

**American Association of Botanic Gardens and Arboreta
Award for Program Excellence Nomination**



The Heritage Farm at the Rio Grande Botanical Garden, Albuquerque, NM
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Overview: More than one thousand years of farming by three cultures along the Rio Grande in Albuquerque, NM all but came to an end in the twentieth century. In the twenty-first century, visitors to the *Rio Grande Botanic Garden* at the *Albuquerque Biological Park* have the opportunity to immerse themselves in this rich agricultural past at the *Heritage Farm*. This unique exhibit at the garden, located along the Rio Grande, was conceived and implemented as a functioning farm, demonstrating the forgotten relationships between the food we eat and the land, plants and animals it comes from.

Visitors can experience every aspect of farm life from field and orchard to table and market in an authentic historical setting, ca. 1925-1935. This time period was chosen because it marks the transition from small, family-run farms worked by human and animal labor to large, mechanized farms. Heirloom plants passed down for generations and chosen for their tastiness and adaptations to local environments were replaced by hybridized varieties selected for shelf life, large size and uniform shape.

Aspects of the farm are faithful to the era. Volunteers do third-person interpretation in period dress. Crops and garden plants represent what was available at the time, and feature New Mexico favorites. Livestock varieties are older, rare breeds popular at the time and buildings are constructed with traditional style and materials.

Historical Background: Around 900 AD, Pueblo tribes in New Mexico started farming corn, beans, and squash along the middle Rio Grande in the Albuquerque area. The river provided a reliable water source in the dry high desert. When the Spanish arrived in the late 1500s, they developed an extensive acéquia (ditch) system for their farms, and introduced wheat, chilé, melons, and fruit trees. In the mid 1800s, Anglos brought steel plows, crop rotation and livestock fencing. Small farms flourished along the river, but by the 1920s, much of the farmland was waterlogged due to a high water table, irrigation outflow and flooding. Successful flood control and stream channelization projects meant housing developments gradually replaced farmlands along the floodplain. The immediate riparian area was preserved when the cottonwood forest (bosque) adjacent to the river were acquired by Albuquerque's Open Space Division. The Heritage Farm is on ten acres in the bosque and was farmed up until the time the Rio Grande Botanic Garden acquired the land.

Crops and Gardens: Plants and crops at the Heritage Farm are heirloom varieties that were available by the 1920s. To adequately represent horticulture of the period, the farm contains a greater variety than typically would have planted at any one farm. Visitors recognize many of the plants, and “my grandmother had those” is frequently overheard. Harvested fruits and vegetables are used in hands-on demonstrations, and differences between the heirloom varieties and modern produce is consistently emphasized. Surplus food goes to the Albuquerque BioPark’s zoo, where it is used to enrich the animals’ diets.

There are eight planting areas at the Farm, described below.

- *A kitchen vegetable plot.* Root plants, such as carrots, onions and turnips are planted in the spring and fall with spinach, peas and lettuce. Artichokes, tomatoes, eggplants, cucumbers and others are added in the summer.



The kitchen plot and barn in background.

- *Flowers and herbs in front of the farmhouse* are New Mexico favorites popular at the time. Showy hollyhocks, irises, day lilies, daffodils, tulips, Persian lilacs and gladiolas mingle with volunteer wild asters. Rosemary, salvia, yarrow, lavender and walking onions are used medicinally. Behind the house is a berry patch of raspberries and blackberries and a row of wild asparagus.
- *A demonstration hill of species once common in New Mexico.* An experimental research plot of state endemics New Mexico Penstemon and federally listed Sacramento Mountain Prickly Poppy are planted at the Heritage Farm next to the garden pond. The US Fish and Wildlife Service, New Mexico State Forestry and the New Mexico Natural Heritage Program are collaborating with the BioPark to research the conservation ecology of these species.
- *An acre hay field.* Hay is baled on-site and fed to the livestock. The size was deliberately chosen to give visitors a tangible understanding of how big an acre is.



The hayfield with barn and windmill in the background.

