACKING CHANGE

NMSU researchers monitor effects of wind turbines on ground-dwelling mammals

BY ADRIANA M. CHÁVEZ

Home to Pattern Energy's Western Spirit Wind, the largest single-phase renewable energy build-out in the Western Hemisphere, central New Mexico has quickly become a hub for wind energy development.

Wind farms like Western Spirit Wind – a portion of which sits on NMSU's Corona Range and Livestock Research Center – consist of dozens, if not hundreds, of towering wind turbines.

However, little is known about the effects of turbines on wildlife, particularly mammals living on the ground. Conversely, scientists around the world have extensively studied turbines and their effects on birds and other flying animals.

A project led by two researchers in the College of ACES and funded by the Bureau of Land Management aims to shed some light on how turbines can potentially change the habits of ground-dwelling mammals, either positively or negatively. The study has been underway at the CRLRC since 2023.

"There has been a massive proliferation of wind turbines that have very much altered the landscape out there," said Jennifer Frey, a co-principal investigator on the project and professor in the Department of Fish, Wildlife and Conservation Ecology. "Science has already established that wind turbines can be a problem for animals that fly because they have collisions or are impacted by the propellers. What we don't know is whether or

Josh Bachman

From left, Gabriella Gaytan, Matt Becker and Iona Rohan assemble a camera as part of a research project to track ground animals at the Corona Range and Livestock Research Center.

Still images of wildlife roaming across the Corona Range and Livestock Research Center. Jennifer Frey and Theresa Laverty are leading a research project to understand how ground animals are affected by wind turbines at the center.

not the wind infrastructure has an impact on wildlife living on the ground."

Frey is collaborating on the project with Theresa Laverty, an assistant professor in the Department of Fish, Wildlife and Conservation Ecology, and three students: Iona Rohan, Matthew Becker and Gabrielle Gayton. To understand how ground animals are affected by the turbines, the researchers have set up dozens of remotely triggered cameras across the wind farm.

"Some of the species we're focusing on are game species, since the Bureau of Land Management wants to know about impacts on species that are economically important to the state," said Laverty, a co-principal investigator on the project. "By using cameras, we're able to look at a wide variety of species and how they are all being affected, or maybe not being affected."

The research team initially set up about 70 cameras equipped with infrared sensors that can detect and photograph moving wildlife. In 2025, the team placed an additional 20 cameras on public and private lands. Rohan worked with private landowners to get permission to install cameras on their land.

"We're trying to determine what kind of behaviors we can categorize from the photos, whether the animals are foraging, being vigilant, moving quickly, or if they're bedded down and relaxed," said Rohan, a graduate student studying wildlife science.

"It's important to look at ground-dwelling animals because the turbines are very large structures on the landscape that might affect their movement," she added. "While ungulates, or hooved animals, in the northern United States are migratory, here ungulates are not, so they may experience different effects based on the turbines being on their home range year-round."

Becker, another graduate student studying wildlife science, began working on the project this summer. He said the team is also looking for avoidance behaviors and working to understand if those behaviors are related to the turbines' proximity and density.

"When I first came out here, I was really struck by seeing the wind turbines and getting a feel of their magnitude," Becker said. "If wind energy is part of the future, it's important to understand how the overall environment is impacted."

According to Frey, past research found species like pronghorn and mule deer have negatively reacted to the presence of humans, roads and oil development in other areas, all of which have been a concern to the Bureau of Land Management.

"They're mandated to manage livestock grazing and wildlife, and make sure there's healthy and vibrant populations of wildlife," Frey said. "We want to understand the specifics of how wildlife species are reacting to the wind turbines. Wildlife might change the habitats that they're using, they might change where they occur as a reaction to the wind turbines, or they might alter their behavior and suddenly become more active at different times of the day. This kind of information can help with the planning of how wind facilities are built in the future."

The project will continue through summer 2027.

Above: Gaytan, left, is an undergraduate student studying fish, wildlife and conversation ecology. Becker, center, and Rohan, right, are both pursuing master's degrees in wildlife science.

Below: Becker sets up a study area at the Corona Range and Livestock Research Center.

Josh Bachman

ON THE *RANGE*

BY ADRIANA M. CHÁVEZ

NMSU's Corona Range and Livestock Research Center consists of a nearly 28,000-acre working ranch laboratory located about 8 miles east of Corona, New Mexico.

Since its founding in 1980, the center has traditionally provided research opportunities to study cattle, sheep, goats, wildlife, rangelands and fire science. But, in 2021, it introduced renewable energy into its research portfolio – thanks to Pattern Energy's wind farm, some of which runs across the center's land.

"We are a hub for community engagement and education, and our primary mission is to increase and enhance the understanding of woody brush invasion, hydrology, cow-calf production and big-game management," said Shad Cox, who has served as the center's program operations director for 31 years. "We also strive to find innovative ways of improving economic development in rangeland-bound communities."

Shad Cox, program operations director at the Corona Range and Livestock Research Center, drives through the center's property in July 2025.

In September 2017, the center joined Pattern Energy's endeavor to build a wind farm in the Corona area through a public-private partnership. Construction on the wind farm began in November 2020 and wrapped up a year later. In total, Pattern Energy built 39 wind turbines on the center's land and hundreds more in surrounding areas.

The project has had many benefits since coming online, Cox said. It showcases 21st-century enterprise opportunities for area landowners and ranchers while providing outreach and education for FFA and 4-H youth, NMSU students studying livestock and rangelands management, and stakeholders across the Southwest – all via the Southwest Center for Rangeland Sustainability, the center's outreach arm.

Beyond renewable energy, the center also focuses on digital agriculture. Research teams have studied GPS-enabled ear tags, which monitor wildlife and cattle movements, as well as Smart Feeders, which can read an identification tag on an animal's ear and supply them with a particular supplement, among other projects.

"This research uses cutting-edge technology and novel feeds and formulations to improve beef cattle production on rangelands," Cox said.

For more information about the center, visit corona.nmsu.edu.

Top: Cox inspects one the center's Smart Feeders, which read identification tags on cattle ears and supply the animals with a particular supplement..

Bottom: The center sits 8 miles east of the village of Corona, New Mexico, and boasts a newly constructed office with indoor and outdoor classroom spaces.

Adedeji Okunkenu, a graduate research assistant in the Department of Plant and Environmental Sciences, holds soil samples for a study examining the effectiveness of AquaSteady, a seaweed-based water absorbent.

FROM SEA TO SOIL

NMSU joins team studying seaweed-based hydrogel that may improve crop production

BY CARLOS ANDRES LÓPEZ

As farmers in climate-stressed regions struggle with limited water resources, scientists are looking to the sea for a solution to improve water retention in soil for crops.

The Pratt Institute in New York City has assembled a coalition of researchers and institutions to develop seaweed-based water absorbents that can balance soil moisture, allow crops to withstand droughts between irregular rainfalls, and reduce the need for irrigation.

NMSU is among the collaborators on the project, funded by a $5 million grant from the National Science Foundation.

Okunkenu, left, and John Idowu, a professor and agronomist in the College of ACES, are part of a team of researchers working on a Pratt Institute project to study AquaSteady as a possible solution to improve water retention in soil for crops.

At NMSU's Leyendecker Plant Science Research Center near the Las Cruces campus, John Idowu leads a team of researchers studying AquaSteady, a natural hydrogel made from alginate extracted from brown seaweeds. The hydrogel can be sustainably farmed while sequestering carbon and removing excess nutrients like nitrogen and phosphorus from oceans.

"The objective of our study is to utilize AquaSteady as a soil amendment to address the challenges of drought and excessive water," said Idowu, a professor and agronomist in the College of ACES. "Hydrogels can capture water from rain or irrigation and release it during dry periods, thus making water available for plants."

Idowu said NMSU researchers began testing AquaSteady in powder and granule forms in January 2024. The team includes Sangu Angadi, a professor and crop physiologist; Murali Darapuneni, an assistant professor of semi-arid cropping systems; and Israel Joukhadar, an assistant professor.

The team focused its studies on investigating AquaSteady's effects on soil health and crop growth in greenhouses. It also looked at how crop roots respond to AquaSteady application. The researchers conducted their first experiments in a laboratory at Leyendecker, where they identified optimal rates of AquaSteady before moving to greenhouse and field testing.

