

Agricultural Experiment Station

ACES RESEARCH

Leslie D. Edgar – Associate Dean and Director AES

College of Agricultural, Consumer
and Environmental Sciences

Agricultural Experiment Station

The logo for New Mexico State University, featuring the letters "NM" in a large, bold, serif font above the words "STATE" and "UNIVERSITY" in a smaller, bold, sans-serif font. The logo is set against a white background within a dark red square.

NM
STATE
UNIVERSITY

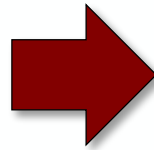
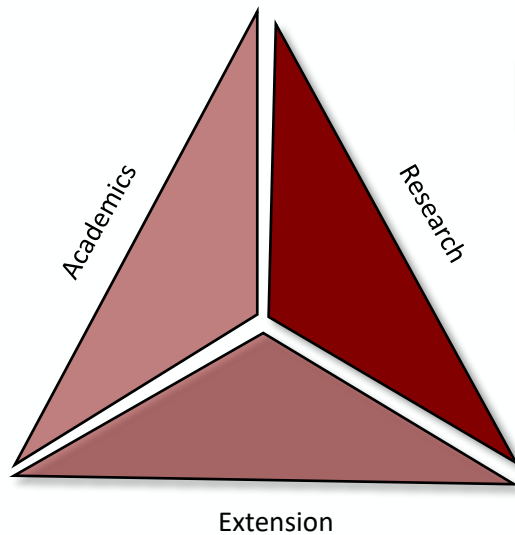
BE BOLD. Shape the Future.

Mission and Purpose

- The Agricultural Experiment Station system supports fundamental and applied science and technology research to **benefit New Mexico's citizens in the economic, social, and cultural aspects of agriculture, natural resources management and family issues.**
- The New Mexico Agricultural Experiment Station (AES) was defined and created by the Federal Hatch Act of 1887 to research problems and find solutions to improve the lives and livelihoods of citizens. In 1915, New Mexico constitutionally mandated AES under Article X, section 11 of the state constitution
- NMSU's Agricultural Experiment Station is the principal research unit of the College of Agricultural, Consumer and Environmental Sciences.
 - Supporting LEADS 2025 Goal 2: Elevate Research & Creativity



Land-Grant University / ACES Research



Academic / Research Departments

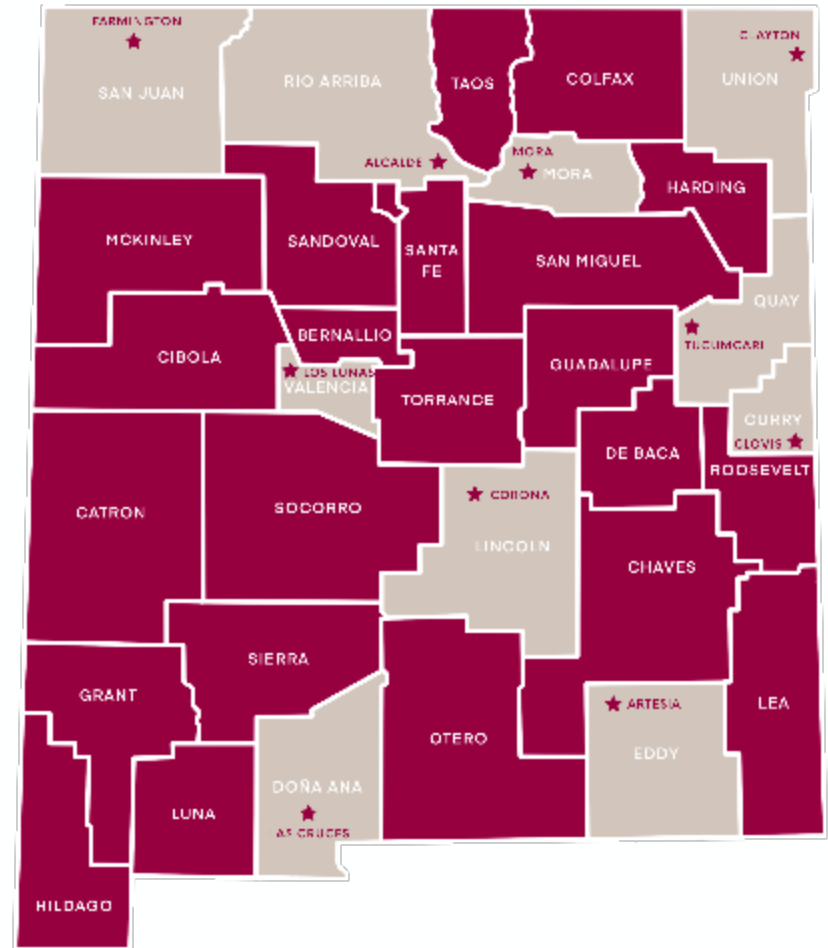
- Agricultural and Extension Education
- Agricultural Economics & Agricultural Business
- Animal & Range Science
- Entomology, Plant Pathology, & Weed Science
- Family & Consumer Sciences
- Fish, Wildlife & Conservation Ecology
- Plant & Environmental Sciences
- Hotel, Restaurant, & Tourism Management

