Agricultural Experiment Station

Sustainable Agricultural Science Center at Alcalde

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Through testing of different crops, varieties, and production techniques, the goal of the Sustainable Agricultural Science Center at Alcalde is to provide new information that producers can adapt to their operations for greater productivity and profitability. The Center was the first ASC to carry out research on certified organic land and hold an organic certification.

VISION

Pioneering new approaches to native and high-value crops for sustainable, climate-smart agriculture.

MISSION

The Sustainable Agriculture Science Center at Alcalde's mission is to conduct agricultural and natural resource research on native and high value crops, improving sustainable and climate smart approaches to benefit small family farms and ranches of north-central New Mexico.

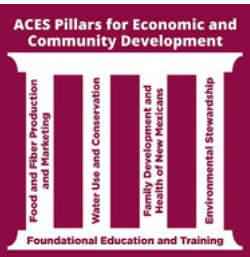
VALUE ADDED TO NEW MEXICO

- Cover crop research
- Research for crop and fruit production in the presence of late spring frosts
- Jujube research, production, and cultivar development
- Saffron, medicinal herbs, and high value-low input crops research

ONGOING RESEARCH

Research at the Center focuses on crops and cropping systems for north-central NM, including various horticultural and agronomic crops, as well as acequia hydrology. Current research focuses on jujube variety development and testing (2 acres), pome and stone fruit production (2 acres), table grapes (1 acre), soil health and cover crops (3 acres), pollinator habitat and buffer strips (3 acres), saffron (1/20 acres), hemp (1/10 acres), and high tunnel fruit and vegetable production (five thousand square feet of covered growing space). The Center also includes twelve acres of forage crops, including alfalfa, red clover, western wheatgrass, Russian wildrye, smooth brome, tall fescue, and orchardgrass. Six acres of the station are certified organic, and certified crops in 2022 included apple, peach, plum, and sweet corn.

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.



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RECENT IMPACTS

• The NMSU jujube program evaluated more than 50 cultivars in the past eight years and identified 8-10 fresh eating cultivars, with the potential to provide more choices with extended maturation dates and $1-2 premium per pound. Since jujube blooms later, can avoid late frosts in most years, and produces a reliable crop, it will be a perfect alternative crop for growers and home gardeners in NM.

• Lavender is not native to NM, but grows well in most parts of the state. Identifying and generating well-adapted and productive cultivars could help make existing operations more sustainable, promote expansion of production, and expand the offerings of small-scale growers.

• Limited research exists on growing methods most suitable for NM apple growers. An investigation into this phenomenon is purposed to address NM production strategies and increase revenue.

• Research is being conducted to determine infrastructure, labor, and energy inputs required to protect tree blooms and produce a more reliable crop when grown under cover.

• An investigation is being conducted to develop improved strategies, models, and metrics to optimize productivity, sustainability, ecosystem services, and climate variability adaptation of organic systems.

• The NM hemp industry is faced with numerous challenges. Investigations are being conducted to develop recommendations for farmers, establish pest management guidelines, disseminate treatments of interest to increase crop yields, and identify crop residues with potential for value-added products.

• Saffron (Crocus sativus L.) holds a high economic value as the world's most expensive spice. In recent years saffron has also been cultivated in California and west Texas. The dehydrated stigma of saffron contains bioactive compounds with therapeutic properties in treating cancer cells, Alzheimer's disease, and cardiovascular disorders. The price of a gram can range from $10 to $20 at retail. We believe the climate condition in Northern New Mexico should be conducive to producing high-yield saffron, but this requires local testing and trailing.

COMMUNITY OUTREACH

The Center hosts numerous educational outreach opportunities each year. In 2024, the Center hosted 19 workshops from the "Small Acreage Stewardship & Homestead Skills Workshop Series" in collaboration with Tom Dominguez; the agriculture extension agent of Santa Fe County. The Sustainable Agricultural Science Center at Alcalde is also participating in the S1084 “Industrial Hemp Production, Processing, and Marketing in the U.S.” multistate project.