"Our laboratory experiment documents the impact of the hydrogel on soil health parameters since the material is an organic product that adds carbon to the soil," Idowu said.

The initial studies yielded promising results. The researchers found AquaSteady can help double the soil water-holding capacity and lead to a reduction in irrigation requirements of crops. They also found that AquaSteady usage significantly improves soil health.

"We observed a higher population of soil microorganisms and an increased presence of arbuscular mycorrhizal fungi in the soil amended with AquaSteady," Idowu said.

To help understand AquaSteady's behavior during irrigation cycles, a postdoctoral researcher conducted an additional laboratory experiment over the summer to see how the product responds to successive drying and wetting phases.

At the same time, Idowu's team analyzed additional soil health indicators to further assess the impact of AquaSteady on soil health and examined its effects on the growth of bell peppers in a greenhouse study. The researchers have also partnered with other institutions and seaweed farmers along coastal areas in the United States to conduct further research.

"AquaSteady may be able to deliver dual benefits for crop production in New Mexico," Idowu said. "Apart from its potential to improve soil water retention, it could also increase microbial activity in the soil, leading to better soil health in agricultural fields. This could be a critical water management strategy for soils in New Mexico."

NMSU researchers found AquaSteady can help double the water-holding capacity in soil, reduce irrigation requirements for crops and improve soil health.

A group of NMSU students spent three weeks this summer traveling across Puerto Rico, interviewing coffee farmers and collecting data on the island's coffee industry.

Josh Bachman

COFFEE CULTURE

NMSU students venture to Puerto Rico to meet farmers reviving an old industry

BY CARLOS ANDRES LÓPEZ

Despite persistent climate challenges, severe labor shortage and steep production costs, a small but dedicated group of coffee growers in Puerto Rico is breathing life into an industry that began on the island in the 18th century.

At its peak, in the late 19th century, Puerto Rico produced more than 30 million pounds of coffee annually, according to public figures. That changed when the United States annexed the island in 1898, and coffee production began to plummet.

More than a century later, Puerto Rico's coffee industry is once again picking up steam, with an estimated 4,000 coffee growers producing 3 million pounds of coffee each year.

This summer, four agricultural business students from NMSU immersed themselves in Puerto Rico's coffee industry. They spent three weeks traveling across the island, meeting coffee growers, conducting research and building professional networks as part of the Multicultural Online Digitally Enhanced Experiential Learning program, or MODExl. The program is a collaboration among NMSU, Arizona State University and the University of Puerto Rico at Mayagüez.

MODExl is funded by the National Institute of Food and Agriculture's Higher Education Challenge and designed to prepare students for careers in food, agriculture, health and natural resources. Participants build analytical and global competencies

through multidisciplinary online training and experiential learning activities.

"When we were writing this proposal, we wanted to provide students with an opportunity to visit and experience a different Latin American culture," said Carlos Carpio Ochoa, head of NMSU's Department of Agricultural Economics and Agricultural Business. "Puerto Rico was a perfect fit because it's a U.S. territory with a long history of producing coffee."

During the spring 2025 semester, the NMSU cohort, which included Denisse Banuelos, Sarah Fox, Joe Koenig and Julian Martinez, prepared for the monthlong trip by taking an online class taught by faculty from the participating universities.

The online class covered topics such as research protocols and procedures, data collection, the history of Puerto Rico's coffee industry and other relevant areas. Carpio Ochoa and Alwin Dsouza, an assistant professor of agricultural economics and agricultural business, were among the NMSU faculty who helped teach the class.

Soon after arriving in Puerto Rico, the students began collecting research, accompanied by Eduardo Medina of NMSU's Extension Economics. They also met and worked closely with students from ASU and the University of Puerto Rico at Mayagüez.

"We spent two days in San Juan before driving to Mayagüez on the west coast," Banuelos said. "From there, we started hitting the pavement, going to different coffee plantations. We visited seven different farms, some of which had roasting operations and processing facilities. That was very cool to see. Then, over the next three weeks, we talked to more than 30 farmers in person, documenting their experiences in the industry."

Fox said most of the farmers the group met were more than willing to speak about

Eduardo Medina

The students traveled to Mayagüez, on Puerto Rico's west coast, where they interviewed more than 30 coffee farmers and documented theirexperiences in the coffee industry.

Josh Bachman

From left, Carlos Carpio Ochoa, Julian Martinez, Sarah Fox, Denisse Banuelos, Joe Koenig, Eduardo Medina and Alwin Dsouza. Martinez, Fox, Banuelos and Koenig are NMSU students who participated in the MODExl program this earlier this year.

their successes and struggles. Many openly discussed topics like labor shortages, immigrant workers and climate challenges, as well as planting techniques, growing subsidies and cultural traditions.

"A few of them expressed that they're extremely proud of what they do, but a lot of them acknowledged that it is extremely hard work," Fox said. "In one of my interviews, a farmer mentioned that he would love to keep growing coffee and keep his farm running in his family. But he also said he doesn't want his children to be constantly struggling, especially after hurricanes and tropical storms. He wants his children to have more stability and find different work, which is a big factor in labor issues."

Fox and the other students compiled their interviews and other data into posters they presented at ASU after returning to Las Cruces. NMSU and ASU students concluded the trip with visits to their respective campuses, giving a glimpse of life at each university.

Martinez said the trip enriched his understanding of the research process and opened his eyes to different cultures. He added that he plans to pursue additional research opportunities while at NMSU.

"It was such an eye-opening experience and sparked my interest in research," he said.

For Koenig, one of the highlights of the trip, beyond interviewing farmers, was swimming in Puerto Rico's bioluminescent bays.

"We were swimming in glowing waters – it was just the coolest experience I've had, seeing the fish underneath us," he said.

Carpio Ochoa said his department is working to offer more experiential learning activities.

"This was such a great success," he said, "and we want to give more students a chance to travel and experience industries and cultures outside of New Mexico."

Ashley Parker and other members of the NMSU rodeo team make their grand entrance at the team's home rodeo in April at the Southern New Mexico Fair and Rodeo grounds.

Josh Bachman

ALL-STARS *in the* ARENA

NMSU rodeo team rides to historic wins

BY TATIANA FAVELA

From left, NMSU rodeo team members Katelyn Detweiler (breakaway roping) and Mollie Ruth (goat tying) compete at the team's home rodeo in April.

With grit and determination, the NMSU rodeo team wrapped up its 2024-2025 season in championship style by securing regional titles and celebrating its first national champion since 2011.

"It was an outstanding year," head coach Brice Baggarley said. "The men's team went undefeated all season and was ranked second nationally going into the College National Finals Rodeo in Casper, Wyoming. The men finished first, earning the title of Grand Canyon Regional Champions, while the women placed second in the region."

NMSU had one of the largest teams at the 2025 CNFR, with 15 Aggies competing in 18 events. Four students – Annie Alexander, Nate Clark, Cassidy Bradshaw and Brad Moreno – advanced to the short round.

"In our region, the top two men's and women's teams get to send full-points teams to the college finals – so that's the goal all season," Baggarley said.

Moreno became the first NMSU Aggie in 13 years to bring home a national title. He captured the All-Around Cowboy title and placed third in bull-riding and roping alongside teammate Lucas Cruz. He and Cruz also finished in fourth place in the second round of team roping.

"I've been part of rodeo since I was a baby," said Moreno, who graduated in May 2025 and now competes professionally. "I won a lot of cool titles my last year at NMSU, but practicing with a goal and having fun kept me sharp."

Bradshaw also made her mark at the 2025 CNFR, placing sixth in breakaway roping.

"I've been rodeoing for almost 15 years," she said. "Winning the region by over 200 points and making the short round at nationals was a goal I've had for a long time. It's a reward for all the hard work my family, horses and I have put in. I'm proud to wear an NMSU vest."

Baggarley attributes the team's success to its tight-knit culture and shared work ethic.

"The camaraderie has been there, and I've been fortunate in my four years coaching that our teams have all been very close," he said. "They all grind so hard. Keeping the fun in it was important this year, not just for the coaches, but for the teams."

Echoing Baggarley's sentiment, Bradshaw said, "Work ethic reflects who you are as a person and circles back to our team. Rodeo is an individual sport, but if our team isn't working hard day in and day out, more likely than not individuals aren't getting any better. So, pushing your teammates in a positive way every day makes everyone better."