- *An acre vegetable field.* A wide variety of heirloom chilés, peppers, tomatoes, squashes, melons, pumpkins, beans and corn are grown here.
 - The fields are irrigated by a traditionally constructed acéquia system, designed with the help of the Natural Resource Conservation Service. Water has been allocated to us courtesy of the Middle Rio Grande Conservancy District.
 - Juniper, cypress and sycamores, trees promoted at the time by the USDA as windbreaks, are planted around the fields.
- *A Heritage Orchard* with 83 trees and sixty varieties of heirloom apples, plums, pears, quince and peaches. Currant bushes are planted between the fruit trees.
- *A cider orchard* is planted with five hundred apple trees of six high-producing commercial varieties that lend themselves to cider making.
- *A vineyard of 182 plants.* New Mexico is the oldest wine-making region in the United State. Mission grapes were brought here by Spanish priests nearly 400 years ago to make sacramental wine. The variety fell out of favor with winemakers but survived at missions in California, and is now thriving in the Heritage Farm vineyard. Three commercial varieties of grapes are also grown here, typical of what families would have grown for fresh fruit, raisins, and homemade jelly. At the end of each row a rosebush is planted, which, according to local tradition, deters aphids.



Vineyard with interpretive sign.

Various trees and shrubs around the site include chokecherries, fruiting mulberry, cottonwoods, Arizona sycamores and an American elm (one of the last in Albuquerque).

Livestock: Living history, educational and recreational programs at the Heritage Farm are enhanced by period appropriate animals: Percheron draft horses, Navajo Churro sheep, Alpine goats, Dominique chickens, Hampshire pigs and a Jersey cow.

Our program contributes to the recovery of the horse, sheep and chicken varieties which are conservation breeds monitored by the American Livestock Breeds Conservancy (<http://www.albc-usa.org>). A brief account of each is below.

1. *Percheron* horses, the most popular draft animal during the 1930s, went nearly extinct when the modern tractor came in. The bloodline was preserved on Amish farms, and Percherons are now found in small herds throughout the country. At the Heritage Farm, the horses plow and prepare the fields, pull a manure-spreading wagon, and give wagon rides that are included with admission.



Dick and Dan, the Percheron team, pulls the disc cultivator

2. *Navajo Churro* sheep came to New Mexico with the Spanish conquistadors in the 16th century. Native Americans quickly acquired flocks and used the fleece to weave rugs and other textiles. The U.S. Army decimated the flocks to control tribes, leaving only a few survivors. Today, cooperative breeding programs are revitalizing churro herds, which are resistant to disease and adapt well to weather extremes.
3. *Dominique* chickens are hardy, calm birds with good hatching abilities. They were rare for many years, but a quiet interest in them has boosted their numbers to at least 5,000 breeding pairs.

Wild Animals: The Heritage Farm's crops, fields and vegetation attract a variety of wildlife that make the river their home or travel along it. During winter, migrating geese and sandhill cranes are attracted to the fallow fields. Smaller neotropical warblers and flycatchers rest up and forage in the berry shrubs. Wintering bald eagles, resident great-horned and screech owls, roadrunners, coyotes, raccoons and other small mammals visit the farm or take up residence.

A wild hive of European honeybees in a cottonwood tree by the vegetable fields is complemented by five built beehives, courtesy of the New Mexico State University Extension Service in Bernalillo.

Setting: The farm's buildings and structures are historical structures or reconstructions. They are described below, along with how they are used for educational and interpretive programming.

- *The farmhouse*, constructed on-site, incorporates features found in traditional rural northern New Mexico houses. The single-story structure has walls constructed of adobe (mud and straw) bricks, a pitched, corrugated steel roof, a storage attic, and an outside porch. Inside, one large room with a pine plank floor and a stamped tin roof is furnished with period appliances, many of them donated by the Albuquerque Museum.
 - The house and porch are the setting for regular, educational living history presentations on preserve-making, herbal medicine, natural plant dyes, collecting and pressing flowers, heirloom plants characteristics, spinning, basket, rug and blanket weaving, quilting and woodcarving.



House interior, set up for a demonstration



Exterior of farm house.

- *The animal barn* is also an adobe and wood frame structure. Animal stalls open up into outdoor pens. The pens are fenced with juniper posts, a traditional rural fencing material in New Mexico.
 - The barn, excluding the stalls, is always open to the public. Volunteers conduct barn tours and guide visitors through the touch experience with the animals. The public may also interact with the animals independently.
- *The cider barn*, estimated to be between 70 and 100 years old, was on-site when the Rio Grande Botanic Garden acquired the land. It houses the cider press, and a new addition serves as a seasonal store.
 - The cider barn gets the most use during the autumn during the Harvest Festival when the orchard apples are harvested and used to make cider and vinegar that is sold to the public.
- *The windmill* was a vital feature of any farm or ranch before electrification. Ours was built on site and it pumps water to the house and garden pond.

