ACES NM STATE MAGAZINE

COLLEGE OF AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES

VOLUME 14 | SPRING 2026

READY FOR LIFTOFF

Drone technology elevates ACES research

EXCELLENCE AT WORK

Claudia Galván prepares a GC-MS instrument for a round of sample analysis in Skeen Hall. Galván is the lab manager for NMSU's Center of Excellence in Sustainable Food and Agricultural Systems, which works to address critical agricultural needs in New Mexico through interdisciplinary research. Learn more about the center's impact starting on Page 24.

Josh Bachman

FROM THE DEAN

We are pleased to share this new issue of *ACES Magazine*, which highlights the collaborative work of our faculty, students and staff in advancing agricultural innovation across New Mexico.

This edition features the Cooperative Extension Service team leading the Navajo Sustainable Agriculture Project, which supports Navajo farmers and ranchers in strengthening their operations through practical tools, training and knowledge.

We also showcase the impact of NMSU's Center of Excellence in Sustainable Food and Agricultural Systems. Since its establishment in 2019, CESFAS has become a driver of innovation and economic growth in New Mexico's agricultural sector through interdisciplinary research that enhances value-added agriculture, improves production systems and builds a more resilient food economy. We look forward to the center's continued progress, supported by new faculty and facilities funded by general obligation bonds approved by New Mexico voters.

Josh Bachman

This winter, we opened the Student Learning Center, a modern facility that enhances hands-on learning with animals on the Las Cruces campus. Together with our updated food science labs and feed mill – also made possible by statewide bond support – these investments strengthen NMSU's competitiveness among peer land-grant institutions and enhance the student experience.

We hope you enjoy the stories in this issue, featuring outstanding members of our ACES community. Thank you for your continued support.

Rolando A. Flores Galarza
Dean and Chief Administrative Officer

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Editor
Carlos Andres López

Graphic Designer
Tarran Jackson

Art Director
Gerald Rel

Photographer
Josh Bachman

Contributors
Tiffany Acosta, Adriana M. Chávez, Karmina Conde and Tatiana Favela

NMSU President
Valerio Ferme

Dean, College of Agricultural, Consumer and Environmental Sciences
Rolando A. Flores Galarza

Associate Vice President for Marketing and Communications
Abby Butler

Executive Director of Marketing, Web and Brand Development
Melissa Chavira

Director of Communications and Media Relations
Amanda Wyatt

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ON THE COVERS

Front: Casey Spackman, a range management specialist for NMSU's Cooperative Extension Service, uses a drone and artificial intelligence to survey rangelands. Read about Spackman's research on Page 10.

Back: The Student Learning Center at NMSU opened in November 2025, giving students a dedicated indoor space to work with animals. Learn more about the center on Page 4.

NMSU photos by Josh Bachman

Josh Bachman

NMSU student Kyra Hayes takes Blaze for a stroll around the new Student Learning Center on the Las Cruces campus.

ROOM TO ROAM

New center reshapes how students learn with animals

BY KARMINA CONDE

A new facility is changing the way animal science and equine students work with animals year-round. The Student Learning Center at NMSU, which opened in November 2025, gives students a dedicated indoor space that allows instruction to continue regardless of weather conditions.

"We have wanted an indoor arena for a long time, specifically for the equine program because one of the inhibiting factors of teaching with horses is that we have to deal with the elements of the weather," said Hannah Bilovesky, director of therapeutic riding and equine science instructor.

The center provides an indoor, hands-on learning environment designed to support students across multiple programs. The facility features a 150-by-250-foot arena and a classroom that can seat up to 40 people. It allows students to work with animals in a structured environment and develop practical skills through uninterrupted instruction that was previously difficult to maintain outdoors.

"This is a game changer in respect to student learning and recruiting," said Shanna Ivey, head of the Department of Animal and Range Sciences. "It will allow us to teach without distractions in an attractive space similar to what our peer universities in the region have available for their students."

The Student Learning Center serves a wide range of users, including students, faculty and the surrounding community, and supports teaching, research and outreach missions. It is also used by NMSU's equestrian team.

Faculty estimate that about 500 NMSU students will use the facility each year, along with more than 6,000 4-H and FFA youth and their families who will benefit through outreach programs.

Josh Bachman

Hannah Bilovesky, NMSU equine instructor and equestrian team coach, demonstrates the handicap lift on the new permanent, equine-assisted therapy ADA ramp at the facility.

In December 2025, the Doña Ana County Extension Office hosted a countywide 4-H meeting at the Student Learning Center.

"The arena allowed us to transform the space into a large obstacle course where youth worked in teams and competed to complete various tasks. This setup encouraged movement, engagement and collaboration rather than a traditional seated meeting format," said Teresa Dean, Doña Ana County Cooperative Extension Service program director and 4-H agent.

"At the Doña Ana County Extension Office, we often struggle to find facilities large enough to accommodate active, hands-on programming," Dean continued. "Access to this facility has strengthened our ability to deliver high-quality 4-H programming, and we look forward to utilizing it for future events such as the 4-H Senior Leadership Retreat, Dairy Camp and additional Extension programs."

The interdisciplinary design of the center allows it to support research and instruction across campus, including programs connected to human health and wellness. Departments such as psychology, nursing, family and consumer sciences, education and marketing may also utilize the space, creating opportunities for collaboration and externally funded research.

ACES faculty members plan to grow the therapeutic riding program by offering services to community members with disabilities. The center also will serve as a host site for various events and workshops. Two horse shows were held during the spring 2026 semester, including a regional competition in February that drew students from New Mexico, Texas and Oklahoma to NMSU.

"It's going to serve a pivotal role in allowing us to really connect with the community and fulfill our pillars of being a land-grant university," Bilovesky said.

BACK *in* ACTION

Student leads effort to reconstruct Gerald Thomas Hall windmill

BY TATIANA FAVELA

In 2025, a familiar symbol returned to NMSU – just in time to mark a milestone.

As NMSU's Windmill Technology Center celebrated its 50th anniversary, a newly constructed windmill rose once again in front of Gerald Thomas Hall, thanks to the vision and leadership of one student.

Current and former Aggies had felt the absence of the windmill since its removal in 2022. For Taylor, a longtime admirer of the structure and its history, bringing it back became a personal mission.

While serving as the College of ACES senator for the Associated Students of NMSU, Kolby Taylor sprang into action. During the spring 2025 semester, he authored and successfully passed a $20,000 ASNMSU bill to fully fund the purchase, labor and construction of a new windmill. The project was completed in June 2025.

"I have done a plethora of other leadership things, but getting the windmill back is among the top three things I have been able to accomplish in my years at NMSU," he said. "I have always loved the windmill and the tradition and history it represented. It reflects the legacy by showing that sometimes, the old is still plenty good in modern times."

Josh Bachman

NMSU student Kolby Taylor led an effort in 2025 to build a new windmill in front of Gerald Thomas Hall.

The windmill stands as a tribute to the grit, innovation and traditions of the Southwest – values shared by the College of ACES and its Windmill Technology Center. It also underscores the continued relevance of windmill technology in modern agriculture.

Now the vice president of ASNMSU, Taylor considers the project one of his proudest accomplishments at NMSU. Before presenting the bill, he gathered more than 100 signatures from students, faculty and ACES leadership.

"A lot of ACES students had no idea we had a windmill in the first place, and they were disappointed in the fact that they weren't around to see it in all its glory," he said. "When attacking this project, the mission was clear: Create an experience for students in the years to come that I once was able to experience."

Today, the windmill once again serves as a point of pride, connecting past, present and future Aggies through shared tradition.

Officials in Mexico recognize NMSU's Fabián García

NMSU Archives

The Mexican state of Chihuahua has recognized Fabián García as a "Chihuahuense Distinguido" for his scientific legacy, social contributions and role in developing commercial agriculture in New Mexico and the region.

In November 2025, Mauro Parada Muñoz, secretary of rural development of the state of Chihuahua, presented an NMSU delegation with a plaque recognizing García.

Born in Chihuahua in 1872, García moved to New Mexico as a young child. In 1894, he was part of the first graduating class of New Mexico College of Agriculture and Mechanic Arts, now NMSU, where he spent his career as a teacher, researcher and administrator.