Baggarley hopes the team's success carries over to the 2025-2026 season, currently underway. He said he is especially excited for his first class of recruits, now in their fourth year with the team.

"Seeing their development from freshman year to senior year has been awesome," he said. "Some of our underclassmen are ready to step up. I think we'll be just as competitive."

Baggarley added that it's his mission to develop not only great athletes but great people.

"I tell my recruits three things: Become a better person, earn a degree that serves you and get better in the arena," he said. "I try to recruit good people because that builds a stronger culture."

Both Moreno and Bradshaw agreed that the team could not have achieved its recent success without Baggarley and assistant coach Tate Harmon at the helm.

"I couldn't be more thankful for our coaches," Bradshaw said, adding, "I want to become someone people admire, and NMSU rodeo is helping me get there."

Top: Annie Alexander (barrel racing) competes at the team's home rodeo. Bottom: Brad Moreno (bull riding) competes at the 2025 College National Finals Rodeo in Casper, Wyoming. Moreno captured the All-Around Cowboy title.

While traveling from San Juan County to McKinley County in July, NMSU President Valerio Ferme snaps a picture of New Mexico's northwestern landscapes. This summer, Ferme traveled by van across New Mexico on a mission to visit all 33 Cooperative Extension Service offices.

Josh Bachman

HITTING *the* ROAD

NMSU's president connects with Extension staff on statewide tour

BY CARLOS ANDRES LÓPEZ

From New Mexico's deserts to its agricultural fields and sacred lands, the NMSU Cooperative Extension Service enhances residents' lives by delivering practical, research-based knowledge across the state.

With offices, agents, staff and volunteers in all 33 counties, the Cooperative Extension Service is the primary vehicle through which NMSU fulfills its public outreach mission. It reaches more than 600,000 New Mexico residents each year via county-led workshops, programs and public outreach.

Extension has long been integral to NMSU and now holds even greater prominence as NMSU President Valerio Ferme seeks to create a stronger, more unified university. To realize his vision, Ferme and a rotating group of deans, regents and staff traveled across the state this summer to visit each Extension office and hold grassroots conversations with the ed-

ucators, volunteers and community members who carry out the Extension mission.

It was all part of the From Campus to Community: NMSU Extension Impact Tour.

"I want to understand the successes and challenges that our Extension educators encounter in their work," Ferme said before venturing out on the 13-day, 33-county odyssey, "and learn how we, as a university, can both support and be better informed of the opportunities we have to become a more integrated educational system."

For Ferme, the 3,685-mile excursion was an eye-opening experience filled with honest dialogue and exchanges. For Extension agents and staff, it was a rare chance to directly engage with the leader of New Mexico's land-grant institution.

Each visit served as its own listening session in which Ferme invited questions and comments on any subject. Topics varied widely – from Mexican wolf populations to water scarcity and the future of agriculture – but some came up more frequently.

4-H was among the most-discussed programs. At every stop, parents and volunteers spoke about the positive impacts of 4-H clubs in empowering youth in public speaking, STEM, civic engagement and other areas. By the tour's end, Ferme began referring to 4-H and Extension as "the best kept secret in the state," something he's working to change.

In Santa Fe, Johni Gallegos told Ferme that she found her passion for animals through 4-H and plans to study animal science at NMSU to become a large animal veterinarian.

"4-H is an absolutely incredible program," she said. "One of my missions as a state ambassador is to let people know that there's so much more out there than just livestock. There's photography. There's Legos. You can do science and literally anything that you put your mind to as a self-determined project."

Still, throughout the tour, many called on NMSU to update its 4-H curriculum to keep young people interested in the program.

Elsewhere, others urged NMSU to ramp up recruiting efforts in rural communities. Early in the tour, some in eastern New Mexico suggested the university is losing potential students to Texas and Oklahoma schools due to a lack of awareness about NMSU. From then on, Ferme carved out time during each stop to speak with students about their college plans and goals – and he did so while handing out business cards.

"As I was telling one of the students, I'm not trying to convince you of anything," he said. "But I like to mentor young people, so if there's anything that I can do to help you, feel free to contact me."

Kari Henry, the lone agent at the De Baca County Extension Office, said she sees potential recruitment opportunities almost daily, given her work with youth activities. Unlike her son, who plans to attend NMSU, other teens in the county need more convincing, Henry said.

Clockwise starting from middle top: Ferme speaks to 4-H members in Grant County. 4-H members in Torrance County discuss their art projects. Rolando A. Flores Galarza, dean of the College of ACES, responds to a question in San Miguel County. Benjamin Steieg holds Misty, a rabbit he's raising through the 4-H program in Catron County. Wayne Shockey, left, Extension ag agent and program director for the Eddy County Extension Office, explains the uses of an educational cow model to Lisa Henderson, NMSU general counsel.

Ferme looks on as Kameron Ward demonstrates his archery skills in Catron County. Bottom: Tony Marin, associate vice president for Student Affairs at NMSU, hands out Aggie swag to 4-H members in De Baca County.

"I'm hoping we can get some recruiters down here and get recruitment going," she said, "because I do think that it is needed – it's something that we haven't had."

Other topics dominated the last days of the tour. In Taos, Ferme took questions about artificial intelligence in agriculture, reforestation needs in New Mexico and expanding the youth-education pipeline. Discussions in nearby Las Vegas centered on soil health after recent wildfires, programs in the family and consumer sciences, and outreach to homeschooled children and their families, among other areas.

"There was good communication, and I think he made a connection with our community," said Melissa Wright, the agriculture and 4-H agent at the San Miguel County Extension Office. "For him to come to these local places and mingle with us made it feel like you can communicate with him and reach out, and that he cares."

Patrick Kircher, the director of Extension's eastern district, said he hopes top-level administrators continue to demonstrate interest in rural areas long after the tour.

"President Ferme is asking some hard questions, and I hope New Mexico State can learn from the suggestions and the concerns and make a concerted effort to make greater inroads here on the east side of the state and places beyond Las Cruces," he said.

The tour ended in Torrance County, known as the heart of New Mexico, where colorful ceramics and artwork by 4-H students greeted Ferme on his final stop. From there, Ferme pledged to work with his leadership team to find creative ways of addressing the concerns he heard on his travels. That work began taking shape this fall.

Following its completion, the tour gave Extension agents access to other colleges in a more structured way. For example, representatives from the College of Health, Education and Social Transformation attended the Hildago County Family Engagement and Resource Fair in July after staff from the Hildago County Extension Office contacted HEST Dean Rick Marlatt, who joined part of the tour.

Moreover, the tour also reinforced efforts by the Undergraduate Admissions office to assist with recruitment throughout New Mexico. Admissions advisers are assigned specific Extension offices, giving each county a representative from NMSU's Admissions office. Extension and Admissions staff are also partnering to engage in community events across the state.

"The true value will be to take the lessons and concerns we learned about on the trip and turn them into valued action that can transform a 'trip' into the opportunity for growth of the entire university system," Ferme said. "A growth that, in my view, fulfills the ultimate goal of pursuing with intentionality the land-grant mission of public service, research innovation and education for all citizens and communities in our state."

Tiffany Acosta contributed to this report.

Ferme walks on the grounds of the John T. Harrington Forestry Research Center in Mora County before meeting with the center's staff and community members.

FIELD *of* DREAMS

Extension farm in San Juan County brings community together

BY CARLOS ANDRES LÓPEZ

A seven-acre farm sits at the heart of NMSU's San Juan County Extension Office.

It covers a swath of land that underwent a transformational change from a fallow field to a multipurpose teaching farm designed to adapt with the seasons and meet the needs of the tight-knit community it serves.

It's called the Growing Forward Farm.

Since opening in 2021, the farm has blossomed into the thriving educational space envisioned by its founders. It's a year-round gathering spot for youth and community activities, a training hub for new farmers, and an outdoor classroom equipped for hands-on lessons in gardening, soil health, composting and nutrition. It's also a summer and fall destination known for its peach orchard, pumpkin patch and corn maze.

"I don't think we ever imagined that it could be this amazing – and this beautiful," said Bonnie Hopkins Byers, the director of the San Juan County Extension Office. "It's been able to grow organically into a truly useful, community-driven space. I think that's a good testament to Extension."

