

# Agricultural Experiment Station

ACES RESEARCH

Leslie D. Edgar – Associate Dean and Director AES

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.

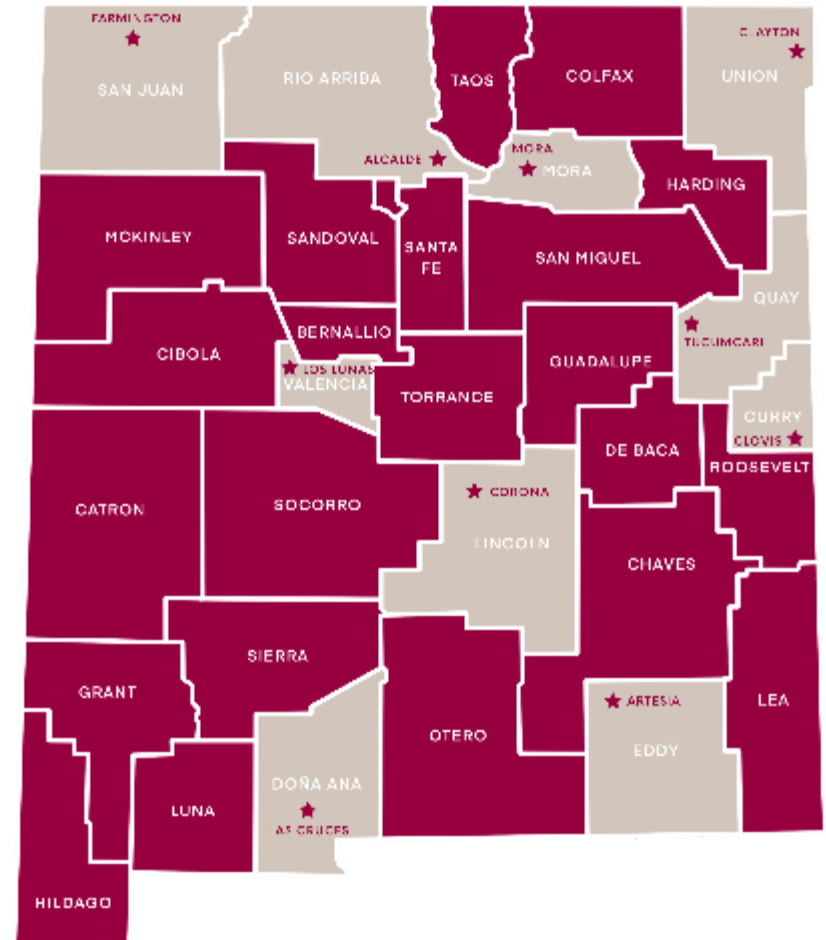
# Mission and Purpose

- 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.
- AES was created by the federal Hatch Act of 1887 and was constitutionally mandated in New Mexico in 1915.
- 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