García developed new varieties of chile peppers, including the precursor of today's New Mexico-style green chile. He also helped establish New Mexico's pecan industry and commercial onion industry. He later became director of NMSU's Agricultural Experiment Station in 1913 and was the first Hispanic named as director of agricultural research for a U.S. land-grant university.

Courtesy

NMSU President Valerio Ferme, center, participates in an honorary tip-off before the start of an Aggie women's basketball game against the Universidad Autónoma de Chihuahua in Chihuahua City, Mexico, in October 2025.

UACH and NMSU sign dual-degree agreement

In October 2025, a group of NMSU leaders and students visited the Universidad Autónoma de Chihuahua in Chihuahua City, Mexico. During the visit, the Aggie men's and women's basketball teams competed against their UACH counterparts in fun and energetic games.

NMSU President Valerio Ferme and College of ACES Dean Rolando A. Flores Galarza also signed an agreement with UACH officials establishing a dual-degree program for students at both institutions. The agreement creates a dual-degree program in animal science and horticulture.

The new agreement further strengthens ties between UACH and NMSU and provides new academic opportunities for students and faculty at both universities. It also builds on the long-standing success of a similar collaboration with the College of Engineering, which has had a similar agreement with UACH for more than 15 years.

"The College of ACES is proud to continue strengthening our international partnerships while enhancing our visibility in Mexico to attract talented undergraduate and graduate students," Flores Galarza said.

For more information, contact ACES Academic Programs at 575-646-1807.

GREAT OUTDOORS

NMSU launches state's first Ph.D. program in wildlife and fisheries ecology

BY TATIANA FAVELA

From desert grasslands and arid rivers to mountain forests, New Mexico's diverse landscapes face mounting pressures from drought, megafires and population growth. To help meet those challenges, NMSU has launched a new doctoral program designed to train scientists and leaders focused on conserving the Southwest's fragile ecosystems.

The Department of Fish, Wildlife and Conservation Ecology in the College of ACES has launched a Ph.D. program in wildlife and fisheries ecology – the first of its kind at NMSU and in the state of New Mexico.

"Our new program fills a critical gap," said Martha Desmond, department head and Regents professor. "There is currently no Ph.D. program in wildlife ecology or a closely related field offered at NMSU or within the state."

Faculty developed the program to address both regional ecological challenges and workforce needs. While New Mexico is exceptionally rich in natural resources and ecosystem diversity, the state has lacked a doctoral program specifically focused on wildlife and fisheries ecology and management.

Students in the program will study species and systems found in desert environments, the southern Rocky Mountains, the Intermountain West and the Southern Great Plains. Students will also focus on the restoration and management of desert and semi-arid aquatic ecosystems and grasslands – environments that are increasingly affected by water scarcity, rising temperatures and habitat fragmentation.

"The Southwest is defined by arid landscapes, diverse wildlife and increasingly stressed natural resources," Desmond said. "This program prepares graduates to conduct research and develop science-based strategies that sustain biodiversity, manage populations of huntable species and species at risk, and restore degraded ecosystems."

Beyond research, the program will prepare graduates for leadership roles across conservation, policy and land management sectors. It will also train students to support state and federal agencies, tribal nations, nonprofit organizations and industry partners working to manage natural resources across the region.

Courtesy

Whitney Watson, a third-year Ph.D. student, searches for rosy-finches on Big Costilla Peak at Vermejo Park Ranch. Watson will move into the new Ph.D. program in wildlife and fisheries ecology this year.

Research conducted through the program will inform conservation and habitat management decisions while supporting ecosystem services that are especially critical in arid environments, including water filtration, carbon storage and erosion control.

"Healthy ecosystems are essential to quality of life," Desmond said. "By training future ecologists, land managers and policy advisers, NMSU is contributing to a knowledgeable workforce capable of addressing pressing environmental issues through interdisciplinary and collaborative approaches."

Hands-on learning will define the student experience in the program. Strong partnerships with federal, state and tribal wildlife agencies, nongovernmental organizations and industry will give students direct exposure to applied conservation and management challenges throughout New Mexico and the Southwest.

Students will participate in collaborative research and applied management projects, helping them build professional networks and gain experience directly relevant to workforce needs. These partnerships will also create clear pathways to employment within the state, increasing the likelihood that graduates will remain in New Mexico and contribute to its natural resource workforce.

"This program is about investing in New Mexico's future," Desmond said. "By developing scientists who understand our landscapes, our species and our communities, we are strengthening the state's ability to protect its natural heritage for generations to come."

Courtesy

William Grooms, then a summer technician on Jimmy Cain's Gila Elk Project in 2022, fits a GPS collar on an elk calf. Grooms began NMSU's Ph.D. program in biology in January 2026 and will transition to the Ph.D. program in wildlife and fisheries ecology this fall.

Josh Bachman

EYE in the SKY

Rangeland research takes flight as Extension specialist uses drone to find toxic plants

BY ADRIANA M. CHÁVEZ

In 2022, 19 cattle and 19 elk were found dead from suspected plant poisoning at a New Mexico ranch. Three years later, 10 additional cattle and an unknown number of elk died from the same issue – toxic plants – at the same ranch, which spans about 24,000 acres, making traditional ground assessments impractical.

Since then, Casey Spackman, a range management specialist for NMSU's Cooperative Extension Service, has made it his mission to find an effective solution in identifying toxic plants across extensive landscapes. He has zeroed in on unmanned aerial systems, also commonly known as drones.

Spackman's research may change how toxic plants are detected and addressed in southwestern New Mexico. Instead of relying on time-consuming field surveys, land managers can use drone-based artificial intelligence maps to locate toxic plants and respond quickly by strategically altering grazing management, Spackman said. This could ultimately reduce or avoid livestock losses.

"Before artificial intelligence, analyzing drone imagery was largely a manual process," Spackman said. "After each flight, researchers had to visually inspect thousands of images to look for potential toxic plants. This required significant time and expertise, and subtle or scattered plant populations were easy to overlook. While drones provided a new perspective, the ability to efficiently interpret the imagery remained a major limitation."

Spackman said necropsies of the deceased animals revealed seeds from the Caryophyllaceae family in their stomachs, suggesting that a toxic plant was the likely cause of death. The seeds most closely matched *Drymaria arenarioides*, commonly referred to as alfombrilla, a toxic plant species native to Mexico that had not been previously documented in the United States.

Josh Bachman

Casey Spackman, a range management specialist for NMSU's Cooperative Extension Service, prepares to fly a research drone over the Las Cruces campus.

Spackman received initial external funding from the New Mexico Department of Agriculture to locate and manage *Drymaria arenarioides* on New Mexico rangelands. That funding helped Spackman establish the project's early stages and develop the first version of the toxic plant detection models.

"The potential presence of this species in New Mexico raised significant concerns, prompting coordination among researchers, state agencies and federal partners, including the U.S. Department of Agriculture's Animal and Plant Health Inspection Service," Spackman said. "Beyond explaining a single mortality event, the discovery suggested the possibility that a previously undocumented toxic plant may be establishing itself on Southwestern rangelands, highlighting the need for improved detection and monitoring tools."

Graduate and undergraduate students play a central role in Spackman's project, including drone operations, data collection, image labeling and the development of artificial intelligence tools used to identify toxic plants. Students are also invited to participate in outreach and communication efforts to help share project findings with land managers and stakeholders.

"For students, the project provides a unique opportunity to work at the intersection of rangeland science and emerging technologies," he said. "Students gain hands-on experience with drones, data analysis and artificial intelligence, while contributing to a real-world problem that affects producers and ecosystems in New Mexico. Through this work, they develop practical skills and a deeper understanding of how technology can be applied to natural resource challenges."

Josh Bachman

Spackman uses a computer to control the drone. Spackman's research aims to improve grazing management practices and reduce or avoid livestock losses.

The project is influenced by both seasonal conditions and the pace of research development, Spackman said. Toxic plants are most visible at certain times of the growing season, so drone flights and field verification must be carefully timed to capture them when they are most easily identified.