Hopkins Byers and the other members of the San Juan County Extension team were the driving forces behind the farm. Staff members Weston Medlock and Andrew Foster were critical assets in building and creating the infrastructure and foundation of the farm that has allowed it to grow.

Years ago, when faced with limited space in the outgrown Extension office on South Oliver Drive in Aztec, Hopkins Byers began using the nearby field across the street to host workshops on topics like collecting soil samples, treating invasive weeds or managing prairie dogs.

She soon realized that the land, though itself plagued by noxious weeds, rodents and bare soil, had the potential to become something greater.

Lily Frank takes worms from the compost station at the San Juan County Extension Office's Growing Forward Farm. The farm is a thriving community space dedicated to experiential learning opportunities in agriculture, youth development and community health.

Josh Bachman

Josh Bachman

San Juan County 4-H members Lily Frank and Rowdy Anderson spend much of their down time at the Growing Forward Farm, a popular gathering spot for 4-H activities and other community events.

"It was just a big field," she said, "but there was a lot of real-world experience out here."

From there, Hopkins Byers approached San Juan County officials with the idea of converting the county-owned land into a teaching farm dedicated to experiential learning opportunities in agriculture, youth development and community health.

"I started working with the county community development director and told them that if they ever needed us to put the space to good use, we have a great idea," she said.

After NMSU and the county signed off on the necessary agreements in 2020, Hopkins Byers and her staff worked to rehabilitate the land. By the year's end, they installed a new, efficient irrigation system and deer fence, built a classroom barn, a compost station and several raised garden beds, and created an heirloom peach orchard and two riparian zones. In 2022, they constructed additional demonstration and activity areas.

Lily Frank, a longtime San Juan County 4-H member who interned at the Extension office over the summer, saw the farm emerge from the ground up.

"It was pretty cool watching it go from just dirt covered in prairie dog holes to what we see today," Frank said. "A lot of this land was so run down, and I never would have expected it would have turned into this."

One of Frank's favorite activities on the farm is when fourth-grade students from across the county tour the grounds.

"Hundreds of kids come here," she said, "and they're seeing what we have created and seeing agriculture in a way that excites them. So, it's opening doors for them to see a future in agriculture."

Hopkins Byers said it's all part of the farm's mission to serve community members of all ages and drive economic development in San Juan County. One way the farm supports the latter is by training aspiring farmers.

With its New Farmer Incubator program, the office provides new farmers access to land, tools, irrigation, wildlife fencing, compost, an on-site market, mentorship and various educational opportunities for a seasonal fee. After completing a six-week training program and building a business plan, participants grow their own crops in a plot on the farm and then sell them.

"We try to set them up for long-term success," Hopkins Byers said.

To date, 14 farmers have completed the program, including NMSU Global Campus student Carson Stark, who has since launched a produce farm growing green chile, cucumbers, squash, zucchini, tomatoes, peppers and other foods.

"This is where I started," Stark said, gesturing to one of the farm's many plots. "I grew some plants here, and then I realized I really liked this, and I took the passion that I had for growing things and turned it into a business."

So, what does the future hold for the farm? Hopkins Byers said that's up for the community to decide, although she'd like to see programming in livestock and workforce development.

"I think the beauty of the farm is that we don't have an end game," she said. "We don't have a set definition of success. It just evolves naturally. I hope it keeps growing and changing as the community's needs rise and shift."

In the meantime, Hopkins Byers and her team are preparing to move into a new 8,900-square-foot building on the Growing Forward Farm property by the end of the year. The new facility will be a "game changer" for learning, growing and preserving San Juan County's agricultural legacy, she said.

Josh Bachman

Josh Bachman

Top: The farm features several raised garden beds that grow a variety of plants and crops such as strawberries, chile and squash. Bottom: Bonnie Hopkins Byers, the director of the San Juan County Extension Office, worked for several years with county officials to make the farm a reality.

From left, Evinn Pedroncelli, Allison Westfall, Savannah Tuss, Macy King, RaeAnna Gallegos and Abigail McSween, all 4-H members in Bernalillo County.

Sam Wasson

A PLACE IN THE CITY

NMSU's 4-H program reaches youth in Bernalillo County's urban areas

BY CARLOS ANDRES LÓPEZ

Since joining 4-H in 2015, Savannah Tuss has tried her hand at many different activities, including photography, baking, raising animals and competing in shooting sports, all with much success. 4-H has also helped the Albuquerque teen become more comfortable at public speaking and taking on leadership roles.

"It's just become part of who I am," said Tuss, now an NMSU Global Campus student. "4-H introduced me to new people and new things that I never would have come across if I hadn't joined."

As the largest youth development organization in America, 4-H empowers nearly 6 million kids and teens through hands-on projects that teach life skills. In New Mexico, more than 40,000 youth from all 33 counties engage in 4-H activities offered through NMSU's Cooperative Extension Service.

Tuss began her 4-H journey at age 8. She grew up in a military family in Albuquerque and joined the program at her grandmother's urging. Tuss said she initially had reservations but quickly warmed up to the camaraderie of her club. It didn't take long for Tuss to find a place among her peers and climb up the county ranks.

"It's my favorite thing ever," she said.

Now in her last year in county 4-H, Tuss is working to make it easier for youth in military families to participate in the pro-

From left, Gallegos, McSween and Tuss discuss their animals while visiting the garden at the Bernalillo County Extension Office in Albuquerque.

gram on their own terms. This effort is part of her role as the state 4-H military ambassador, an elected position she holds through the end of the 2025-2026 academic year.

"Coming from a military family, I want to help military kids become more involved in 4-H," she said, "because 4-H is in every state, and I want them to start their own clubs like we did in Albuquerque with the National Guard and Air Force 4-H clubs."

Her message to young people in urban areas is simple: "You are one of us, even if you're not from a traditional 4-H background."

Jaime Castillo hopes to take a similar message across New Mexico as he works to reach more youth as the new department head for 4-H Youth Development at NMSU.

"I want to help the 4-H program serve all youth communities in New Mexico," Castillo said. "I am committed to our traditional programs and want to expand our network so that we can offer more programs to more youth from corner to corner throughout New Mexico."

Castillo points to the success of the 4-H Fridays program as an innovative way of engaging youth. The program brings 4-H into classrooms at an Albuquerque elementary school.

In 2016, Stephani Treadwell, the principal of Collet Park Elementary School, sought new ways to help students succeed. For help, she turned to Brittany Sonntag, the 4-H agent at the Bernalillo County Extension Office, who transformed the traditional 4-H curriculum to fit within the school day. The school now provides 4-H activities to its students.

As a result, student attendance, behaviors and academic performance have improved across the board.

"The 4-H Fridays program shows that when we meet youth in their classrooms, we remove barriers to participation and open the door for every student to belong," Sonntag said. "It sparks curiosity, builds confidence and helps youth succeed both academically and personally, while connecting them to skills and opportunities that last a lifetime."

RaeAnna Gallegos had similar success starting an after-school 4-H club at her old middle school in Albuquerque's South Valley. Gallegos is possibly the first – and perhaps the only – 4-H member in Bernalillo County to help launch such a program.

The idea came to Gallegos as a sixth-grader at Ernie Pyle Middle School.

"I had already seen how 4-H builds leadership, sparks community service and grows confidence," she said. "I knew my friends deserved those same opportunities."

The program became a reality by the time Gallegos entered eighth grade. It makes 4-H activities and projects available to students after the school day. Gallegos said students learn many skills that "help them learn how to thrive in their daily lives."

Now in high school, Gallegos views the program as proof that 4-H has a place within cities.

"I raise my animals right here in Albuquerque, and that's exactly what makes Bernalillo County 4-H unique," she said. "In an urban setting, we make it happen – and we do it together."

LEARNING *to* LEAD

Student regent aims to help the next generation of farmers and ranchers

BY MINERVA BAUMANN

Marisol Olivas grew up in Belen, New Mexico, and comes from a family that loves to grow agricultural products for personal consumption. With agriculture as her passion, Olivas is pursuing a master's degree in the field – her second degree at NMSU. She also currently serves on NMSU's Board of Regents as the student regent.

As a graduate researcher, Olivas is exploring ways to help New Mexico's aging farmers and ranchers with succession planning.

