New Mexico State University
Agricultural Experiment Station

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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

NMSU & Leyendecker PSC, Fabian Garcia RC, Chihuahua Desert Rangeland RC
Agricultural Experiment Station “Training Tomorrows’ 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
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 productions 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