

Research Snapshot

COLLEGE OF AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES

Agricultural science research is a global investment in protecting the future of our state. Agriculture in New Mexico accounts for approximately \$4 billion in direct sales and 42,000 jobs. Challenges to growers and ranchers are constant and evolving. Invasive pests, a decline in species diversity, pollinator health, resistance to pesticides, and limited water are needs that are being addressed by New Mexico State University's Agricultural Sciences Centers. The wide diversity of both growing conditions and cultures means solutions must be developed locally in conditions that reflect those faced by New Mexicans.



AGRICULTURAL SCIENCE CENTER AT LOS LUNAS

The mission of the Agricultural Science Center at Los Lunas (ASC-LL) is to conduct research and Extension programs on various crops and plant-based systems important to New Mexicans across the state with special relevance to the rural-urban interface in the Middle Rio Grande Valley (MRGV). The ASC-Los Lunas works together with the USDA Natural Resources Conservation Service (NRCS) Los Lunas Plant Materials Center to solve agricultural and conservation/reclamation issues statewide.



UNDERSTANDING THE NEED FOR RESEARCH

Established in 1957, initial research efforts were placed on forage and vegetable crops. Research expanded to include different crops including alfalfa, corn, sorghum, grapes (wine and table), pasture grasses, chile and other vegetables, turfgrass, native plants, and fruit trees. The multi-faceted programming at the ASC has produced significant improvements in species and variety selection, plant and water management, and integrated pest management (IPM). Programs address the needs of small-acreage farmers located on the 50,000+ irrigated acres of the MRGV, and the urban gardeners in the largest urban region of the state, reaching thousands of people each year.



HISTORY OF RESEARCH

In the late 1990s, the research efforts of the ASC-LL began to shift as stakeholder needs for information on diversified crops increased.

Viticulture

An experimental vineyard was established in 1998 by the New Wine and Vine Society. The research was limited until 2017 due to staffing. In 2018, the vineyard was re-established with new varieties, better suited for cultivation in New Mexico. The NMSU Viticulture Research and Extension program is now thriving, not only in Los Lunas but also with experimental vineyards at other ASCs. Research conducted on water use and conservation, nematodes, and best management practices is helping NM wine and grape growers to improve product quality and increase yield and profitability.

Urban Small Farms Horticulture/Integrated Pest Management (IPM)

The small urban farm horticulture and IPM program was established in 1998 to address key pest issues facing small farms in New Mexico. Coddling moth research conducted at the ASC allows NM apple producers to disrupt the reproductive cycle of the moth protecting their fruit from this damaging pest. Studies on varying fruits are helping small farmers find niche markets for their produce. Recently, the program has focused on pollinator and natural enemy health, improved pollinator services, and pollinator-friendly plants and garden demonstrations. Research on IPM techniques help reduce the impact of furrow irrigation on soil erosion and soil health.

ACES Pillars for Economic and Community Development



HISTORY OF RESEARCH

Landscape Horticulture

This program was re-established by a legislative initiative in 2017 to address issues related to urban landscapes. The program has a broad range of activities looking at not only ornamental plants but also at fruit trees and other edible crops. A key goal of this program is to promote awareness and adoption of sustainable practices in landscapes through applied research.



RESEARCH IMPACTS:

- Forage programs improve regional production by increasing awareness of variety selection, water management, and alternative crop and high-value forage marketing opportunities. Over 110,000 head of livestock and 22,000 acres of hay in the MRGV are potentially impacted.
- Awareness of water conservation in New Mexico has increased as the landscape has changed to include more water-conserving forage crops (both silage and hay) and reduced-input management. As a result, water consumption has potentially been reduced in these forage systems, and profitability has been maintained or increased.



UNIQUE CHARACTERISTICS

- Soil Diversity – There are approximately 15 different soil types at the ASC-LL which include a range from very sandy to very heavy clay. This allows for broad applicability of research results on projects conducted on diverse planting media.
- Station Location – The ASC-LL is the closest ASC to the largest, most populated city in New Mexico, Albuquerque. This proximity allows for unique urban programming from on-site faculty, including the Urban IPM and Urban Horticulture Specialists. Also, the location is attractive to on-campus researchers who frequently are driving to Albuquerque for various reasons. These researchers view the station as a convenient location to conduct their field and greenhouse projects, as well as an outstanding location for educational events that reach large numbers of people. County agents frequently utilize the ASC-LL for their outreach efforts because of the research diversity and central location near a large metropolis.



Agricultural Science Center at Los Lunas

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**New Mexico State University
Agricultural Experiment Station System**