Data from the U.S. Department of Agriculture's latest Census of Agriculture shows the average age of New Mexico's farmers and ranchers is just under 61, while the national average is 58.

"How are we going to keep people interested in farming and ranching and get it passed on to the next generation?" Olivas asked. "My research is very focused on the Cooperative Extension Service. I hope to get something going within CES to offer farm and ranch succession services to our local New Mexico farmers and ranchers."

With mentorship from Chaddy Robinson, an associate professor in the Department of Agricultural Economics and Agricultural Business, Olivas started working on a resolution for succession planning while she was an undergraduate student. For her master's creative component, she wants to develop a best practices program with resources that will provide guidance and training in succession planning to farmers and ranchers across the state.

NMSU Student Regent Marisol Olivas speaks to a crowd in Deming while on the From Campus to Community: NMSU Extension Impact Tour. Olivas is pursuing a master's degree in agriculture.

In her role as student regent, Olivas spent several days this summer accompanying NMSU President Valerio Ferme and his leadership team during the From Campus to Community: NMSU Extension Impact Tour. Olivas' term on the Board of Regents runs through December 2026.

"I've approached this role as a service leadership role," Olivas said. "And I'm here to serve on behalf of the students and be their voice. NMSU has really given me the opportunity to grow as a leader and share those experiences."

ROOTED in TRADITION

NMSU Tribal Extension bridges culture and community across New Mexico

BY GIANDREA HERNANDEZ

In rural corners of New Mexico, a small but powerful movement is connecting tradition with education.

The Tribal Extension Program, a part of the Cooperative Extension Service in NMSU's College of ACES, works with Native communities to improve agriculture, youth development and family well-being, while respecting and preserving cultural traditions.

The program has been serving the Navajo Nation, Jicarilla Apache Nation and various Pueblo communities for the past 17 years. Tribal Extension agents reside and work in these areas, providing hands-on education tailored to the specific needs of each community.

"When I first started, I was working with the Zuni Pueblo," said Kathy Landers, Tribal Extension coordinator, "and what makes this work so meaningful is having more agents to help bring programming where it's truly needed. Many communities follow traditional practices. For example, they plant only after the first moonrise. Their agricultural work is deeply tied to religious beliefs, which we learn to respect and work with."

Tribal Extension agents lead workshops on traditional and sustainable agriculture practices, including sheep shearing, garden planting and irrigation techniques.

Young archers take aim during the 4-H archery contest at the Eastern Navajo Fair in Crownpoint, New Mexico. Archery is one of the many activities offered through NMSU's Tribal Extension Program.

They also help families grow produce in community gardens and backyards, improving access to fresh food in remote areas.

"The program created a sense of community, not just for people in the area, but for Native producers as a whole," said John Romero, a livestock producer. "It gave us a space to connect, share our work, exchange ideas and build a support network."

In Crownpoint, New Mexico, youth are learning to cook traditional dishes as part of a nutrition program called Kitchen Creations. The program, taught in both English and Navajo, helps fight diabetes while passing down cultural knowledge.

Tribal Extension's 4-H clubs blend familiar youth leadership activities with Native values. Participants can learn

From left, Clint Willeto, Cheryl Benally, Margilena Luna and Shellby Yazzie, who discussed the Tribal Extension Program with NMSU President Valerio Ferme in July as a part of the From Campus to Community: NMSU Extension Impact Tour.

archery, horse care or weaving, a hands-on way to connect tradition and community.

"If you can change one kid's life, then you've made an impact. That's what keeps me going. This isn't just a job. If you love helping people and want to make a real difference in your community, being an Extension agent is one of the best ways to do it," said Shellby Yazzie, Tribal Extension agent.

Beyond agriculture and youth programming, agents also focus on wellness. They provide education on parenting, financial literacy and stress management, all crucial in communities where access to mental health resources is limited.

All programming is designed in collaboration with local advisory councils to ensure the work reflects community needs.

Tribal Extension reaches more than 7,000 people annually. With offices in Shiprock, Crownpoint, Jemez and Dulce, the program serves Native communities throughout New Mexico.

"After COVID hit hard in the Four Corners, food sovereignty became one of the biggest priorities. Some communities were cut off from even getting basic groceries; they couldn't come into Gallup to shop," Landers said. "This reminded people of the importance of growing their own food again, as well as learning how to can, store and prepare it. Now, they want to rebuild those skills."

Landers said that's why the Master Food Preserver program, Kitchen Creations and other food preservation workshops are vital in addressing these challenges.

The Tribal Extension Program is part of Extension's broader mission to serve all of New Mexico, from its urban centers to its most remote communities. For more information, visit **tribalextension.nmsu.edu**.

LEADING *BY EXAMPLE*

FFA and NMSU team up to train future agricultural educators

BY TIFFANY ACOSTA

Since 1973, the New Mexico FFA office has called the NMSU campus home.

"It's more than just a shared space – it's a shared mission," said Russell Walter, executive secretary for the New Mexico FFA Association. "Both FFA and the College of ACES are dedicated to developing leadership, promoting innovation in agriculture and preparing students to make a real difference in their communities."

In New Mexico, FFA reaches more than 5,300 students across 93 chapters. FFA hosts many events on the NMSU campus and in Las Cruces such as the state FFA convention, state officer trainings, career development events and leadership conferences.

"That early exposure to the university environment, faculty and resources often sparks students' interest in continuing their education at NMSU, especially within the College of ACES," Walter said. "NMSU isn't just where FFA is headquartered – it's where future agricultural educators, scientists, leaders and advocates begin their journeys."

As part of the national mission, FFA helps students at NMSU build leadership skills by integrating leadership development into every part of the agricultural education experience.

Josh Bachman

The annual New Mexico State FFA Convention took place in May at the Las Cruces Convention Center. The convention brings together FFA members, advisers, parents and supporters from across the state for a three-day celebration.

Students gather at the 2025 New Mexico State FFA Convention in Las Cruces. FFA reaches more than 5,300 students across 93 chapters in New Mexico. It helps students build leadership skills and prepares them for careers as agricultural leaders.

"Ag education is growing in New Mexico," said Gary Aycock, senior program operations director for FFA and agricultural education. "As we grow and continue to grow, it's going to be important that we have those teachers in place. That relationship with the Department of Agricultural and Extension Education and the College of ACES at NMSU is really important in that we're training those teachers to be good teachers in communities across the state."

"What makes FFA so impactful at NMSU is that it's not just an extracurricular activity – it's part of a federally recognized intracurricular model of learning," Walter said. "We follow the 'three-circle model' of agricultural education, which includes classroom and laboratory instruction, supervised agricultural experiences and FFA."

Through supervised agricultural experiences, students gain hands-on involvement in real-world settings such as running a small business, interning at a government agency, or conducting research.

"We're trying to get those students ready to become productive students in their local community and in New Mexico," Aycock said. "Ag educators spend a lot of time and effort with their students getting ready for competitions and other things that we have in FFA. Hopefully, those skills show their students that they are invested in their students as they move forward, and that they have someone that will advocate and mentor for them if needed."

For Elida Miller, serving as the 2022-2023 FFA state secretary was an opportunity to give back to the organization she cares deeply about. The May 2025 graduate said time management was the top leadership skill she learned during her FFA tenure. Miller, who earned a bachelor's degree in agricultural economics and agricultural business in May 2025, also served in student government as a senator and vice president for the Associated Students of NMSU.

"I have always loved FFA and wanted to be able to share that passion with other students and help them find something to love about FFA," Miller said. "Between balancing state office with my classes and other extracurriculars at NMSU, I had to learn to manage my time efficiently."

Like Miller, many NMSU students serve as FFA state officers. Last year, five of the seven 2024-2025 officers were NMSU students.

"FFA gives students, many of whom come from rural, underserved or nontraditional backgrounds, a chance to find their voice, build confidence and discover their purpose," Walter said. "FFA is not just about agriculture – it's about preparing young people to lead in agriculture, education, business, science and beyond."

