The mission of the Agricultural Science Center at Los Lunas is to conduct research and Extension programs on various crops and plant-based systems important to New Mexicans in the Middle Rio Grande Valley (MRGV). The ASC–Los Lunas works together, via a cooperative agreement, with the USDA Natural Resources Conservation Service (NRCS) Los Lunas Plant Materials Center (PMC) to solve agricultural and conservation issues.

Since 1957, we have researched many types of 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 Los Lunas station has produced significant improvements in species and variety selection, plant and water management, and integrated pest management (IPM). Research and Extension programs address the needs of not only the small-acreage farmers located on the 50,000+ irrigated acres of the MRGV, but also the urban gardeners and homeowners in the largest urban region of the state, reaching thousands of people each year.

### MAJOR PROGRAMS & IMPACTS

#### Hay and Forage Crops
- 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.
- University variety trials have shown that there is an average 25% higher yield associated with improved varieties, which translates into as much as $115 million additional annual earnings statewide if superior varieties are selected over the trial mean.

#### Integrated Pest Management
- Increasing awareness and implementation of IPM can improve the environment, health, and economic competitiveness of the state’s small-scale growers, organic producers, land managers, and other clients.
- IPM can reduce unnecessary insecticide use through increased knowledge, understanding, and use of alternatives to chemical controls, including biological, cultural, and physical control tactics.
- ASC–Los Lunas works to increase adoption of IPM strategies and develop new technologies to improve IPM in urban gardens and landscapes, small farms, and urban natural areas.

#### Viticulture
This new program seeks to increase economic returns for grape growers by identifying best-suited grape varieties/rootstocks, using efficient techniques/tools for water application, mechanizing field operations, improving trellis and training systems, using IPM, improving vine nutrition and weed control, and enhancing vineyard/farm sustainability and profitability by utilizing native plants,
secondary intercrops, and grasses as vineyard cover crops. It also aims to increase awareness of consumer preferences and alternative wines via sensory assessment and analysis of NM wines, including identification of “landrace” Mission grapevines that can enhance the wine tourism experience.

**Horticulture**
This new program will promote sustainable horticultural practices in residential, commercial, and public landscapes; improve awareness of urban forest and greenspaces via educational workshops and demonstrations; encourage the use of water-wise techniques and appropriate landscape species selection; and identify high-priority research needs via collaboration with Extension Master Gardeners, municipal park directors, county Extension agents, university faculty, and private horticultural businesses.

**Master Gardener**
The Extension Master Gardener Program has local chapters throughout the state. Coordinated from the central location of ASC–Los Lunas, the program trains community volunteers in current, research-based horticultural information. These volunteers share their knowledge and expertise with the public through various educational efforts, including demonstration gardens, grower’s markets, class instruction, public talks, and question and answer booths. They work to increase knowledge of environmental stewardship through best management practices in both preservation and development of healthy soils, and to increase community knowledge, ability, and efforts to protect and conserve our water resources.

**COLLABORATIVE RESEARCH & EXTENSION EFFORTS**
- Mechanical harvest of green chiles, cultivar development, and machine efficiency
- Paprika breeding for high extractable color and early maturity
- Cayenne breeding for high yield and optimal flavor
- Early maturing landrace chile studies
- Weed control in chile production
- Jujube fruit tree variety testing
- Carbon and trace gas fluxes in sorghum systems
- Cover crops for soil health and weed control

**SELECTED PARTNERSHIPS**
- New Mexico County Extension Programs
- NM Hay Association
- NM Master Gardener Program
- NM Wine Growers Association
- NM Vine & Wine Society
- NM Beekeepers Association
- NM State Forestry
- NM Urban Forest Council
- NM Chapter of the Rocky Mountain Nursery and Greenhouse Association
- NM Dairy Producers and Southwest Dairy Farmers
- IR-4 Program
- City of Albuquerque Parks Department
- City of Albuquerque Open Space
- City of Las Cruces Parks and Recreation
- City of Santa Fe Parks
- Think Trees NM
- IPM Institute of North America
- Middle Rio Grande Conservancy District
- USDA–NRCS
- Agrochemical Companies
- Seed Companies

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