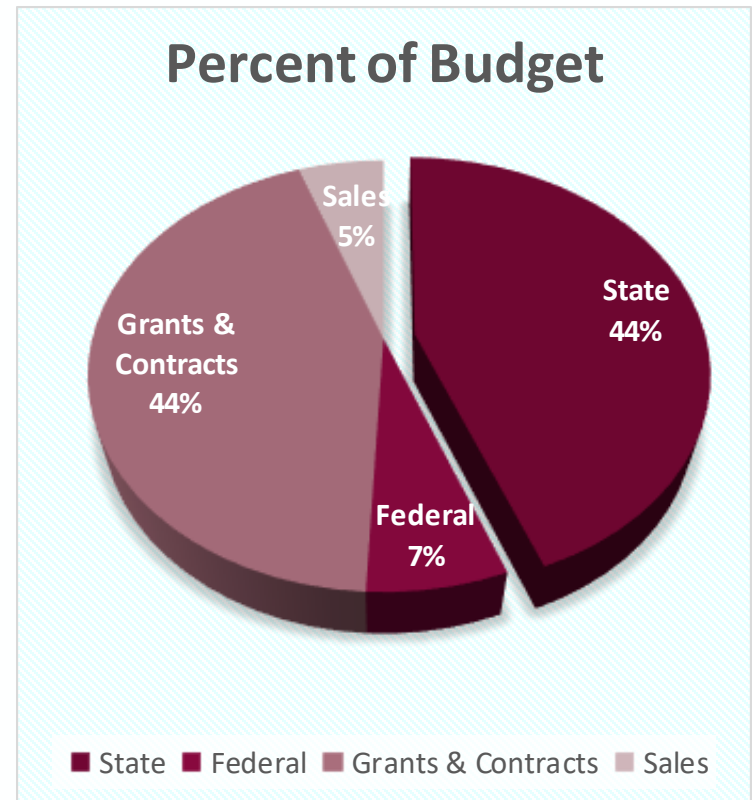
# AES Overview

- 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.
- Having strategically placed agricultural science centers 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 = \$36.4 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
- In 2020, AES expanded our funding portfolio and, for the fifth consecutive year, ACES led NMSU in grants awarded and expended.



# ASC Updates

- Strategic plans have been finalized for each ASC, with a focus on aligning future plans with LEADS 2025
- Facility Condition Index assessments have been completed at each site in compliance with NMSU Facilities and Services
- Deferred maintenance projects utilizing state funds are moving forward
- All ASCs will be hosting a field day in 2021 and virtual tours will be available by the end of the year.
- GIS/GPS analysis being completed for each ASC





# AES Response to COVID-19

- The AES priority remains of ensuring the safety of employees and the communities NMSU serves
- 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 and approvals
- ASCs offered virtual programming in 2020, including a Chile Day Conference, multiple workshops, and virtual field days.
  - AES will continue to provide offerings to stakeholders that provide virtual and in-person opportunities as we move forward through the COVID pandemic.
- Recovered food when and where possible and shared it with our communities.
- Critical Research
  - Currently in Phase 3 of the NMSU Return to Research Plan.



# AES Economic Impact

- In 2020, AES initiated 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 appropriate revenue of \$16 million to generate \$15.9 million in externally funded grants & contracts.
- AES used its existing infrastructure to generate about \$3 million in sales of agricultural commodities in FY21.



# AES Highlighted Research

AES submits impact statements annually to the National Impact Database. These statements provide national recognition to AES research and can be used for funding requests by USDA NIFA to continue to support agricultural research at land-grant universities. Examples provided are from 2020 submissions.

- To help New Mexico producers and the food industry comply with the Food and Drug Administration FSMA and U.S. Department of Agriculture requirements, scientists with the **New Mexico Agricultural Experiment Station** are adapting the use of a portable spectrometer using LEDs to identify pathogens in food products at the production source. This will be accomplished using state-of-the-art technologies designed for implementation with minimal required training.
- New Mexico researchers have shown results that improve reproduction, diet and growth in beef cattle. Examples include: the effects of stair-step nutritional programming on ovarian development in replacement beef heifers; effects of maternal supplementation of arginine during pregnancy on fetal development; and effects of supplemental fat and roughage level on intake, growth performance, and immune function of newly received feedlot calves.
- With traditional water sources under stress from climate variability, non-traditional irrigation water sources, such as recycled water, are becoming more and more crucial. Many farmers have concerns about these sources, however. A New Mexico team created two virtual labs to help farmers and others see how nontraditional water is tested and monitored. These accessible, high-quality digital educational tools have been used nearly 5,000 times since December 2019 and have supported a shift within both agricultural and nonagricultural communities toward the use of non-traditional irrigation sources.

<https://landgrantimpacts.org/>



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# AES Research Priorities

- Deferred maintenance updates of research facilities
- Enhance Public/Private Partnerships
- Expand weather station research
- Expansion of meat lab and water research
- Carbon Management / Regenerative Agriculture
- Reforestation Center
- Ag Science Center Pilot
  - Shifting budget to farm managers to increase productivity of land at ASCs



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

# Contact Information

**Dr. Leslie D. Edgar**

**Associate Dean and Director**

**Agricultural Experiment Station**

**Agricultural, Consumer, and  
Environmental Sciences**

(575) 646-1138 / [ledgar@nmsu.edu](mailto:ledgar@nmsu.edu)

<https://aces.nmsu.edu/aes/>



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