

# New Mexico State University Agricultural Experiment Station

Natalie P. Goldberg  
Interim Associate Dean and Director

Current Base \$13,512,000  
**FY 19 Expansion Request \$0.00**  
Total Request \$13,512,000

Legislative Finance Committee  
October 26, 2017



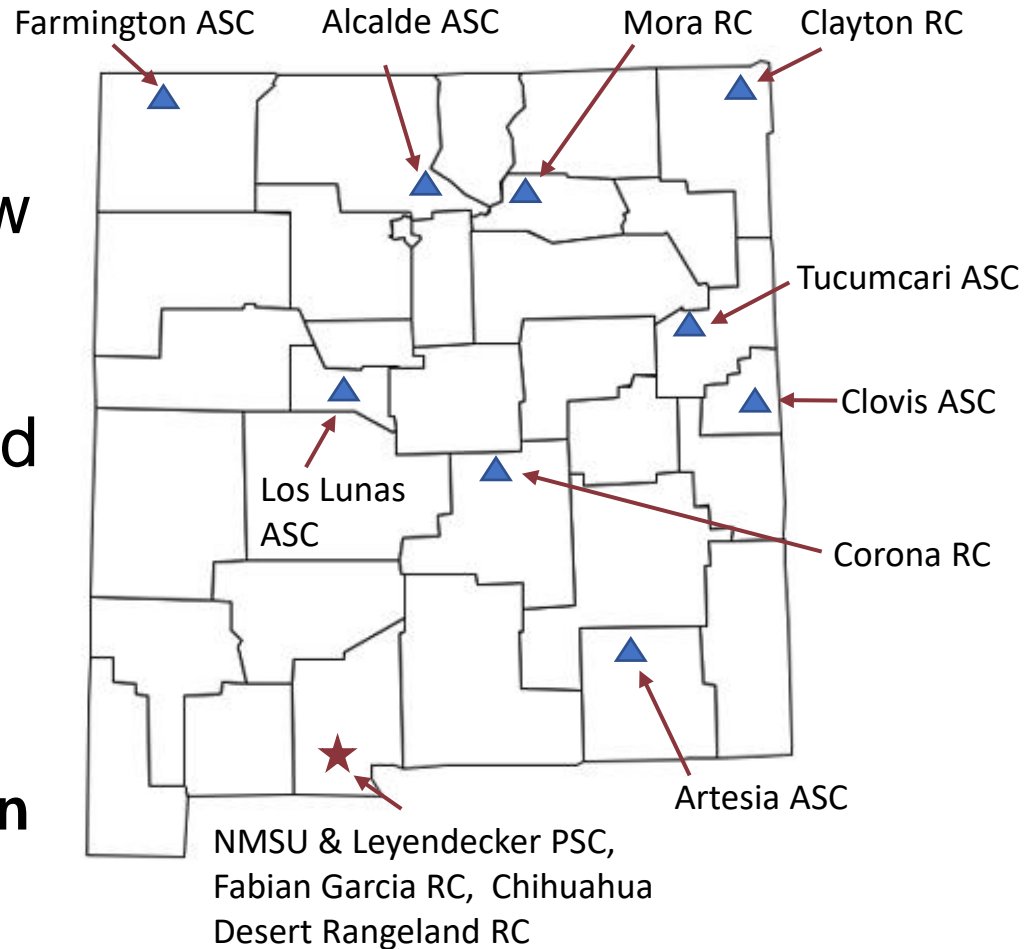
# Agricultural Experiment Station Mission

- The Agricultural Experiment Station (AES) is the principal research unit of the College of Agricultural, Consumer and Environmental Sciences (ACES)
- The AES System supports fundamental and applied science and technology research to benefit New Mexico's citizens in economic, social, and cultural aspects of agriculture, natural resource management, and family issues
- AES was created by the federal Hatch Act of 1887 and was constitutionally mandated in New Mexico in 1915



# Agricultural Experiment Station System Overview

- Agricultural Science Centers uniquely located throughout New Mexico and the Las Cruces campus research facilities conduct research based on the needs of local stakeholders
- **Statewide impact:**
  - Research outcomes impact stakeholders in all counties