Agricultural Science Centers

- Alcade Sustainable Agriculture Science Center
- Artesia Agricultural Science Center
- Chihuahuan Desert Rangeland Research Center
- Clayton Livestock Research Center
- Clovis Agricultural Science Center
- Corona Range and Livestock Research Center
- Fabian Garcia Research Center
- Farmington Agricultural Science Center
- Leyendecker Plant Science Center
- Los Lunas Agricultural Science Center
- Mora John T. Harrington Forestry Research Center
- Tucumcari Agricultural Science Center

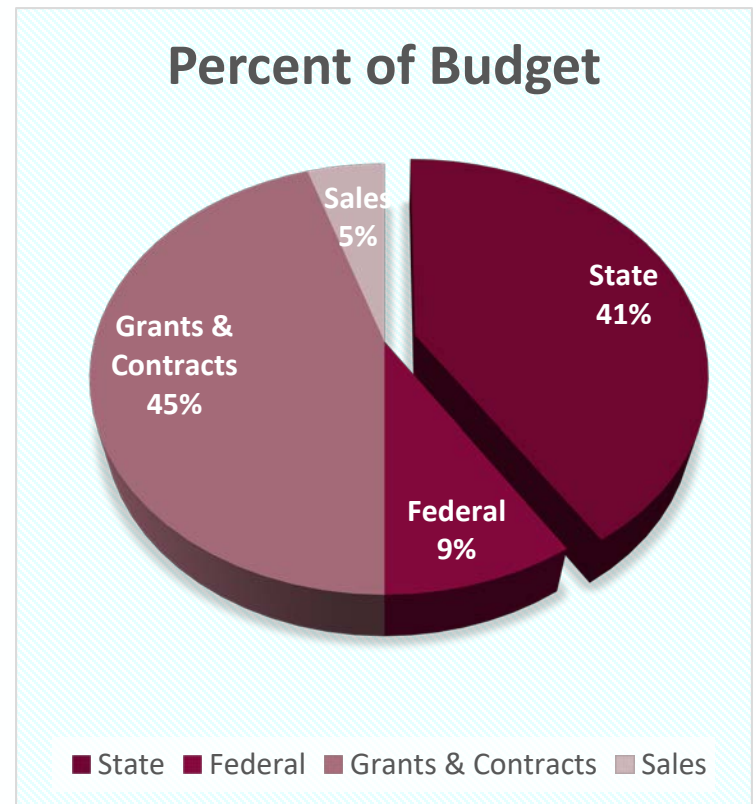
AES Overview

- All research in ACES is administered by the Agricultural Experiment Station.
- AES is not a physical site, but rather a system of scientists who work on the Main Campus in Las Cruces and 12 agricultural science centers (ASCs).
 - In 2020, there were 365 faculty and staff associated with AES.
- Strategically placed agricultural science centers (ASCs) allows research to inform agricultural producers from around the state about best practices and advancements specific to their climate zone.



AES Budget

- Total FY21 AES budget = \$37.1 million (70% of budget is personnel service costs)
- State appropriations constitute approximately 41% of the overall budget
- State's investment in AES is matched more than 1:1 through Federal appropriations, grants and contracts, and sales
- All faculty in ACES with research appointments support AES, and ACES led NMSU for the fifth consecutive year in grants sought and awarded.



AES FY23 Request

- This increase will fund three positions (Wildlife Disease Ecologist, Meat Lab Manager, and Assistant Meat Lab Manager) as well as provide support for increased weather station research and maintain operations.
- Each of these positions has an impact on New Mexico's economy and provides support that can boost the lives of New Mexico citizens.

FY22 state appropriations:
\$14,831,600

FY23 request: \$15,331,600

Difference: \$500,000
Increase



AES FY23 Requested Increase

- Weather Station Research Support: \$206,525
- Wildlife Disease Ecologist: \$100,000
- Meat Lab Manager: \$65,000
- Assistant Meat Lab Manager: \$50,000
- Remaining \$78,475 covers fringe for the new positions



AES Response to COVID-19

- AES priority remains ensuring the safety of employees and the communities we serve
- Continuing Critical Operations – Maintaining plants, animals, and equipment is a vital priority
- Following state and NMSU guidelines, AES led the university in return to research protocols approved
- Recovered food when and where possible and shared it with our communities.



AES Economic Impact

- AES completed an economic impact assessment to enhance our understanding of our contributions to the state economy.
- Contributions come from AES research expenditures circulating through the economy to generate economic activity and output and increasing agricultural productivity and increased efficiencies leading to production cost reductions.
- The Agricultural Experiment Station leveraged its state appropriated revenue by more than 1 to 1.
- AES used its existing infrastructure to generate about \$3 million in sales of agricultural commodities in FY21.