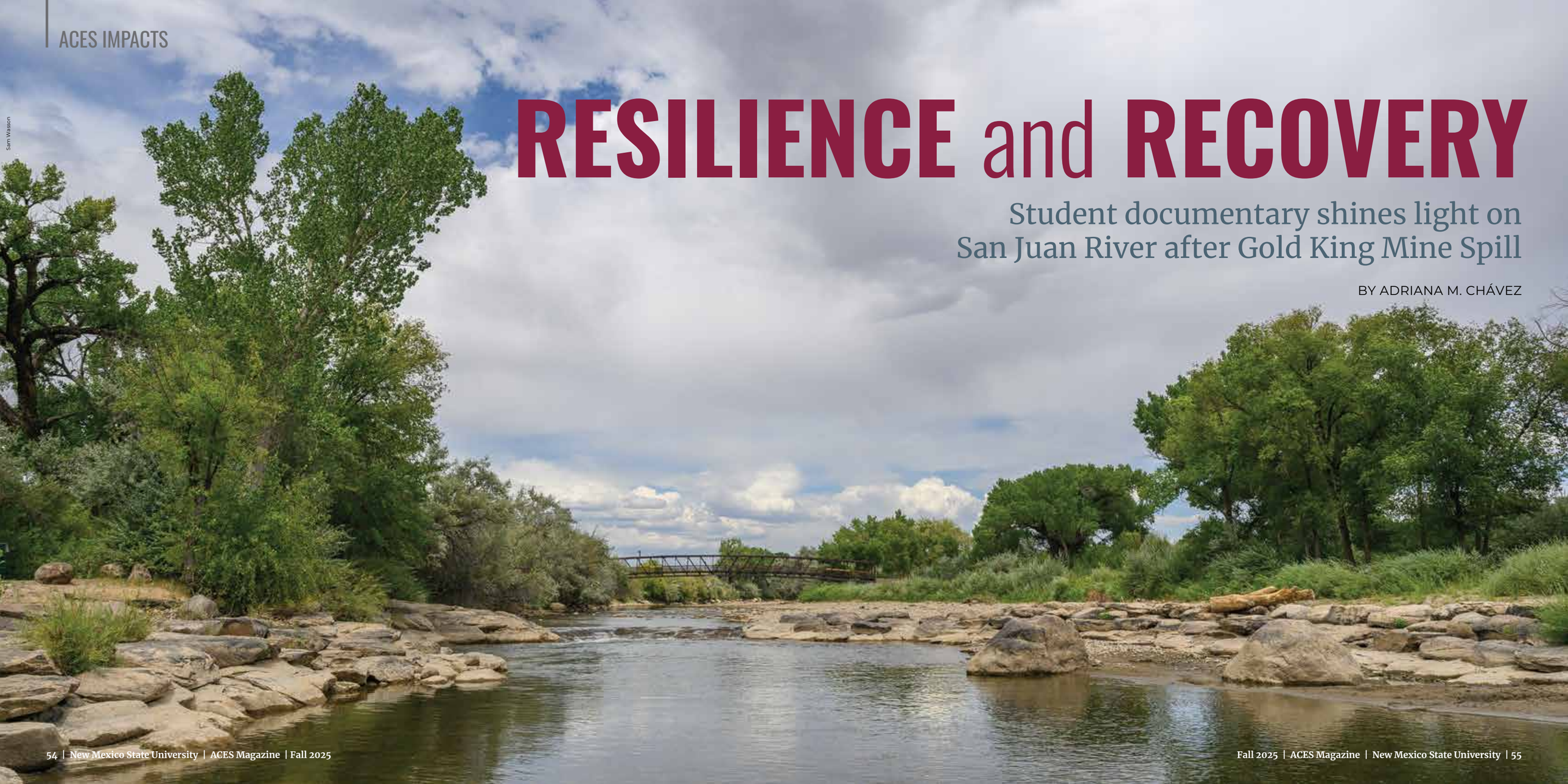
Hassan Garcia, above, of Las Vegas, New Mexico, and other FFA members package dry beans and rice as part of a service project during this year's New Mexico State FFA Convention.

Sam Watson

RESILIENCE and RECOVERY

Student documentary shines light on San Juan River after Gold King Mine Spill

BY ADRIANA M. CHÁVEZ



From left, Daveishena Redhouse, Kevin Lombard and Cayden Manuelito are producing a documentary about farming along the San Juan River in the aftermath of Gold King Mine Spill.

Sam Wasson

On Aug. 5, 2015, the Gold King Mine Spill devastated communities along the Animas and San Juan rivers in the Four Corners region. The spill consisted of the unplanned, accidental release of 3 million gallons of mining sludge from the Gold King Mine in Colorado into the headwaters of the Animas River, which flows into the San Juan River.

Today, NMSU and other regional researchers continue to address concerns related to the spill through the Northwest New Mexico Agricultural Restoration Project, with funding from the New Mexico Attorney General's Office. The project, co-led by Kevin Lombard of NMSU's Agricultural Science Center at Farmington and Bonnie Hopkins Byers of the San Juan County Extension Office, aims to build capacity for soil health measures, establish pilot demonstrations for hoop houses and agricultural photovoltaics, and create digital storytelling efforts to raise awareness of farming along the San Juan River.

Lombard has assisted film students Daveishena Redhouse and Cayden Manuelito in the production of their documentary on Navajo farmer stories. Redhouse is pursuing a master's degree in animation at the Savannah College of Art and Design, while Manuelito is working on an associate degree in applied science, digital media arts and design at San Juan Community College.

Their documentary, "Story Through Lenses: Resilience in Farming along the San Juan River," features one-on-one interviews with farmers and community members,

Sam Wasson

Sam Wasson

Above: Redhouse and Manuelito discuss their documentary at NMSU's Agricultural Science Center at Farmington. Below: Manuelito edits video footage. The two students interviewed several farmers and community members impacted by the Gold King Mine Spill for their film.

Sam Wasson

Farmers in Shiprock struggled to sell produce soon after the spill as many believed crops and irrigation systems were contaminated.

who discussed the spill and its aftereffects, as well as animation to help tell their stories.

"We have found it particularly interesting that many young adult residents of northwest New Mexico, who were kids at the time of the spill, have very limited recollection or knowledge of what took place 10 years ago," Lombard said.

"When I ask high school students to raise their hands if they remember the Gold King Mine Spill," he continued, "only one or two students respond, which is why it is important to have some 10th-year remembrance of the event to maintain awareness for the next generation so that nothing like the spill ever happens again, while also highlighting the resilience and importance of northwest New Mexico and Navajo Nation farming and the multiple uses of the Animas and San Juan river waters in relation to regional cultural values."

Redhouse said she was surprised to receive such largely positive reactions to the documentary, especially among her interview subjects.

"From the stories and personal accounts shared during our interviews, it was clear that what impacted people the most during the spill was not only water contaminations, but also the loss of their crops," Redhouse said. "For the elderly, crops are like our relatives, so losing them was like losing a family member. From the youth, the hurt that came from the water being contaminated. It was an unfair act that should have involved more caution."

The documentary also sheds light on the farmers who struggled to sell produce after the spill.

"Many people had a stigma against all crops from the Shiprock farmers, believing them to be contaminated and not buying from them. But in reality, the water they were using was immediately shut off along the irrigation ditch, so none of their produce was contaminated with the Gold King Mine water," Redhouse said. "However, from the media and social media coverage, people were already fearful of buying their crops. Not only did many lose financial value, but much of their produce was also wasted."

Sam Wasson

NMSU's Agricultural Science Center at Farmington, above, continues to play a vital role in helping San Juan County communities recover from the spill.

Immediately following the spill, NMSU researchers worked with the New Mexico Department of Agriculture, the New Mexico Environment Department and the Office of the State Engineer, among other agencies, to address the short- and long-term impacts of the contamination. For example, Lombard said, a soil chemistry team led by April Ulery, a professor in the Department of Plant and Environmental Sciences at NMSU, analyzed soil and plant samples from farmland and irrigation ditches for about five years after the spill.

Today, NMSU and others continue to address concerns among impacted communities through continued education and training, but much more work must be done.

"While assurances may have been received from federal, state and tribal agencies regarding the recovery of the rivers and surrounding landscapes, assurances alone are often insufficient to overcome deeply ingrained worries and public perceptions," Lombard said. "Some negative perceptions still exist today."

MAKING a SPLASH

Frank Ward shares expertise in climate, water and economics across the world

BY ADRIANA M. CHÁVEZ

Since he was a child, California native Frank Ward dreamed of spending the rest of his life in the Southwest, where he spent countless summer vacations with his family.

