



Agricultural Science Center at Clovis

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Mission Statement

The mission of the Agricultural Science Center at Clovis is to conduct crop and cropping systems research and disseminate viable strategies that benefit New Mexico's citizens and agricultural production. Researchers anticipate challenges, solve problems, build relationships, and secure funding.

For more than half a century, research at the Agricultural Science Center at Clovis has helped agricultural producers in eastern New Mexico increase profitability and sustainability with research on limited irrigated and dryland farming systems, alternative crops, and needs of the dairy industry in the Southwest, as determined by producers. Located 15 miles north of the city on State Road 288, the center lies in the heart of the largest crop production area in New Mexico.



Only peanut breeding center located off-campus and developing Valencia peanuts.



6 on-going multi-state projects, these projects connect the ASC Clovis scientists across the country to undertake regional and national challenges.



Research focuses on supporting the Ogallala Aquifer, which supports 30% of agriculture in U.S.

HISTORY OF RESEARCH

Research at the ASC-Clovis began in 1948, originally as dry-land field research. Irrigation studies were initiated in 1960 when an irrigation well was developed. Water for irrigation is derived from the Ogallala Aquifer. Since 2004, the ASC-Clovis has improved irrigation delivery by developing two center pivot irrigation systems and subsurface and surface drip irrigation systems.

MEETING THE NEEDS OF NEW MEXICO

The declining Ogallala Aquifer is the most important challenge faced by agriculture in eastern New Mexico, the breadbasket of the state, and in the Southern Great Plains. Increasing climate variability coupled with rainfall and temperature extremes is expected to make rainfed or limited irrigation agriculture more challenging. With rising costs of inputs, producing traditional high-input crops is becoming riskier. Degrading ecosystem services, poor soil health, lack of biodiversity are all affecting the resiliency of our cropping systems. Our research addresses current challenges experienced by farmers and prepares them to face future challenges. We focus on crop diversification, deficit irrigation management, and designing novel cropping systems that are resource-use efficient and resilient to future climatic uncertainty.

- Cropping Systems and Carbon Management and Soil Health Program
- Water Efficient, Low Input, Well Adapted, Alternative Crops to Diversify Cropping Systems in the Southern High Plains
- Deficit Irrigation Management of Alternative Crops to Sustain the Ogallala Aquifer and Desert Adopted Guar Crop for New Mexico
- Circular Buffer Strips of Native Perennial Grasses to Improve Resiliency and Ecosystem Services of Center Pivot Irrigated Agriculture
- Enhancing the Breeding Potential of Valencia Peanut for Drought and Disease resistance in New Mexico.
- Management of Weed and Weed Resistance in Corn, Sorghum, and Small grain.
- Variety Testing in Corn and Sorghum for Grain and Forage Production.



ACES Pillars for Economic and Community Development

Food and Fiber Production and Marketing

Water Use and Conservation

Family Development and Health of New Mexicans

Environmental Stewardship

Foundational Education and Training

The College of Agricultural, Consumer, and Environmental Sciences is an engine for economic and community development in New Mexico, improving the lives of New Mexicans through academic, research and Extension programs.

Recent Impacts

- Studying the performance of irrigated forage sorghum varieties to evaluate the dry matter and green forage yield and nutritive value of irrigated forage sorghums submitted for testing in the New Mexico Corn and Sorghum Performance Trials. The highest yielding varieties exceeded 29.7 tons of green forage. Mean wet forage yields for the 18 varieties were 23.8 tons/acre, and varieties differed ($P < 0.05$) with respect to yield. All forage quality parameters were significantly different among the varieties. Nutritional analysis results are pending.
- Researchers are developing a peanut variety that can yield high, produces three or more kernels per pods, is resistant to diseases, and maintains red skin and taste of Valencia with high oleic chemistry. Three promising Valencia peanut breeding lines, namely NMSU-2057, NMSU-2017, and NMSU-2047, showed higher pod yield.
- The U.S. Dairy and Education & Training Consortium (USDETC) has proven to be a positive alternative or complementary education opportunity for students who have limited or no access to dairy courses or related learning experiences at their home universities. When asked “What impact did attending the consortium have on your current status,” 92% replied important, very important, or extremely important. When asked about the impact the classes and experiential learning had on their course work and subsequent careers, 44% replied extremely helpful, 35% very helpful, and 15% helpful. When asked to rank the consortium classes as compared to other courses taken, 55% gave the consortium an A+ and 36% an A.

Ongoing Research

- The Center developed a novel concept to use underutilized parts of an irrigation system mechanism to grow native perennial grass mixtures in concentric circles of buffer strips to improve the water cycle of center-pivot irrigation. This improves water use efficiency and reduces irrigation withdrawal from the Ogallala Aquifer.
- The Center is leading efforts in research, education and outreach activities on natural climate solutions for arid and semi-arid agricultural lands. The Carbon Management and Soil Health project is examining carbon sequestration and soil health management solutions in croplands, rangelands, forests and urban landscapes.



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