AES Economic Impact Assessment

- The total contribution of NMSU's Agricultural Experiment Station system derived from both research expenditures and potential increased agricultural productivity on the state's economic output (sales) was estimated to be more than \$137 million.
- Total contribution to the State's gross domestic product was estimated at more than \$77 million.
- In terms of state employment, the AES system is estimated to support 1,191 jobs within the state.
- Complete assessment available upon request.

ASC Updates

- Facility Index Assessments have been completed at each ASC site in compliance with NMSU Facilities
- Deferred maintenance projects utilizing state funds are moving forward - \$87M need remains
- Each ASC has hosted or will host an in-person field day in 2021.
 - 10 ASCs have hosted field days with more than 600 attendees state-wide (not including a drive-thru event at Farmington ASC)
- GIS/GPS analysis being completed for each ASC
- Pilot Program - separating research and ranch/farm operations at ASCs



AES Research Priorities

- Deferred maintenance updates of research facilities
- Continue to operate and expand weather stations and corresponding research
- Establish meat lab and operation effectiveness
- Enhance wildlife/human interaction research
- Increase water research
- Carbon Management / Dryland Resilience
- Reforestation center collaboration
- Enhance public/private partnerships
- *Each of these priorities have a component that recognizes the importance of food, water, and energy solutions for New Mexico.*



AES research priorities are focused on LEADS 2025 and continuing to meet the need of agricultural changes in New Mexico.

Carbon Management and Soil Health in Arid and Semi-Arid Environments

- In 2021, NMSU AES began an Initiative on Carbon Management and Soil Health in Arid and Semi-Arid Environments. This initiative will lead research, education, and outreach activities on natural climate solutions to identify, verify, and disseminate cost-effective practices that will provide additional revenue to farmers and ranchers in New Mexico. The agricultural sector can provide a viable path towards sequestering carbon while feeding a future world of over 9 billion people.

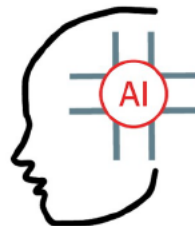


Center for Dryland Resilience

- AES researchers are part of the Center for Dryland Resilience that is a collaborative Center with researchers from NMSU, University of New Mexico (UNM), New Mexico Tech (NMT), Eastern New Mexico University (ENMU), New Mexico Highlands University (NMHU), Los Alamos National Labs, and other New Mexico organizations that have a focus to transform understanding and management of natural capital under environmental change, a critical challenge at the interface of science and society. This Center's research priorities will benefit agriculture and tourism industries of great economic and cultural importance to our state.



Ecological
Monitoring Network



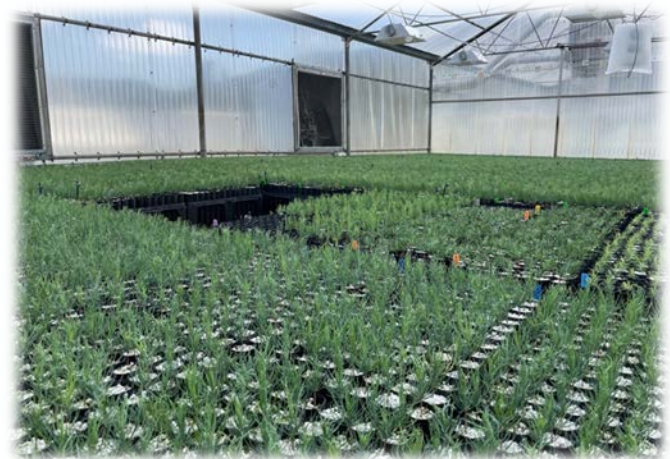
Data Mobilization



Resilience Strategies

New Mexico Reforestation Center

- The JTH Forestry Research Center in Mora is in partnership with NM Energy, Minerals and Natural Resources Department (EMNRD), NMHU, and UNM to establish the New Mexico Reforestation Center. Forests supply 50-70% of all water used by municipalities and agriculture in NM, along with providing recreational opportunities, wildlife habitats, timber, and other valuable resources.
- New Mexico forests are at risk of catastrophic wildfire and the areas burned by wildfires are increasing.
- The NM Reforestation Center will be able to meet current and future needs in New Mexico through its comprehensive seed bank, nursery, and planting operations combined with research, education, and outreach activities.



Wind Energy at the CRLRC

- In September 2017, NMSU's Corona Range and Livestock Research Center, or CRLRC, joined in Pattern Energy's endeavor to build a wind farm in the Corona area through a public/private partnership. Construction in the Corona area started in November 2020, with major construction on the CRLRC beginning early spring 2021.
- This project helps build a green energy economy for NM and provide research and educational opportunities for NMSU students and 4-H youth.
- Once construction is complete, the CRLRC will have 39 turbines installed on ranch property, along with two turbines on state trust land leased for grazing. Ultimately, Pattern Energy's Western Spirit Transmission area project will consist of 377 turbines, or a total of 1,050 megawatts.
- This endeavor generates financial support to be reinvested into the CRLRC for 30 years.



Contact Information

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