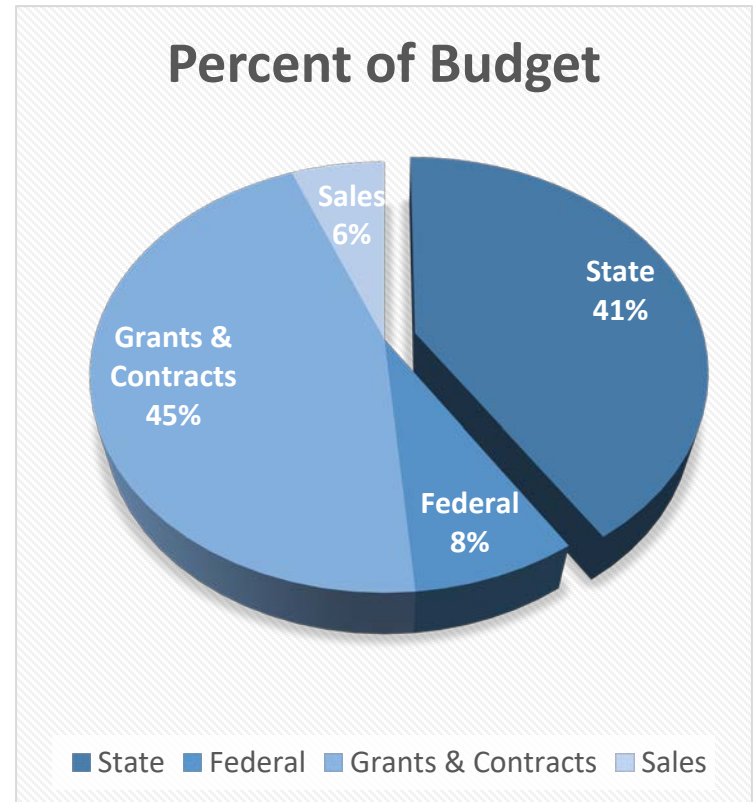
# Agricultural Experiment Station “Training Tomorrow’s Scientists”

- AES faculty train the next generation of agricultural professionals, providing hands-on learning and research opportunities for both undergraduates and graduate students



# Agricultural Experiment Station

- Total FY18 AES budget \$33 million
- State appropriations constitute approximately 41% of the overall budget
- Approximately 80% of budget dedicated to personnel service costs
- State's investment in AES is matched more than 1:1 through Federal appropriations, grants and contracts, and sales



# AES Research Efforts

- Approx. 9,500 acres of research sites
  - 1,300 irrigated acres
- Allows diverse research efforts:
  - Water conservation
  - Cropping systems
  - Dryland farming
  - Forestry
  - Feedlot studies
  - Rangeland management
  - Conservation ecology
  - Pest management
  - Food Science, safety and value-added products



# Selected AES Impacts

- Researchers working on **water use efficiency and conservation** have developed an online crop evapotranspiration (ET) tool that estimates crop ET and helps farmers track crop water use. They have also developed a simple canal operation algorithm that helps manage canal reaches and deliver the right amount of water to the desired farm field at the desired time with limited waste.



# Selected AES Impacts

- **NMSU researchers have shown that adding chile peppers to cattle feed increases anti-inflammatory effects in the animals.** This could provide a beneficial use for the estimated 18% of the chile crop lost to waste and provide a \$20-million benefit to the chile pepper industry—a win-win for New Mexico’s chile pepper and livestock industries.





# Selected AES Impacts

- Research conducted jointly by NMSU and USDA–ARS Jornada Experimental Range has shown that, during periods of drought and forage scarcity, **Mexican Criollo cattle range farther across the landscape and broaden their menu of plant species.** Raising Criollo cattle could help lower the environmental footprint of desert beef production on Southwestern ranches.



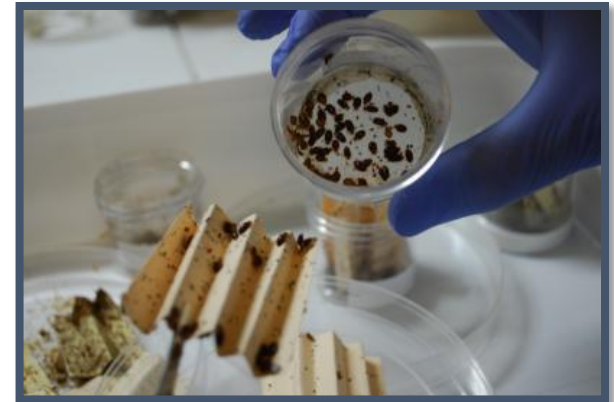
# Selected AES Impacts

- **Cropping systems research** focuses on improving soil and crop management practices enhance efficiency, profitability, and environmental quality in the face of increasing water limitation and climate variability.
  - **Water savings of 25%** are possible with traditional crops and some alternative crops, like winter canola, **use 40% less water**
  - Improved production practices also show the potential to **reduce other inputs, such as fertilizer, by up to 25%**