Ward is now a Distinguished Achievement Professor in the Department of Agricultural Economics and Agricultural Business. As a professor of natural resource economics, he's devoted his career to studying a vital resource that much of the world desperately needs.

"Throughout my career, I have worked at the intersection of water resources, climate change, environmental economics and public policy, with a strong emphasis on important application," Ward said. "My research has had a measurable impact at three levels: statewide in New Mexico, nationally across the U.S. and internationally in a range of water-stressed regions."

Ward earned his bachelor's, master's and doctoral degrees in economics from Colorado State University. Since arriving at NMSU in 1978, Ward has collaborated with the New Mexico Water Resources Research Institute on several projects, including a study on drought in the Rio Grande Basin, which spans Colorado, New Mexico and Texas. He and the institute's former director, Karl Wood, also teamed up to explore the market price of water rights in New Mexico.

Josh Bachman

Frank Ward, a professor of natural resource economics, has devoted his career to working at the intersection of water resources, climate change, environmental economics and public policy.

"By building economic predictive models tailored to the Rio Grande, Colorado River and Pecos River basins, I've provided state agencies, irrigation districts and water utilities with tools to manage scarce supplies more efficiently," he said. "My models have informed legislative discussions and legal decisions surrounding the adjudication of water rights and implementation of interstate compacts."

Ward has also worked closely with various New Mexico stakeholders to design water conservation incentives that respect institutional realities, improving both economic efficiency and environmental outcomes. His research focuses on water resource economics, climate change adaptation, management of depletable resources, and institutional analysis of surface water and aquifers, including major river basins in the U.S. and abroad, such as the Rio Grande, Nile, Euphrates and Jordan, among others.

Josh Bachman

Ward joined NMSU in 1978. His research has had measurable impacts in New Mexico and across the U.S. and world in a range of water-stressed regions.

"At the international level, I have extended the insights developed in the U.S. to water-scarce regions around the world," Ward said. "My collaborations in India, Nepal, Pakistan and several African countries have applied economic modeling to surface and groundwater systems facing population pressure, climate variability and institutional fragmentation."

Through his international work, Ward has advised governments and organizations on designing incentive-based instruments that align economic and environmental goals. These frameworks have been adopted in World Bank and USAID projects and are regularly used as reference points for water policy reform in arid and semi-arid regions.

He's published more than 115 peer-reviewed articles in journals and written two books, along with several chapters. He is ranked among the top 2% of scientists worldwide and was elected as a Western Agricultural Economics Association fellow in 2021. His work also earned him a lifetime achievement award from his alma mater in 2022.

Ward's professional achievements have not only influenced governments and communities nationally and internationally, but they've also had a lasting impact on the students he teaches at NMSU.

"I aim to instill a long-term perspective in my students, one that recognizes water as a form of capital, acknowledges the power of institutions in shaping resource outcomes and emphasizes the importance of policy innovation," Ward said. "I prepare students to become thoughtful, well-rounded professionals capable of addressing some of the 21st century's most complex environmental and economic challenges."

ON THE RIGHT TRACK

Wildlife ecology student earns prestigious fellowship

BY ADRIANA M. CHÁVEZ

Alejandro Gomez proudly calls himself a nontraditional student. He initially came to NMSU as an undergraduate student, but his first attempt at college ended with him taking a two-year break from his studies. After regaining his academic footing, he returned to NMSU in 2020, this time ready to study wildlife ecology with support from scholarships, awards and financial aid.

In 2025, Gomez earned a prestigious National Science Foundation Graduate Research Fellowship. The award provides three years of support for the graduate education of individuals who have demonstrated a potential for significant research achievements in STEM or STEM education.

"NMSU has played a critical role in my development as a student," Gomez said. "NMSU understood my situation and gave me another chance to receive a college education. Resources and programs like TRIO STEM-H and McNair Scholars have helped me with tutoring and guidance toward the pursuit of a graduate education."

Gomez earned his bachelor's degree in wildlife ecology in May 2025 and began working on a master's degree this fall. He is currently collaborating on research with his adviser, Obed Hernández-Gómez, an assistant professor of wildlife disease ecology. Their project focuses on disease dynamics in native and non-native ungulates in New Mexico, exploring parasite and bacterial load and presence. Ungulates are any of a group of typically plant-eating, four-footed, hoofed mammals.

The two are studying native ungulates like bighorn sheep to understand how this population has been stressed by domestic livestock and the presence of introduced exotic species from resource competition and disease transmission. Another big-game species – wild goat, also known as the bezoar, Persian wild goat or ibex – has yet to be studied in southern New Mexico, and its potential impacts on bighorn sheep are unknown.

"Understanding parasites and microbiomes present in non-native big game species in New Mexico can give insight into threats of future pathogen spread, and understanding the health of New Mexico game is critical for the management and conservation of native wildlife," Gomez said.

Josh Bachman

Alejandro Gomez received the 2025 National Science Foundation Graduate Research Fellowship, which provides three years of financial support to recipients pursuing graduate education.

It was during a meeting for the McNair Scholars Program that Gomez learned about various scholarships. At that time, the program's director, Marko Mohlenhoff, hosted several presenters who spoke about available scholarships. The NSF Graduate Research Fellowship stood out to Gomez, he said.

When he first learned he was awarded the fellowship, Gomez said his first reaction was disbelief, and he double-checked the list to make sure he was the true recipient.

"I'm not sure if any others felt the same, but my reaction was heavy on impostor syndrome," he said. "My first thought was, 'Who am I to receive this?'"

Josh Bachman

As a graduate researcher, Gomez is studying disease dynamics in native and non-native ungulates. He began his master's program this fall.

Gomez has maintained a close relationship with NMSU's Veterinary Entomology Research Laboratory, where he's worked for the past eight years, including throughout his break from school. Gomez said the lab's director, Brandon Smythe, is the "sole reason" he returned to NMSU to continue his education. He also attributes his success to Tanner Schaub, assistant vice president for research at NMSU.

"All of Dr. Smythe's support and sacrifices allowed me to focus on my education, provided me with numerous opportunities to further my research skills, and motivated me to pursue my curiosities," Gomez said. "Dr. Schaub's help and guidance over the years undoubtedly contributed to my development as a researcher."

Smythe describes Gomez as a dedicated student, employee and friend.

"I am thrilled to see him getting recognized for his efforts and excited to see him continue to grow," Smythe said.

Jesus Almeida

Longtime rancher credits professional success to education at NMSU

BY TATIANA FAVELA

For several decades and counting, Jesus Almeida has owned and managed Rancho Tepehuanes, a family-run cattle ranch in Namiquipa, Chihuahua, Mexico. The seasoned rancher learned the keys to professional success as an undergraduate student in the College of ACES.

"The college opened my mind to new ideas, taught me to think critically and form my own opinions, and encouraged me to explore alternative sources of information – all this helped me make correct decisions," Almeida said. "The experiences I had and the lifelong friendships I formed during my time there have been invaluable in both my personal and professional life."

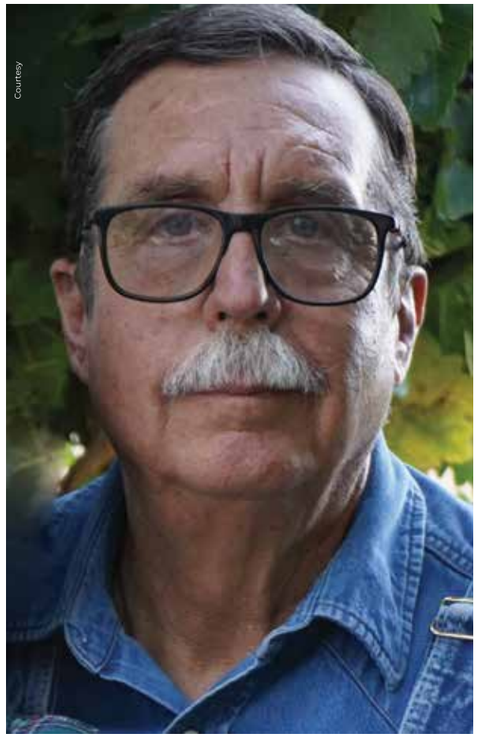
Almeida graduated from NMSU in spring 1978 with a bachelor's degree in animal science. He then went into the family business and started running Rancho Tepehuanes, which raises cattle and produces agricultural commodities.