"In addition, developing and refining the artificial intelligence tools requires an iterative process of data collection, testing and validation," he said. "At the same time, there is a practical sense of urgency: The sooner toxic plants can be identified and mapped, the sooner land managers can take steps to reduce risks to livestock and wildlife. Together, these factors shape the project's timeline and direction."

Spackman is currently seeking funding to expand the project to additional toxic plant species.

LEARN MORE

Considerations for Drone Use on a Ranch:
nmsu.news/drone-ranch

Drone Use for Rangeland Monitoring and Assessment:
nmsu.news/drone-rangeland

TWICE THE *SPICE*

NMSU researcher explores intercropping saffron with chile

BY ADRIANA M. CHÁVEZ

An NMSU researcher known for his saffron research projects in northern New Mexico is exploring how the crop fares in central and southern parts of the state, as well as how well it may grow alongside chile and other New Mexico crops.

Saeid Zehtab Salmasi, research director of the NMSU Sustainable Agriculture Science Center at Alcalde, has received funding from the New Mexico Department of Agriculture's Specialty Crop Block Grant program to investigate intercropping saffron with chile. His project aims to demonstrate the diversification and sustainability benefits of intercropping in New Mexico's agricultural systems.

To discover how saffron may grow in central and southern New Mexico, Zehtab Salmasi's research team planted corms at the Los Lunas Agricultural Science Center in Los Lunas and the Leyendecker Plant Science Research Center in La Mesa in 2025. Zehtab Salmasi hopes the spice will thrive during the chile's dormant season.

Saffron is typically harvested throughout October and early November. Intercropping saffron with chile could help farmers maximize land use, improve soil health and create new revenue streams, Zehtab Salmasi said.

"This is the first time we planted them in central and southern New Mexico, and we need some more time to see how saffron performs," Zehtab Salmasi said.

Zehtab Salmasi began his saffron research for NMSU in 2023 by growing the crop in open fields and hoop houses in Alcalde. He found that the crop did well each season through 2025.

Saffron is one of the world's most expensive spices, with an average price of $30 per gram for saffron grown in the United States. That could potentially generate more than $50,000 in net revenue per acre. While the majority of saffron consumed in the U.S. is imported, domestic saffron production has seen increased interest over the past several years.

Jay Lillywhite, director of NMSU's Agricultural Experiment Station and associate dean of the College of ACES, said Zehtab Salmasi's project is an important component of AES research that explores opportunities for new value-added agricultural products in New Mexico.

"We are excited about Dr. Zehtab Salmasi's saffron research and look forward to continuing and expanding the research to further explore the agronomic and economic potential of saffron in New Mexico," Lillywhite said.

In addition to its stigmas, saffron has a wide variety of uses, including in medicinal and cosmetic products. It contains components known for their beneficial effects on Alzheimer's, Parkinson's, depression and other diseases, and can also promote fat reduction, blood sugar regulation and anti-inflammatory diseases.

Saffron is commonly grown in Iran, India, Afghanistan, Greece, Morocco, Spain and Italy. In the U.S. market, wholesale prices can range from $500 to $5,000 a pound, depending on the product grade.

Zehtab Salmasi said he decided to study saffron to give farmers an option to diversify their operations and increase cash flow in the face of a changing climate. Traditional crops have become less lucrative, he said, leaving farmers scrambling to find more profitable options.

Most of the interest in domestic saffron production stems from potential economic returns, with reports suggesting that gross revenues can be as high as $60,000 to $80,000 an acre. In comparison, NMDA reported that in 2024, the value of New Mexico's chile production was estimated at $52.2 million from 8,000 harvested acres, suggesting a value of $6,520 per acre. Similarly, New Mexico's pecan production was estimated at $167.1 million from 49,000 harvested acres, suggesting a value per acre of $3,409 per acre.

Still, Lillywhite said other factors should be considered, noting that saffron harvesting is much more labor-intensive compared to other crops. It takes about an hour to harvest one gram of dry saffron.

"Certainly, high-gross revenues are enticing, but additional work needs to be done to better understand saffron's potential in New Mexico," Lillywhite said.

Chanz Robbins, program manager at NMSU's Leyendecker Plant Science Research Center, collects saffron crocuses, opposite page, for Saeid Zehtab Salmasi's research project.

Cecil Werito works on his cattle ranch near Huerfano, New Mexico. Werito is a client of NMSU's Navajo Sustainable Agriculture Project, an initiative that supports Navajo farmers and ranchers in northwest New Mexico.

Josh Bachman

BRIDGING THE GAP

Navajo Sustainable Agriculture Project helps farmers and ranchers access vital resources

BY TIFFANY ACOSTA

As a farmer in the Navajo Nation since 2009, Gary Clark believes he has a responsibility to the land and its future.

"The farm has been here since before I got it. It was there before the farmer that was here before me," Clark said. "The dirt is always going to be there; it's just the people that are coming in. I try to make it better for them, and better than it was before I got it. We have to be good stewards of the land."

On his 15-acre farm near Shiprock, New Mexico, Clark grows mostly alfalfa, corn and haygrazer, a forage crop of sorghum and sudangrass. He is a client of the Navajo Sustainable Agriculture Project, an NMSU Cooperative Extension Service initiative that helps Navajo farmers and ranchers in northwest New Mexico.

The NSA Project team works with Clark and other area producers to develop conservation plans so they can transfer or renew land-use permits for their operations, which is required by the Bureau of Indian Affairs and needed to access U.S. Department of Agriculture programs and resources.

Werito shows the cattle chute he built to Terrill Yazzie, right, a project specialist for the NSA Project, and Michael Patrick, left, Extension community resource and economic development specialist and director of the NSA Project.

The NSA Project is a collaboration that brings together the Diné College Land Grant Office, the Community Outreach and Patient Empowerment Program, and NMSU Extension offices in San Juan, McKinley and Cibola counties. It is funded by the USDA's Outreach and Assistance for Socially Disadvantaged and Veteran Farmers and Ranchers Program.

"The Navajo Sustainable Agriculture Project reflects the very best of what Cooperative Extension strives to do," said Jon Boren, director of NMSU's Cooperative Extension Service and associate dean of the College of ACES. "By working side by side with producers, listening to their needs, and helping them access vital resources, we're strengthening agricultural operations and supporting healthier, more resilient communities across the Navajo Nation. The dedication of our team and partners ensures that producers have the tools and knowledge they need to thrive for generations to come."

Clark said he appreciated how easy and uncomplicated the process of working with the NSA Project team was, not only on his conservation plan but also on a USDA Farm Service Agency loan, which helped him purchase a hay mower and corn planter.

"I'm going to tell as many farmers as I can about the experience I had with the Navajo Sustainable Agriculture Project and the help I got," he said.

Established in 2012, the NSA Project has provided Navajo farmers and ranchers with education, training, mentoring and technical assistance through workshops, on-farm and ranch demonstrations, webinars, guides and written materials on key information and practices for improving the profitability and sustainability of farming and livestock operations and increasing the supply of healthy food.

"The Navajo Nation is classified as a food desert by the USDA, with one of the highest rates of food insecurity in the United States, contributing to chronic poor health conditions," said Michael Patrick, Extension community resource and economic development specialist and NSA Project director. "Years of prolonged drought and overgrazing now threaten the sustainability of the Navajo Nation agroecosystem and the future of Navajo farm and ranch operations."

In the 13 years of the program, NSA Project personnel and activities have been funded by 18 competitive grants totaling $2.1 million. For his work on the NSA Project, Patrick was honored with the Community Engagement, Extension and Outreach Award at NMSU's spring 2026 convocation.

The NSA Project team helps Navajo producers access information, government funding and projects while providing technical assistance.

"Our producers are willing to learn and go the extra step," said Shirley Tolth, NSA Project specialist. "I really enjoy working with producers, my people and using my own language to help my community."

Above: Werito takes Patrick on a tour of his ranch. Werito worked with Patrick and the NSA Project to develop a conservation plan for his ranch. Below: Gary Clark, center, a farmer on the Navajo Nation, discusses his family farm with Yazzie and Patrick. Clark is another client of the NSA Project.

