

Trees, shrubs of High Plains Grasslands Research Station

One of Wyoming's best-kept horticultural secrets

Imagine visiting a woody plant collection gathered by early 20th century plant explorers from China, Russia, France, Bosnia, and other regions of the world.

Normally, one would need to travel to a national or international arboretum to find such a rare collection, but such a unique place exists right here in Wyoming.

The U.S. Department of Agriculture's (USDA) High Plains Grasslands Research Station is five miles northwest of Cheyenne on a 2,873-acre plot. At an elevation of 6,200 feet, the station is one of the most important horticultural historic sites west of the Mississippi River.

The station is one of Wyoming's best-kept secrets. Past accomplishments include the planting and testing of more



Many unique varieties of shrubs, including this yellow-fruited chokecherry, have been introduced to the nursery trade.

than 2,000 fruit varieties and 1,300 varieties of woody ornamental plants, 200 species of trees and shrubs for windbreaks, and 8,000 vegetable varieties, and the development of hardy currants, sour cherries, and domestic plums.

Many trees and shrubs in the commercial nursery trade today originated there, and some varieties carry the Cheyenne name.

Established by Congress in 1928 as the Central Great Plains Field Station, the name

was changed to the Cheyenne Horticultural Field Station in 1930. Its mission was to increase livability on the High Plains through the release of adapted fruits, vegetables, ornamental trees and shrubs, and windbreaks. Over the years, the station was home to approximately 3,500 varieties of trees, shrubs, and ornamental plants from all over the world tested for tolerance to cold, drought, and wind. Successful plant varieties were released for research or utilization by the public.

"They are not only survivors but real gems," says Tom Heald, University of Wyoming Cooperative Extension Service educator for Converse, Natrona, and Niobrara counties. "They are not only beautiful ornamentals but have proven themselves under horrendous conditions."

In 1974, the station's mission shifted to grasslands research and mine land reclamation. Although the research on woody plants was discontinued, more than 250 species of unique and hardy trees and shrubs still exist. These tough plants have survived for more than 30 years on natural precipitation and very minimal care.

Still growing at the site are five different

species of oaks, three species of buckeyes, numerous hawthorns, crabapples, and maples. There are unique species such as Ussurian pear and Manchurian apricot, Kentucky coffeetree, Amur corktree, tree lilac, and even yellow-fruited chokecherry.

Many of the surviving trees and shrubs are found in the nursery trade and have names such as Cheyenne mock orange, Cheyenne privet,

and Cheyenne early lilac. Others, such as the blue velvet honeysuckle and the oakleaf mountain ash, were also introduced by the station.

Despite a redirection of research years ago from horticulture to range science, a keen interest by employees of the station to preserve the genetic resources of the station arboretum has resulted in a mostly volunteer effort whereby staff members maintain



Several tree forms of lilacs are thriving at the station.



Hundreds of unique trees and shrubs form an oasis on the High Plains west of Cheyenne.

Many trees and shrubs in the commercial nursery trade today originated at the High Plains Grasslands Research Station, and some varieties carry the Cheyenne name.

the woody plant materials that have become widely known for their adaptation to our local semiarid climate.

Citizens Form Group

There is a clear need for efforts to prevent losses of this valuable plant genetic material. In 2000, a group of citizens formed the Friends of the High Plains Arboretum, a committee of the Cheyenne Botanic Gardens.

Members include representatives from the USDA Agricultural Research Service (ARS), University of Wyoming, Wyoming State Forestry Division, Laramie County

Conservation District, Colorado State University, regional nurseries, Cheyenne Urban Forestry (a division of the city's Parks and Recreation Department), Cheyenne Botanic Gardens, and interested citizens. Their goal is to preserve, restore, and enhance this historic site as the High Plains Arboretum.

The majority of the station (2,139 acres) is on land owned by the city of Cheyenne and leased to the USDA ARS under a 199-year lease. Negotiations are underway to release 62 acres of former woody plant research blocks to the city for the creation of

a public arboretum. The vision is to see it become a vital resource for regional and community landscaping, research on drought tolerance, and, finally, the creation of more attractive and livable communities on the High Plains. To learn more about the arboretum efforts and how to help, visit the Cheyenne Botanic Gardens Web site at www.botanic.org/arboretum.

More information about the High Plains Grasslands Research Station is at www.rrru.ars.usda.gov. Click on the Locations link under Browse By Subject on the left side of the page.

The station is open to the public 7:30 a.m. to 4 p.m. Monday through Friday. Groups seeking an organized tour may call the station at (307) 772-2433.

To access the station, take exit 357 off Interstate 80 west of Cheyenne (this is Roundtop Road adjacent to the new Wal-Mart distribution center). Travel north on Roundtop Road approximately four miles.



A drought-tolerant variety of willow, discovered near Encampment in 1950, is one of the many test species at the Cheyenne station.

Mark Hughes is the state community forestry coordinator with the Wyoming State Forestry Division. He can be reached at (307) 777-7586 or MHUGHE@state.wy.us.



Cheyenne mock orange



Russian hawthorn





Peking tree lilac

Oakleaf mountain ash

Blue velvet honeysuckle

Tough trees and shrubs of the High Plains Grasslands Research Station

Horticultural-related work of the Cheyenne Horticultural Field Station (now called the High Plains Grasslands Research Station) came to an end in 1974 when the mission and name was changed by the U.S. Department of Agriculture.

Since 1975, its trees and shrubs have relied mainly on natural precipitation, and many have perished.

Fortunately, there are still treasures to be found at the arboretum. Regional breeders and horticulturalists are in awe of the resource that remains – showing up on a regular basis to take cuttings and harvest seeds. In fact, quite a few of the plants that originated at the station can be found through retail and wholesale

nurseries. Here are just a few.

- **Cheyenne mock orange** (*Philadelphus lewisii* 'Cheyenne') – This shrub forms an attractive shape in a variety of sites and soils. Numerous nearly 2-inch pure-white flowers appear in early summer. The flowers have a very sweet fragrance. The parent plant at the research station has formed a spectacular and carefree specimen after many decades with no care. The species is native to the western United States and was discovered by Meriwether Lewis during the Lewis and Clark Expedition.
- **Blue velvet honeysuckle** (*Lonicera korolkowii* 'Floribunda') – The pubescent light blue foliage of this shrub appears in spring and

matures to gray-green. Pale pink flowers bloom in profusion during May to early June. It is far superior to any large honeysuckle available in the nursery trade. Unlike other honeysuckles, the blue velvet has shown no signs of aphids.

- **Peking tree lilac** (*Syringa pkinensis*) – Peking lilac and the similar Japanese tree lilac often reach mature heights of 20 to 25 feet. The Peking lilac's glossy, reddish-brown exfoliating bark is accented by small, ivory-colored flowers. Blooms are in 3- to 6-inch-long panicles that blossom in late spring or early summer and are quite fragrant. The specimens at the station were planted in 1952.
- **Oakleaf mountain ash** (*Sorbus x hybrida*)

– This medium-size tree was collected as a hybrid from Scandinavia. It has an unusual leaf similar to English oak. This tree has abundant clusters of red berries in the fall and is becoming more common in nurseries because of its resistance to disease. The sole specimen at the station was planted in 1938 and is doing well.

- **Russian hawthorn** (*Crataegus ambigua*) – Planted in 1931, the specimens at the station are doing remarkably well. A medium-size tree, Russian hawthorn is noted for its abundant white flowers in the spring followed by bright-red berries. It is very cold hardy and adapted to a wide variety of soils. This is a tree that should do well throughout Wyoming.