# Selected AES Impacts

- After the discovery of an insecticide-resistant population of bed bugs, NMSU researchers **developed an integrated pest management approach that includes a wide range of nonchemical methods**, reducing toxicity risks of insecticides indoors while also interrupting the bugs' ability to overcome management programs.



# Selected AES Impacts

- **Research conducted on the Hualapai Mogollon vole led to its removal from the federal endangered species list, preventing needless resource expenditures on a species when it is not warranted.**



# Selected AES Impacts

- **‘NuMex R. Vince Hernandez’** has a 30% higher dry yield compared to standard cultivars, which could increase revenue for New Mexico paprika growers by more than \$1 million annually.
- **NMSU’s onion breeding program** has developed cultivars that exhibit reduced thrips feeding and reduced Iris Yellow Spot Virus. These cultivars could offset losses from these pests by up to \$210 million per year in the U.S. onion industry and save up to \$14 million per year in pesticide use.
- **‘NuMex Bill Melton’**, a drought-tolerant alfalfa cultivar, has generated hay sales of approximately \$1 million annually since its release in 2015.

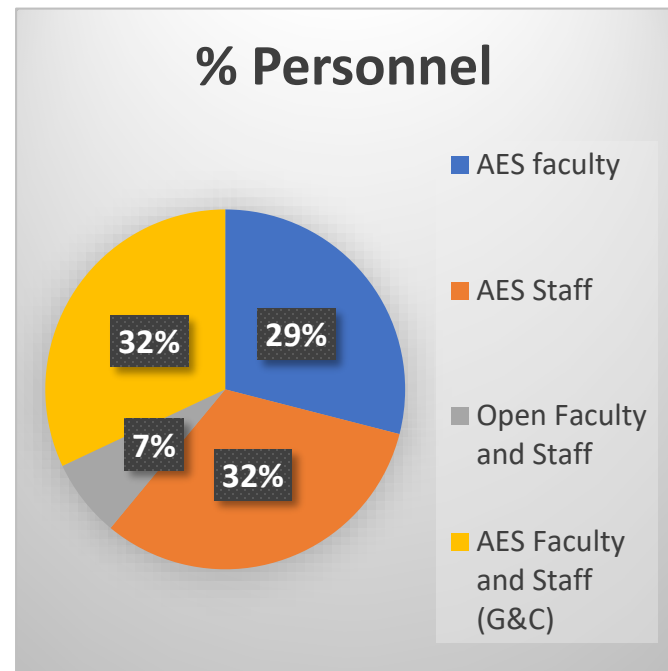


# Agricultural Experiment Station Fund Balance

- AES Fund Balance as of June 30, 2017:

Designated Fund Balance	\$ 2,168,308
Undesignated Fund Balance	\$ 5,571
Total Fund Balance	\$ 2,173,879

- Designated fund balance includes overhead, sales and startup funds for new faculty hired prior to FY 18
- Holding open faculty and some staff positions to build the undesignated fund balance
  - 27 AES positions are currently open



# Agricultural Experiment Station FY18 Expansion Request

- Given the economic uncertainty, we are requesting level funding
- We are working to build the undesignated fund balance to an appropriate contingency of 6 – 8%
- Without level funding of recurring state appropriations, we will be forced to reduce research efforts around the state, compromising our ability to support stakeholders and meet our Mission



# New Mexico State University

## New Mexico's Land-Grant University

- **Teaching** agricultural sciences (*Morrill Act, 1862*)
- Conducting applied **research** through the formation of the Agricultural Experiment Station (*Hatch Act, 1887*)
- Disseminating research-based knowledge to end users (stakeholders) through the Cooperative **Extension Service** (*Smith-Lever Act, 1914*)

### ACES 4 Pillars