Josh Bachman

Terrill Yazzie, another NSA Project specialist, added: “A lot of our producers are wanting to get their conservation plan done so that they can restart the agricultural practices, and they don’t really know where to start. They’re sort of roadmaps. They’re a historical piece. They’re a scientific piece. It’s not just a document for them to get a piece of paper in their name, it’s something more.”

Of the 200 completed plans assisted by NSA Project staff, 113 have received land-use permit renewals or new permits.

“Our core center is guiding these adults to learn confidence, gain practical skills and feel valued in their agriculture journey,” said Mikelle Silversmith, NSA Project coordinator. “We really try our best as educators to not just share information but to instill that positivity and create a learning environment during these workshops where these producers feel welcomed, respected and, overall, they feel determined to grow.”

Cecil Werito, a cattle rancher near Huerfano, New Mexico, has worked with the NSA Project team on his conservation plan and often attends related workshops, which he said have been very helpful.

“More ranchers need to come to the classes,” he said. “It’s free. You have to take advantage of it.”

With area producers dealing with environmental issues and labor shortages in the region, Werito credited the NSA Project courses with offering vital information.

Clark grows alfalfa, corn and haygrazer, a forage crop of sorghum and sudangrass, on his 15-acre farm near Shiprock, New Mexico. With support from the NSA Project, he developed a conservation plan and secured a federal loan to purchase a hay mower and corn planter.

Josh Bachman

“We’ve had quite a few classes about vaccinating and how to handle cattle,” he said. “When we have questions about vaccinations, in the area where we are in, veterinarians are hard to get.”

For more information about NMSU’s Navajo Sustainable Agriculture Project, visit **nsa.nmsu.edu**.

Above: Clark’s grandchildren ride horses on the family farm. Below: The NSA Project team includes, from left, Michael Patrick, Mikelle Silversmith, Shirley Tolth, Terrill Yazzie, Tiffany Tolth and Cheryl Tolth.

Josh Bachman

Front row, from left: Francine Messomo Giotto, Gonzalo Miyagusuku-Cruzado, Sergio Martinez-Monteagudo, Wiebke Boeing, Luis Sabillón Galeas and Susana Gonzalez. Back row, front left: Soum Sanogo, Barbara Chamberlin, Chaddy Robinson, F. Omar Holguin, Alexander Wilson, Pete Mitchell and John Floros.

SERVING NEW MEXICO

NMSU's Center of Excellence addresses state's critical agricultural needs

BY CARLOS ANDRES LÓPEZ

NMSU has been a driver of agricultural innovation and research since its founding in 1888.

To build on that legacy, the New Mexico Legislature and NMSU established an interdisciplinary research and education institute in the College of ACES focused on advancing sustainable agriculture and food systems.

NMSU's Center of Excellence in Sustainable Food and Agricultural Systems, or CESFAS, brings together experts from animal, plant, food, social sciences and other fields to address complex challenges across the entire food system. It runs on a mission to build a resilient agricultural economy in New Mexico through innovative interdisciplinary research that supports value-added agriculture.

Since its founding in 2019, CESFAS has emerged as a key driver of innovation and economic development in the state's agricultural sector. CESFAS-affiliated faculty have generated more than $49 million in competitive proposal activity and secured more than $7 million in external funding, while providing hands-on training for students and fostering strong partnerships with industry and community stakeholders.

"Over the past several years, CESFAS has significantly expanded its impact by increasing student engagement, growing

CESFAS HIGH-LEVEL IMPACT METRICS

110
Peer-reviewed and Extension publications

38
Experiential student training and mentorship

68
Interdisciplinary student research teams

$7M
Competitive research funding secured

54
Stakeholder outreach and knowledge transfer

$183K
Leveraged industry and partner investment

A key part of the CESFAS mission is providing education and training for students.

research productivity and strengthening its external funding portfolio," said F. Omar Holguin, an associate professor who became the center's first solo director in February 2025. "Through its integrated model that connects research, education and outreach, CESFAS is advancing value-added agriculture and building a more resilient and sustainable food system for New Mexico."

Today, CESFAS has grown into an operation of 20 faculty and staff members. It encompasses NMSU's Food Safety Laboratory and Wine Quality Analysis Service, which provide a host of critical testing and research services for industry partners. Much of its work centers on post-harvest, value-added agriculture – the concept of transforming raw agricultural products into new or improved products with higher economic value.

"CESFAS has gone from a very general direction to a very focused direction," Holguin said, "and we're now working to create new opportunities that increase the value of our agricultural commodities."

CESFAS is currently supporting 10 projects. Researchers working with jujubes, for example, are experimenting with value-added product development to make the drought-tolerant fruit more marketable in the United States. A separate team is conducting research to better understand the supply chain of value-added providers and service providers within the agricultural and food distribution sectors of New Mexico.

Groups are also working to develop low-calorie, natural sweeteners from inexpensive and abundant carbohydrates and to improve beef tallow for use in fast-food restaurants.

In 2025, CESFAS launched an internship program for students to gain professional work experience at value-added companies in New Mexico, building on its goal to educate and train students through hands-on experiences. CESFAS has supported a total of 38 students with internships, assistantships and research work.

"A key part of our mission is providing education and training for students and supporting economic and community development in New Mexico," Holguin said.

On top of prioritizing post-harvest research, Holguin wants CESFAS to maintain and deepen its faculty-driven culture, where faculty feel supported and empowered to freely share their expertise. He is also working to create relationships with research institutions and national labs throughout the Southwest and Mexico – all in an effort to build on the center's legacy of success established by his predecessors, Natalie Goldberg, Priscilla Bloomquist, Efren Delgado and Jay Lillywhite.

Among those successes, Holguin pointed to a controlled agriculture project at NMSU's Grants campus. In 2021, CESFAS was one of the key players that helped bring a container farm to the campus in rural northwest New Mexico. The facility has since become an important learning tool for studying indoor agriculture.

That early success led to a similar project on the Las Cruces campus. In 2024, CESFAS brought together more than 60 students from NMSU's College of Engineering and Doña Ana Community College to build a container farm designed to help reduce food insecurity in rural and underserved communities.

Natalie Goldberg, top left, and Priscilla Bloomquist, top center, served as CESFAS co-directors from 2019 to 2021. Efren Delgado, bottom left, and Jay Lillywhite, bottom center, then served as co-directors from 2021 to 2023. F. Omar Holguin, above, became the center's first solo director in 2025 after serving as interim director.

Holguin envisions a bright future for CESFAS. He expects continued growth in high-impact research and training activities, which will ultimately benefit the state and the surrounding region. He and others are proud of what the center has become.

"CESFAS is a vital and trusted research center that benefits the entire state of New Mexico. Our interdisciplinary research teams are focused on improving the state's agriculture, working every day to build better, more efficient agricultural production and value-added processing systems," College of ACES Dean Rolando A. Flores Galarza said. "CESFAS is a complement to our new facilities that were funded by general obligation bonds passed in 2018 and 2020. CESFAS is now giving back to the New Mexico voters who approved these bonds. The importance of CESFAS and its work cannot be overstated."

LEADING **LAB**

New director looks to transform NMSU's Food Safety Laboratory into premier hub of innovation

BY ADRIANA M. CHÁVEZ

Karla Villalobos Porras considers it an honor and a great responsibility to be the first Ph.D. student in food science in the College of ACES, working alongside her adviser at the NMSU Food Safety Laboratory.

"My motivation to pursue a Ph.D. in food science stems from a strong commitment to food safety, research and service to society," said Villalobos Porras, a native of Delicias, Chihuahua, Mexico. "I have always believed that scientific research should extend beyond the laboratory and translate into real-world impact."

Villalobos Porras has found those opportunities at NMSU, where agriculture, food systems and community engagement are central not just to the university's mission, but to the mission of the Food Safety Laboratory.

As part of NMSU's Center of Excellence in Sustainable Food and Agricultural Systems, the lab has a long, impactful history of serving as a trusted technical and scientific resource not only for New Mexico but also across the entire Southwest region and the United States, said Luis Sabillón Galeas, the laboratory's new director and assistant professor in the Department of Family and Consumer Sciences.

