



# Agricultural Experiment Station

## Agricultural Science Center at Artesia

artescasc.nmsu.edu | 575-748-1228

### VISION

**Developing solutions to agricultural and water challenges.**

### MISSION

**The Agricultural Science Center at Artesia conducts research and extension programs in soil, water, crop, and entomological sciences to enhance the agricultural, economic, environmental, and social well-being of southeastern New Mexico.**

- Utilizes three different irrigation application techniques: flood, side roll pressurized, and lateral overhead pressurized.



- The ASC Artesia entomology group continues to address resistance to Bt genes as it is an issue for control of bollworm in corn and cotton and most recently southwestern corn borer in corn.



- Center scientists regularly respond to issues with insect resistance by working with industry and land grant partners to monitor resistance in major crops and to develop alternative means of control.



### Value Added to New Mexico

- Resident research/extension scientists regularly respond to insect pest outbreaks in NM
- Biological control optimization
- Saline water usage investigations



Artesia Agricultural Science Center (ASC) faculty collaborate in local, regional, national, and international research and extension efforts, and are often asked to bring their expertise to colleagues and clientele across the U.S. and in foreign countries. The Center's goal is to be the premier off-campus center for novel research and extension programming in integrated pest management, water management, soil health, soil fertility and remediation, and the evaluation of new crop genetic material.

### ONGOING RESEARCH

The Artesia ASC is dedicated to providing high-caliber research efforts toward sustainable crop production. Variety development and deficit irrigation strategies are utilized to accomplish these efforts in food and fiber production. Investigations are also conducted to decipher crop productivity utilizing saline water sources.

Of note, the Artesia ASC conducts insect research concerning agricultural pests such as the bollworm, alfalfa weevil, and pecan weevil, and medically important pests such as Kissing Bugs. Biological control targets include bollworm, pecan nut casebearer, pecan weevils, and alfalfa weevil.



*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.*

#### ACES Pillars for Economic and Community Development



## RECENT IMPACTS

- Kissing bugs have been a recent concern in southeastern NM. Data collected indicates the risk of Chagas disease is higher than previously thought, but the biggest concern is the risk of allergic reactions and transmission to dogs who directly consume kissing bugs. These pests are an issue the Center routinely engages with the public about, including school children and ASC field day participants.
- Determining that there is resistance to insecticides and field resistance to Bt genes will prompt growers to closely monitor the performance of these products. Ultimately, it will save money when growers do not purchase products when they no longer provide adequate control. Confirmation of resistance issues is prompting Artesia ASC scientists to look at alternative means of controlling lepidopterous pests, including biological control and the use of okra leaf cotton, in addition to other management practices investigated.
- Maximizing biological control will save NM growers money from reduced insecticide applications, reduce environmental impacts, and enhance worker safety. Effective biological control of alfalfa weevil will save NM growers \$1.2 million per year in reduced insecticide applications and reduced yield losses. Biological control of pecan nut casebearer could potentially save growers up to \$1.6 million on an annual basis. ASC scientists continue to identify key predators of insect pests for viable biological control and conservation.

## COMMUNITY OUTREACH

Every year the Center conducts research and events that involve and serve the community. During the annual field day, this free event brings together the community to interact and share ideas about ongoing agricultural research projects. The Center also hosts the Entomology and Soils Workshop for 6th-grade STEM students, allowing participants to sweep alfalfa hay for insect pests. They also learn about soil types and identify insect pests in the field.

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