Farm Machinery: The Farm has a variety of farm machinery found on site, donated or on loan from the Albuquerque Museum. The New Mexico Farm and Ranch Museum in Las Cruces assisted us with choosing and properly using the right equipment. The Percheron horses are used for pulling most of the equipment which includes a disc cultivator, a plow, three wagons, a manure spreader, and a seeder.

Educational Programs: All the work put into the maintenance of the farm's buildings, animals and fields comes together for the public programming that emphasizes the seasonality of farm life. Special events are timed to coincide with spring plantings, fall harvest, and winter celebrations. Everyday interpretation includes tours and demonstrations, and passing visitors are invited to participate in farm life through digging and weeding.

Volunteers, recruited and trained by the education coordinator, do the bulk of the programming. They are required to be in period dress and give interpretation in the third person. Regular programs include farm tours, animal barn tours, and field and garden tours and night walks. Volunteers also run “Discovery Stations” demonstrating a particular aspect of farm life such as canning, pickling or stringing chilé into *ristras*. Flavorful heirloom plant varieties, which are often resistant to disease and drought, are compared to today’s bland commercial varieties.



A costumed interpreter explains how herbs were used for medicine.

We collaborate with local special-interest groups, including the “Fiber Fanatics” (spinners and weavers), a basket weaver and blanket weaver with years of living history experience, a quilting group, the local Slow Food group, and the Rio Grande woodcarvers. Old-time musical groups play at special events. One generous volunteer frequently shares his vast personal antiques collection.

Special events:

- *The Winter Wool Festival* in February highlights the process from animal to cloth. Folks learn about the Navajo churro sheep and spinners and weavers demonstrate their skills that turn the fleece into fiber. A dye station shows how native plants are used for natural color, and kids are invited to dye a piece of wool to take home. Wagon rides and tours are included in the day.
- *Plow Day* in April invites the public to witness the annual plowing of the fields in preparation for planting, and learn about farming techniques before mechanization. The field is flooded from the acéquia ditch to give visitors first-hand knowledge of how irrigation is done.
- *Down Home at the Heritage Farm* is a weeklong celebration during the summer. Each day a different theme is featured and may include period music and dancing, flood irrigation of the fields by the acéquia, cooking demonstrations, hands-on experience with farm chores and games, quilting bees and fiber arts.
- *Harvest Festival* in October. The highlight of this festival is the apple harvest. Visitors can visit the cider press and find out the difference between apple juice and apple cider. The Farm bottles cider and vinegar for public sale. Corn is husked with an old corn-husking machine and fed to the chickens. Music, herb-drying procedures, canning demonstrations and crafts are also featured during this festival.
- *Old Fashioned Christmas*. The farmhouse is decorated with garlands, wreaths and ornaments from the 1920s. A juniper serves as the Christmas tree and kids have the opportunity to make their own ornament.

Outreach: School groups are offered discount admission to the BioPark when school is in session. A Heritage Farm Teacher's Guide for students in grades K-5 outlines pre- and post-visit activities, as well as things to do at the Farm. Activities are broken into age groups and incorporate math, language arts, social studies and science. The guide is aligned with New Mexico's Department of Education Content Standards, Benchmarks and Performance Standards.

Example activities include keeping a journal of imaginary life on farm, a scavenger hunt that uses the interpretive signs to help kids explore the farm, math exercises to figure out how much raw food goes in to food-making processes and matching raw material with finished product.

During 2005, a total of 1,309 school groups visited the Botanic Garden, comprised of 28,221 students and 12,448 adults. This number represents about one-third of the total population in Albuquerque schools.

Summary: The mission of the Rio Grande Heritage Farm is to connect visitors to agriculture in a way that helps them realize its impact on society. Our comprehensive approach attempts to immerse people in an interactive experience that allows them to make much deeper connections than they would with conventional exhibits. By taking a historic approach, the Heritage Farm engages visitors in a simpler time when agriculture was more a part of daily life.