Karla Villalobos Porras works in NMSU's Food Safety Laboratory with her adviser, Luis Sabillón Galeas. Villalobos Porras is the first student in the new Ph.D. program in food science.

The lab has also played a critical role as part of the Food and Drug Administration's Food Emergency Response Network, which conducts method validation and verification studies for the detection of foodborne pathogens. During the COVID-19 pandemic, the lab pivoted to supporting emergency response needs.

"Our ability to adapt quickly, maintain analytical rigor and deliver high-quality data under pressure led to formal recognition from the FDA for excellence in emergency response," Sabillón Galeas said. "These experiences helped shape the strong quality culture, technical depth and collaborative mindset that define the FSL today."

Over the years, the lab has maintained partnerships with federal agencies such as the FDA and U.S. Department of Agriculture, as well as state agencies and regional producers. These partnerships have positioned the lab as a bridge between regulatory science, applied research and real-world industry needs.

Currently, the lab is undergoing a strategic transformation to better align with the evolving needs of the food industry, while strengthening student training and workforce development.

"Central to this effort is what we call a student-powered laboratory model," Sabillón Galeas said. "In this model, graduate students at the M.S. and Ph.D. levels serve as trained analysts under the supervision of experienced laboratory professionals and faculty leadership."

Moreover, he added, this model will allow industry partners to access high-quality, university-backed testing services, while giving students hands-on work experience in a regulated, client-facing laboratory environment. Students learn microbiological methods, documentation, traceability, data integrity and professional communication – all skills that are critical for careers in food safety.

NMSU's Food Safety Laboratory team includes, starting from left, Villalobos Porras, Yatziri Presmont, Sabillón Galeas, Ruben Zapata and Juan Olea.

Villalobos Porras calls her experience working in the lab "incredibly positive and meaningful."

"From day one, I have felt welcomed, supported and valued, and the lab truly feels like a family," she said. "I am very grateful for the patience, kindness and guidance I have received while learning and growing in a new research environment."

Villalobos Porras said she hopes to use her experiences in the lab to build a research-focused career in food safety, contributing at a national or international level as she returns to her home state of Chihuahua.

"Research, education and outreach can have a meaningful and lasting impact," she said. "Being able to apply science to support and serve my community is one of my greatest motivations."

As of January 2026, the lab was pursuing ISO/IEC 17025 accreditation, which is the gold standard for laboratory competence, Sabillón Galeas said.

"Achieving this accreditation will ensure that our analytical results are legally defensible, globally recognized and fully aligned with regulatory and commercial expectations," he said.

The accreditation also means that New Mexico producers will have access to world-class laboratory services without the cost or delays associated with out-of-state commercial labs.

"My vision is for the NMSU Food Safety Laboratory to become the premier hub for food and feed safety innovation in the Southwest," Sabillón Galeas said.

For more information about the lab, visit **fsl.nmsu.edu**.

TESTING **TALLOW**

NMSU research team searching for ways to improve beef fat for restaurant use

BY CARLOS ANDRES LÓPEZ

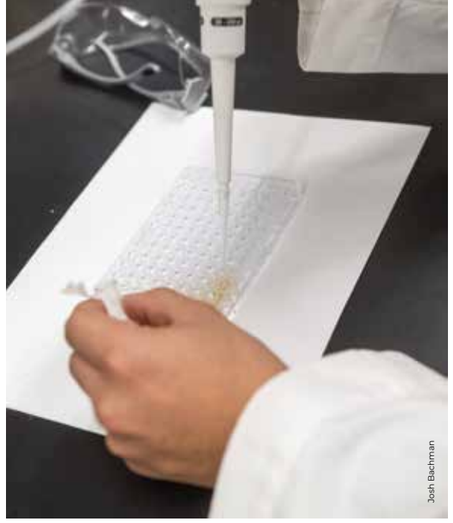
As animal fats become increasingly popular alternatives to seed oils, a research team in the College of ACES is working to improve how beef tallow performs under the pressures of fast-food restaurants.

The project is a collaboration between Francine Mezzomo Giotto and Gonzalo Miyagusuku-Cruzado, and one of several interdisciplinary studies supported by NMSU's Agricultural Experiment Station and Center of Excellence in Sustainable Food and Agricultural Systems.

"Beef tallow is in high demand right now," said Mezzomo Giotto, an assistant professor of meat science. "It's not only popular for cooking purposes, but also in the beauty industry."

The research team attributes the rising popularity of beef tallow to the growing scrutiny of seed oils. Seed oils are vegetable oils extracted from the seeds of plants such as rapeseed, soybean, corn, grapeseed, sunflower, safflower and others. These oils are commonly used to prepare fast foods and as an ingredient in many packaged snack foods.

Ismael Trevizo, an undergraduate student majoring in food science and technology, takes the temperature of hot beef tallow in a research lab on NMSU's Las Cruces campus.



Left: Trevizo works on a research team examining beef tallow degradation at high deep-frying temperatures. Right: The team includes, from left, Gonzalo Miyagusuku-Cruzado, Trevizo and Francine Mezzomo Giotto.

Seed oils are high in unsaturated fats like omega-3 and omega-6. Although considered healthier than the saturated fats found in dairy and meat products, seed oils have become maligned in recent years due to their high omega-6 content and oxidative instability, fueling a greater interest in animal fats – especially beef tallow.

Mezzomo Giotto and Gonzalo-Miyagusuku, an assistant professor of food science and technology, saw an opportunity to position NMSU as a leader in beef tallow research, an area lacking in academic scholarship. Now, they are working to improve the oxidative and frying stability of beef tallow via antioxidant and surfactant combinations.

"Tallow offers superior thermal stability, reduced oxidation risk and favorable sensory attributes, making it a promising alternative for quick-service restaurants," Gonzalo-Miyagusuku said. "Yet, research on tallow degradation during frying remains limited and often relies on advanced analytical techniques, which may be impractical for restaurants."

He and Mezzomo Giotto launched their project earlier this year, working with an undergraduate student, Ismael Trevizo, a food science and technology major.

They first established a frying methodology in a lab on the Las Cruces campus that accurately replicates fast-food restaurant conditions, using a series of semi-industrial fryers. Next, they began testing tallow under various conditions, evaluating antioxidant and surfactant systems, with the goal of limiting oxidative and hydrolytic degradation. Since water and protein are two of the main drivers of oil degradation, their tests primarily involve frying batches of tofu or hot dog links at different temperatures and times.

"We're frying faster, hotter and more cycles per hour," Miyagusuku-Cruzado said, "and we're getting the answers that we need much faster."

He added, "We have a lot of understanding of how seed oils degrade, but tallow is a little different because of its chemical characteristics. Our research is trying to expand that understanding."

Over the coming months, the team will pivot to explore correlations between total polar materials – a metric used to assess oil quality – color and other degradation parameters to establish practical indicators of oil quality. Based on their preliminary data, the researchers aim to target long-term funding via the U.S. Department of Agriculture's Agriculture and Food Research Initiative.

"By the time the project concludes, we want to deliver a validated rapid frying protocol, stable tallow formulations and share our research via publications, presentations and outreach activities," Mezzomo Giotto said. "We anticipate that our outcomes will provide economic, environmental and public health benefits, positioning NMSU as a leader in sustainable frying research and laying the foundation for future USDA funding proposals."

BREAKTHROUGH ON THE BRINK

NMSU spearheads pioneering research to improve energy efficiency in food processing

BY TATIANA FAVELA

Research that aims to shift an industry is rare. Research focused on an overlooked step in food production – and supported by major federal funding – is even rarer.

A guided ultrasound project, backed by NMSU's Center of Excellence in Sustainable Foods and Agricultural Systems and led by Sergio Martinez-Monteagudo, explores ways to improve energy efficiency in food processing. It focuses on evaporation, one of the most energy-intensive and least visible steps in food manufacturing.

"In 2021, I received a seed grant from CESFAS to do research on evaporation of food products," said Martinez-Monteagudo, an associate professor of food bioprocessing in the Department of Family and Consumer Sciences. "Evaporation is energy-intensive and used in products like protein powders. It's a middle step that usually doesn't get attention."