During his time at NMSU, Almeida formed a lasting bond with Jack L. Ruttle, who taught an animal reproduction course that became one of Almeida's favorite classes. Even after he left NMSU, Almeida said Ruttle continued to mentor him and became a great friend.

"When I was in Dr. Ruttle's class, he told me that with him, we either accomplished with an 'A' or it was an automatic 'F'," Almeida said. "He was a strict professor, and he expected big things from his students, but he knew how to bring out the best in us. Outside of the classroom, he was an excellent friend."

A proud NMSU alumnus, Almeida often encourages those interested in a career in agriculture or land management to consider any of the degree programs offered by the College of ACES.

"The College of ACES will help you explore alternative approaches to land and resource management in agriculture and livestock production," he said. "Most importantly, it will educate you on profitability without compromising ethics, preparing you to be a responsible and forward-thinking leader in your field."



Courtesy

J. Aaron Sims

New Mexico native lands dream job as Texas game warden

BY CARLOS ANDRES LÓPEZ

Each year, roughly 1,000 people apply to become a Texas game warden. But less than 3% make the cut for the highly demanding and physically grueling training program. And even fewer earn the badge and uniform to join the elite group of law enforcers tasked with conserving and protecting the Lone Star State's natural resources.

Among those rarified ranks is Lt. Game Warden J. Aaron Sims, an NMSU alumnus from Roswell, New Mexico.

"NMSU set me up for success," Sims said. "Everything I did at NMSU led me down the path to be competitive to apply to be a Texas game warden."

After high school, Sims followed a passion for the outdoors. He went to NMSU on a scholarship to study wildlife science, earning a bachelor's degree in 2007. Two years later, he finished a master's degree in agricultural and extension education and started working for NMSU as an admissions adviser.

"I think because of my experience at NMSU, I was a natural recruiter," he said. "I wasn't selling some story – I was selling the truth."

Following his time at NMSU, Sims helped launch an urban agriculture program at Cleveland High School in Rio Rancho, New Mexico. He was teaching when the Texas Parks and Wildlife Department opened a few coveted game warden positions. Thinking it was the right time to chase his dream job, Sims applied and got into the program.

The training and hiring process took Sims about a year to complete, and he officially became a game warden in 2012. Now a lieutenant based in Lubbock, he oversees a vast district that borders the Texas-New Mexico border. He also serves as a public information officer for TPWD and teaches conservation law at Texas Tech University.

"It's been a dream come true," he said. "All those years at NMSU and teaching have really allowed me to be where I am today."

Texas Parks and Wildlife Department

A **TASTE** FOR **DISCOVERY**

Rose Marie Valdes Pangborn rose to prominence as an innovator in modern sensory science

BY TATIANA FAVELA

The next time you're savoring the flavors, aromas and textures of your favorite meal, take a moment to ask: What makes this experience so satisfying? The answer lies in the legacy of Rose Marie Valdes Pangborn, a pioneering innovator in the field of sensory science.

A Las Cruces native, Pangborn is the daughter of an immigrant father from Chihuahua, Mexico, and a mother from Las Cruces. She graduated from NMSU with a Bachelor of Science in home economics in 1953 and later earned a Master of Science from Iowa State University in 1955. That same year, she joined the University of California, Davis, where her groundbreaking work in sensory science would define her career.

Pangborn built a rigorous research program that not only cemented her reputation as an innovative scientist in sensory science but also as a cherished professor and beloved mentor to her students. Over the course of her career, she advanced to the highest academic ranks at UC Davis, where she spent 35 years teaching in the Food Technology Department. She also served as the associate dean of the College of Agricultural and Environmental Sciences from 1972 to 1974.

NMSU Library, Archives and Special Collections; Image No.: 05490024

Rose Marie Valdes Pangborn, seated above with three students, became a leading researcher in the field of sensory science after earning a bachelor's degree in home economics from NMSU in 1953.

"Rose Marie Valdez Pangborn's journey from earning a bachelor's degree in home economics at NMSU to becoming a pioneering figure in sensory science is a powerful reminder of how foundational training in the human sciences can lead to groundbreaking innovation," said Esther Devall, former head of the Department of Family and Consumer Sciences at NMSU. "Her work transformed the way we understand food, taste and the consumer experience, and her international impact continues today."

Before Pangborn began her research, there were few established methods for assessing taste and how people use their senses in deciding what to eat. In the 1970s, she developed a time–intensity method to acknowledge the carryover effect of sweet tastes and how it affects people's experience of various natural and artificial sweeteners. She advanced the idea that science needed to measure the human response to taste in the same way that it measures other sensory experiences.

A Fulbright-Hays International Scholar, Pangborn published more than 200 scientific articles over her career, including 10 during her final year of life while fighting cancer. She co-wrote three influential textbooks that set the foundation for modern sensory science: "Principles of Sensory Evaluation of Foods," "Food Acceptability and Nutrition," and "Evaluación Sensorial de los Alimentos: Métodos Analíticos."

She also co-edited the international journal Appetite, served on the editorial boards of several top academic publications, and received many honorary doctorates and awards from universities and agencies around the world. In 1973, she received the Distinguished Alumni Award from NMSU.

UC Davis Special Collections

Pangborn devoted 35 years to the University of California, Davis, where she advanced to the highest academic ranks and taught in the Food Technology Department.

Beyond her passion for understanding how senses shape food experiences, Pangborn left a lasting impact on countless students. She often kept in contact with former students and would write Christmas letters to many of them, a practice she continued until her death.

Pangborn passed away on March 17, 1990, after a five-year battle with cancer. After her death, three of her colleagues at UC Davis – Ann C. Noble, Louis E. Grivetti and John R. Whitaker – penned a tribute in her honor.

"Not only was her style of teaching always articulate, clear and organized, she challenged students to rise to their best," the tribute reads. "Her course, Food Science 107 (Principles of Sensory Evaluation), served as the stage on which the careers of a generation of sensory scientists were formed."

"Although she had exacting standards, her strongest influence on the students was through her interaction with them," the tribute continues. "Despite her international reputation and high research productivity, she always had time for each student. Her research and teaching, professionalism, and her refusal to accept anything short of excellence influenced both her colleagues and the students."

In 1993, a group of scientists established the Pangborn Sensory Science Symposium, a biannual academic conference focusing on sensory and consumer science, in Pangborn's honor. The 16th symposium took place in August 2025 in Philadelphia.

Pangborn's pioneering research undoubtedly lives on beyond the dinner table, and her legacy continues through the lives of the many students and colleagues she touched.

Jeanne Gleason contributed to this report.

NMSU Library, Archives and Special Collections | Image No.: 05490007

Pangborn published more than 200 scientific articles and co-wrote three influential textbooks over her career. She also co-edited the international journal Appetite and served on the editorial boards of several top academic publications.

THANK YOU

The College of ACES would like to thank the hardworking custodial staff members who maintain our buildings, labs, offices and classrooms as clean, safe and welcoming environments. Without your dedication, we would not be able to fully fulfill our mission as a driver of economic and community development in New Mexico.

Cecilia Carranza, *Leyendecker Plant Science Research Center and Fabián García Research Center*

Lea Casados, *Neal Hall*

Magda Cuellar Quinonez, *Gerald Thomas Hall*

Maria de Leon, *Knox Hall*

Agustin Delval, *Knox Hall*

Agustina Flores, *Gerald Thomas Hall*

Ruben Garcia, *Equestrian Center, Tejada and other small ag buildings*

Mayela Gonzalez Chavez, *Food Science, Security and Safety Center and the Animal Nutrition and Feed Manufacturing Facility*

Yadira Gonzalez Chavez, *Skeen Hall*

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Norma Lopez, *Gerald Thomas Hall*

Maria Lujan, *Skeen Hall*

Nanci Medina, *Ag Institute and biomedical building*

Rosa Monsivaiz, *Wooten Hall*

Jaime Renteria, *Leyendecker Plant Science Research Center, Fabián García Research Center and Skeen Hall*

Armida Rodriguez, *New Department of Agriculture, the Food Science, Security and Safety Center and the Animal Nutrition, and Feed Manufacturing Facility*

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