Josh Bachman

Sergio Martinez-Monteagudo is leading a guided ultrasound project that aims to improve energy efficiency in food processing through evaporation, one of the most energy-intensive and least visible steps in food manufacturing.

With sustainability in mind, Martinez-Monteagudo proposed making the process more efficient by using a technology he said has never been applied in food processing. Through the $20,000 CESFAS seed grant, he partnered with another researcher, Ehsan Niri, to explore how guided acoustic energy could accelerate evaporation while reducing energy use. Niri, a civil engineer, is an associate professor in the School of Manufacturing Systems and Networks at Arizona State University.

"Our preliminary data show that it can reduce at least 30% of energy," Martinez-Monteagudo said.

Following that success, Martinez-Monteagudo received a $750,000 grant from the U.S. Department of Agriculture in 2025. The project now involves researchers from NMSU and ASU, who are combining their expertise in food science and civil engineering.

"The idea of the research is applying acoustic energy to evaporate a lot faster," Martinez-Monteagudo said. "Guided ultrasound is usually used in medical fields to see things like bone fractures or pregnancies. In this case, it's very different. We're not using it to get images but to create a way the acoustic wave can travel through a specific metal. That energy is lost and accelerates water evaporation, reducing overall energy use."

The project, while still in its early phases, represents interdisciplinary work at its most cutting edge, Martinez-Monteagudo said.

"We're used to specializing in our own field. But if we're open to seeing what other fields are doing, we can learn," he said. "This project has been my favorite so far because it brings together food science and civil engineering – two fields people don't usually think have much to do with each other."

Josh Bachman

Martinez-Monteagudo received a $750,000 grant from the U.S. Department of Agriculture in 2025 to further his project, which involves researchers from NMSU and Arizona State University.

Federal funding also accelerated industry interest in Martinez-Monteagudo's research.

"Since receiving the funding, we are working on developing the project and seeing how it can be implemented in other fields," he said. "This technology has never been applied in food processing. I've worked in food processing all my life, but this is completely different from anything done before."

For Martinez-Monteagudo, one of the most meaningful aspects of the work is where it is happening.

"The concept that this research is being done here at NMSU and not anywhere else is one of my points of pride for this project," he said.

The guided ultrasound project represents a career-defining milestone that builds on Martinez-Monteagudo's growing research portfolio. Since joining NMSU in 2020, he has become known for his research in ice cream quality and formulation and reducing waste in ice cream production. His projects have received funding from more than a dozen companies, including Blue Bell Creameries and Blue Bunny Ice Cream.

SCORPIONS *in the* SPOTLIGHT

Ph.D. candidate shines light on one of the least studied arachnids

BY CARLOS ANDRES LÓPEZ

Josh Bachman

Inside a dimly lit office in NMSU's Gordon Watts Entomology Laboratories, John Agnew carefully placed a plastic container on top of a table. The inside looked mostly empty, except for a layer of sand, rocks and twigs lining the bottom.

As Agnew turned off the overhead lights and flashed a blue beam into the box, a faint but distinct green glow began emanating from within, revealing an army of scurrying scorpions.

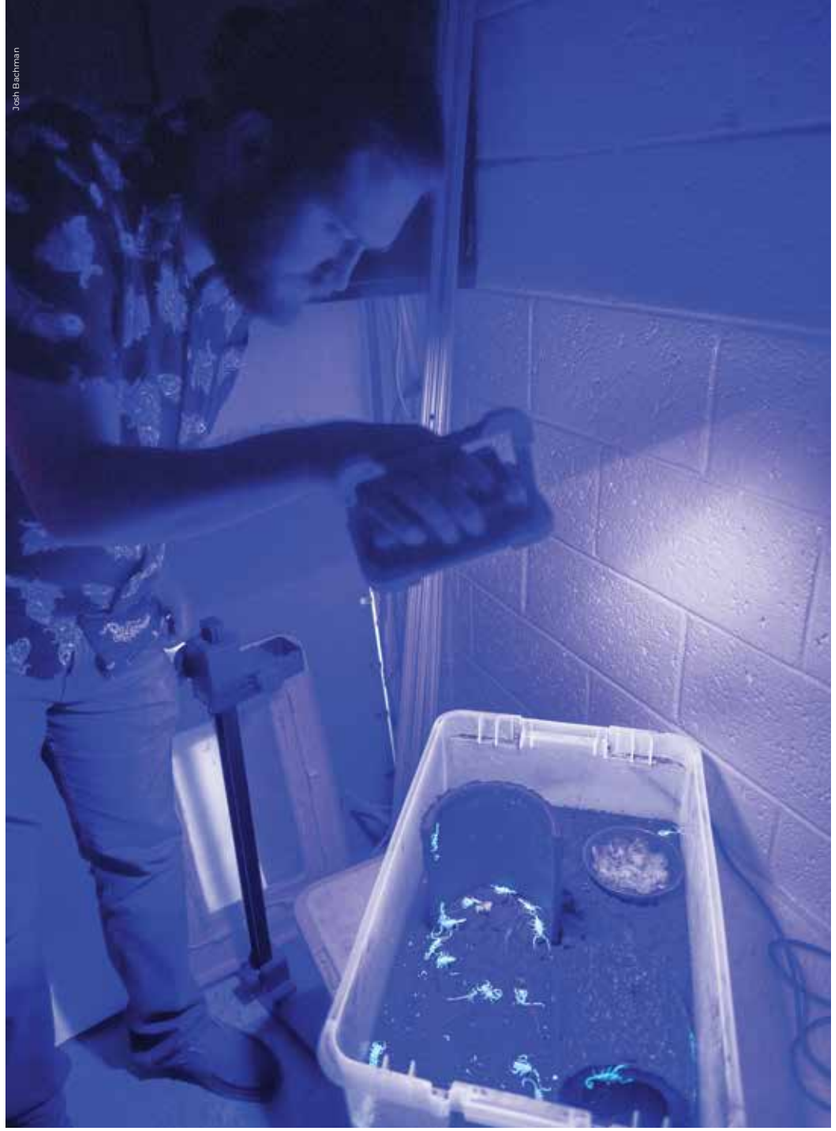
Scorpions, he explained, contain fluorescent chemicals in their exoskeletons, which naturally glow in the dark after exposure to ultraviolet light.

On top of being one of the most-feared arachnids, scorpions are also among the most challenging urban pests to manage and one of the least studied.

That sparked Agnew's interest, and he spent several years at NMSU studying scorpion biology and behavior as part of his Ph.D. work in the Department of Entomology, Plant Pathology and Weed Science. Most of his research involved testing biological and chemical methods to control scorpions.

"It's important to understand their behaviors and their biology because the first step in treating any pest is knowing how they function," said Agnew, who completed his Ph.D. in December 2025. "If we can figure out how their sensory systems work – like what they are sensitive to and how they behave – we can use that to our advantage in control practices."

Scorpions landed on Agnew's radar by chance when he was an undergraduate student. One day, he recalled, a researcher from Texas who frequently collaborated with EPPWS faculty had visited the Las Cruces campus, armed with a bucket of scorpions. The researcher asked Agnew if he'd like to study them.


Josh Bachman

John Agnew shines a light on his scorpions, revealing their glowing exoskeletons, which contain fluorescent chemicals that glow in the dark after exposure to ultraviolet light.

Josh Bachman

Scorpions captured for Agnew's research. Scorpions are among the most challenging urban pests to manage and one of the least studied.

"Almost immediately, I said yes," Agnew said. "So, I started almost instantly designing experiments in anticipation of what we could learn. Eventually, we got a few collaborators from insecticide companies, who wanted to know how to get rid of them or how they interacted with certain formulations."

For the next four years, Agnew helped lead the only scorpion research at NMSU.

In one study, he exposed scorpions to different wavelengths of light to determine if any caused avoidance behaviors. Scorpions in his tests appeared to avoid green and UV lights, suggesting that color-specific lighting could help deter infestations. This finding aligns with related research showing that scorpions may detect their own fluorescence and use their ability to glow after UV light exposure to their advantage.

"There's an idea that they can see their own fluorescence," Agnew said. "During a full moon, they're potentially visible. It signals to them that something else might also be able to see them and that they may want to hide. During a new moon, however, they can't see themselves and may think that other things can't see them. That's when we expect them to be out foraging and hunting for prey."

Agnew then teamed up with Kristen Bowers, an assistant professor and specialty crops entomologist at NMSU, for a study funded by the Western Integrated Pest Management Center. They investigated scorpion presence during lunar fluctuations and evaluated levels of scorpion resistance to pesticides based on populations from urban and more rural environments. They found that effective pesticide usage during, or just prior to, peak scorpion activity may enhance control while reducing unnecessary or ineffective treatment applications.

Before completing his Ph.D., Agnew also evaluated seven different commercial insecticide dusts. The results weren't promising, he said, but closely aligned with earlier insecticide research he published in a trade magazine.

"It's known throughout the literature that scorpions are very difficult to control and that few treatments work," he said. "When we looked at controlling them with dusts, only one worked after four hours of forced exposure."

In his post-NMSU life, Agnew hopes to find work in the pest-control industry that also allows him to continue his research. His interest in scorpions remains high, fueled by the lack of innovative management strategies and a desire to help humans manage these difficult pests.

"A lot of work has been done on mosquitoes, flies and other arthropods," he said. "But in terms of arachnids not quite as much has been done, and that's kind of the beauty of scorpion research."

Josh Bachman

Agnew spent several years at NMSU studying scorpion biology and behavior. Most of his research involved testing biological and chemical methods to control scorpions.

Barbara Hubbard speaks to students in the Entertainment Business and Venue Management class in October 2025. Hubbard works closely with the School of HRTM to bring entertainment industry professionals into the classroom.

Josh Bachman

LEARNING *from a* LEGEND

Barbara Hubbard takes HRTM class under her wings

BY KARMINA CONDE

When students in NMSU's School of Hotel, Restaurant and Tourism Management gather for their Entertainment Business and Venue Management class, they're not just learning from a textbook. They're learning from Barbara Hubbard, a woman whose decades-long career in the music industry has helped shape the way students experience the class.

"This is a class of learning that exposes students to successful people," Hubbard said. "We show them evidence of the many ways that you can progress to the highest levels of the entertainment industry."

Hubbard works closely with HRTM Director Jean Hertzman to bring guest speakers to the class. Using her extensive network, Hubbard connects students with professionals, many of whom are former Aggies who, with her help, have gone on to successful careers in entertainment and venue management.

"Learning from industry professionals not only reinforces the course materials but inspires students to show them what is possible for them," Hertzman said. "All the speakers are very open and honest in sharing their professional journeys."

The class combines lectures, guest discussions and hands-on learning oppor-

tunities that explore everything from tour management to venue logistics.

"The guest speakers give you a different perspective on things," said Gabe Martinez, who took the Entertainment Business and Venue Management class during the fall 2025 semester.

The class has featured lectures from a variety of industry professionals, each bringing unique insight to the classroom. Among them are John Huie, who represents artists such as Zac Brown Band, Faith Hill and Dwight Yoakam; Mike McLean, a visual communications specialist; Kent Meredith and Cindy Harper, who manage the United Supermarkets Arena at Texas Tech University; and Steve Dixon, a music producer and NMSU alumnus who has worked with major names across the industry.

"I've brought most of my kids that've made it to the top of the ladder," Hubbard said. "To prove that at least one student from New Mexico State climbed to the top."

Hubbard's relationship with NMSU spans more than half a century. She joined the university in the 1950s and later became its first director of special events, turning the Pan American Center into a premier stop for national performers. Over the years, she brought acts like Elton John, Garth Brooks and Tina Turner to Las Cruces, often involving students in the production process to give them hands-on experience.

"Barbara's a legend," Martinez said. "I wanted to learn about what she did and how she brought other people in."

NMSU Library, Archives and Special Collections

NMSU Library, Archives and Special Collections

Above: Hubbard poses with country singer Reba McEntire circa 1991. Below: Hubbard speaks with Bill Williamson in the Pan American Center in this undated photo. Hubbard, who joined NMSU in the 1950s, was responsible for turning the Pan American Center into a premier stop for national performers.

Josh Bachman

Hubbard continues to mentor NMSU students through her work with HRTM and the American Collegiate Talent Showcase, or ACTS. Through ACTS, college students gain exposure to the entertainment industry, develop professional skills and build connections.

Hubbard also has served as executive director of the American Collegiate Talent Showcase since 1978. In that role, she oversees all aspects of the program from organizing, producing and marketing events to administering budgets and raising scholarship funds. Under her leadership, ACTS has grown into a major platform where college students gain exposure to the entertainment industry, develop professional skills and build connections that often launch their careers in music, venue management, production and event services.

"It's amazing to me how some of these country kids dream, and to me, I want to bring those dreams close to their capability of succeeding," Hubbard said. "That's what teaching is about to me: You tell me where you want to go and how you want to get there, and we'll go through hell and high water to try to get you there."

Even after decades at NMSU, Hubbard shows no signs of slowing down. Through her work with HRTM and her continued mentorship of students, she remains a driving force in connecting the classroom to the stage.

Karim Martinez, standing, has been an NMSU Cooperative Extension Service faculty member since 2004. She is currently an Extension family life and child development specialist.

Josh Bachman

‘K IS FOR KIND’

Extension specialist Karim Martinez strengthens New Mexico communities with compassion

BY TIFFANY ACOSTA

As a freshman majoring in sociology at NMSU, Karim Martinez followed her mother’s advice. In the fall of 1996, Maria S. Martinez was finishing her degree in family and consumer sciences when she suggested that her daughter enroll in one of the department’s courses.

“Through her encouragement, I started taking classes in FCS, and I really enjoyed it. I thought it meshed very well with sociology,” Martinez said. “I was learning about society and cultures, and, with family and consumer sciences, I was learning practical skills for family well-being. Everything that you learn in FCS, you can apply directly to your own life. I loved it so much, I ended up double-majoring.”

Since 2004, Martinez has been a Cooperative Extension Service faculty member at NMSU. The Las Cruces native became an Extension family life and child development specialist in 2018 after earning a Ph.D. in educational leadership and administration at NMSU.

In her current role, Martinez provides statewide leadership in family life education along with resource materials and training for county Extension personnel. Her areas of focus include stress and resilience, behavioral health and wellness, interpersonal communication and family relationships.

A new priority of Extension’s behavioral health and wellness initiative is addressing issues such as mental health challenges and suicide. Martinez has led the efforts in programs such as Mind Matters, Question, Persuade, Refer Gatekeeper Training, Mental Health First Aid and Youth Mental Health First Aid.

“Mental health is not a topic that Extension has typically been known for, but because we are a trusted resource in communities, I think that we’ve been able to provide valuable support in this area,” Martinez said.

“Karim’s work strengthens the fabric of communities across New Mexico, and her dedication to improving the lives of families is truly remarkable,” said Jon Boren, director of NMSU’s Cooperative Extension Service and associate dean of the College of ACES. “Karim’s thoughtful guidance, willingness to support colleagues and positive impacts for families and individuals across the state make her an invaluable member of our Extension team.”

At the county level, Martinez often teaches programs in parenting education and health and wellness, including diabetes education and chronic disease management, to Doña Ana County residents. Martinez served as the program director for the Doña Ana County Extension Office for 10 years.

“Because I am bilingual, I was able to reach Spanish-speaking audiences with all of my county Extension programs,” she said. “I had the opportunity to meet so many wonderful families throughout the county.”

She added, “In my specialist role, my clientele has shifted from directly reaching community members to supporting county agents. Even when resources are limited, agents rise to meet community needs, and I have really enjoyed and appreciated working with so many dedicated Extension agents.”

Dianne Christensen, an FCS agent at the Bernalillo County Extension Office who works with Martinez, recalled how she helped the team transition to online learning opportunities.

“She is effective, she’s efficient, but she’s also a servant,” Christensen said.

Josh Bachman

Martinez provides statewide leadership in family life education along with resource materials and training for county Extension personnel. Her areas of focus include stress and resilience, behavioral health and wellness, interpersonal communication and family relationships.

“During COVID, FCS pivoted very quickly, and at that time, webinars were a big deal. We came up with the idea of doing a stress webinar, and she headed it up. Having been an agent, she gets what it’s like to be an agent.

“K is for kind,” Christensen added. “She’s just so kind and thoughtful. She has this amazing ability to be so caring, but professional at the same time.”

FLAIR *for* FASHION

Student finds passion for retail merchandising at NMSU

BY CARLOS ANDRES LÓPEZ

Friends and family have long turned to Atlee Musgrave as their go-to fashion expert. Now, he's poised to influence how the rest of America dresses after graduating from NMSU this spring and joining the ranks of the largest department store chain in the nation.

Musgrave channeled his passion for fashion into a successful academic career at NMSU, finding and following an interest in retail merchandising in the Fashion Merchandising and Design program. His business-savvy mind helped him land a role as an assistant buyer for Kohl's corporate headquarters in Milwaukee, which he'll begin this summer.

"Soon after I started the program at NMSU, the merchandising side – the buying, the forecasting, the sales, the heavy business operations of fashion – piqued my interest the most," he said. "I still love designing and styling, but something about the business side made me go, 'That's where I belong.'"

Growing up in Placitas, New Mexico, Musgrave was drawn to fashion, journalism and politics. His fashion heroes include Christian Dior, Dolly Parton, Law Roach and Miranda Priestly. During his senior year in high school, he decided to study fashion in college, which led him to NMSU, the only university he applied to that offered a fashion program.

Josh Bachman

NMSU student Atlee Musgrave will begin working as an assistant buyer for Kohl's corporate headquarters in Milwaukee this summer.

At NMSU, he quickly made a name for himself as a standout student. He was active in many student organizations and entrusted to serve in various leadership roles for the College of ACES and Department of Family and Consumer Sciences.

"Atlee has been an inspiration and mentor to our students," said Kelley Coffeen, an associate professor of fashion merchandising and design. "He takes advantage of the opportunities NMSU offers and has used them to start his career."

Throughout his time at NMSU, Musgrave was highly involved with the annual Sustainable Fashion Show, for which he designed original looks with recycled materials and supported marketing and production efforts. More importantly, he gained a deep understanding of the creative and financial sides of the fashion industry, taking classes on apparel and textile design, merchandise buying, fashion history, fashion promotion, retail and design management, brand and product marketing, and business management.

"We get a very good mix of design and merchandising," he said. "A lot of other universities split the two. But our program combines both, so that students interested in design still understand the business side of everything, and those who want to go the business route understand how garments are made and all intricacies involved in the design process."

As a freshman, Musgrave joined the National Retail Federation, the largest retail trade association in the world. Later, he became an NRF ambassador, a role in which he worked to raise the NRF's profile among his peers at NMSU. As an ambassador, he traveled to New York City in 2025 to attend NRF's annual conference and participate in its student program. Through NRF, he networked with various professionals across the industry and secured a paid 10-week summer internship with Kohl's in 2025, paving the way for a full-time position.

When Musgrave graduates in May 2026, he will do so ready to launch his professional career. As an assistant buyer for Kohl's, he'll work closely with the associate buyers and assist with pricing and marketing. For Musgrave, joining Kohl's exemplifies his long-held belief that fashion touches everyday lives.

"I think when people think of fashion, they think of Chanel, Dior and all the luxury designers, but it's what we wear every day," he said. "We think of fashion as a luxury industry, but it's really something that touches our lives every single day."

Josh Bachman

Musgrave works on a pattern in the sewing lab in Gerald Thomas Hall. Musgrave will graduate from the Fashion Merchandising and Design program in May 2026.

Dante Rojas-Barboza

Educator studied at NMSU to grow skills and knowledge in food science

BY CARLOS ANDRES LÓPEZ

Dante Rojas-Barboza was a longtime high school teacher in Mexico when he decided to pursue a second master's degree. His background in food chemistry brought him to NMSU in 2018 to study food science and technology.

"When I decided to start a new master's program at NMSU," he said, "my goal was to refresh my knowledge about food technology and understand what's going on with the current science."

As an NMSU student, Rojas-Barboza became a well-known face throughout the Department of Family and Consumer Sciences. He taught undergraduate courses in food science, food chemistry and micro-food processing, drawing on his time as a teacher. He worked closely with Extension staff and faculty and collaborated on several research studies. In one project, he isolated phenolic components in jujube fruit to improve the quality of cultivars.

Rojas-Barboza said his interest in food science stems from his long-held love of cooking.

"I like to understand the process of what's happening with the food and what's happening with the nutrition component," he said.

During the final year of his master's program, Rojas-Barboza teamed up with NMSU's Arrowhead Center to assist food producers and food companies. In 2022, he was part of a team assembled through the New Mexico Small Business Assistance Program that helped grow operations at Worthington Farms, a family-run pecan farm in Doña Ana County.

He and Efren Delgado, head of the Department of Family and Consumer Sciences, performed a shelf-life analysis on a line of the farm's products, including pecan flour, butter and oil. They also analyzed changes in water activity, acidity and microbial growth over several months to determine stability, safe shelf-life and use-by dates for each product.

By the end of project, the farm hired three new employees, increased sales by 40%, brought in 17 wholesale accounts

Josh Bachman

and received an investment of $30,000 from the New Mexico Job Training Incentive Program.

Rojas-Barboza now works as a food quality specialist at Saputo, a dairy-processing company, where he is responsible for monitoring product quality. He also plans to pursue a Ph.D. in industrial engineering.

"I want to grow my knowledge in the food industry," he said. "In this case, for example, I know the food process, but I want to investigate and find ways to improve the operational side of the industry. How can we combine the nutrition process, quality of products and the production area? That's what I'm interested in pursuing."

Alicia Sanchez

New Mexico native finds success working in family businesses

BY CARLOS ANDRES LÓPEZ

Alicia Sanchez comes from a family with deep ties to New Mexico and NMSU.

Sanchez grew up in the small community of Belen in Valencia County, where her family has lived for 400 years. At a young age, she forged a connection to NMSU.

On family trips to El Paso, she said her father, Dr. Roland K. Sanchez, would drive past the Las Cruces campus and tell stories about his time as an Aggie. When Sanchez grew into 4-H and FAA, she always looked forward to overnight visits at NMSU for state conferences and meetings.

"To me, it was just second nature to go to New Mexico State," she said. "I had a lot of friends and colleagues who had gone to NMSU. My family was also close to Cliff Sanchez, Frank Holguin and other local Extension agents and district conservationists, who shared their expertise to help our cattle ranch in developing a conservation plan for grazing management."

At NMSU, Sanchez first enrolled in the College of Business. But after attending orientation, she decided to join what is now known as the College of ACES to pursue a bachelor's degree in agricultural economics and agricultural business. Her sister, Jessica, then an animal science major at NMSU, had convinced her to make the change.

"I trusted my sister and knew that the College of Ag would have smaller classes, with more one-on-one time with instructors," Sanchez said.

While at NMSU, Sanchez worked at Cervantes Enterprises, which provided her with international work experience in exporting goods outside the United States. After that, she completed an internship with USDA's Foreign Agricultural Service. There, she played a key role in fixing a barrier to exporting cotton to Mexico under the CC Program, helping American growers to export cotton internationally.

Upon graduation, Sanchez became the financial manager for her family's businesses, a role she held for 11 years before purchasing an insurance agency. She owned an independent insurance agency with offices

Courtesy

in New Mexico and Texas, specializing in commercial, home, auto, life, and farm and ranch insurance. She ran the agency from Burleson, Texas, for more than 12 years. She sold the company in 2024 and returned to New Mexico to serve as the controller for her family's growing businesses, which has allowed her give back to the community that means so much to her.

"New Mexico is a great place," she said, "but sometimes when you live here, you can forget how beautiful the people and state are. My family and I are happy to be here and so grateful for our community and the support that they've shown us throughout the years."

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College of Agricultural, Consumer
and Environmental Sciences
MSC 3AG
New Mexico State University
P.O. Box 30003
Las Cruces, NM 88003-8003

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