



Figure 1 Chisholm Germplasm Chickasaw plum in full fruit.

Chisholm Germplasm Chickasaw plum, a selected class plant material, was released in 2010 by the U.S. Department of Agriculture's (USDA) Natural Resource Conservation Service for conservation use in Kansas, Oklahoma, and the Texas Panhandle. A native shrub in most of Kansas and Oklahoma, Chickasaw plum is found growing naturally on sandy prairies, often along fence rows, open areas or thickets, woodlands, and often near farmsteads.

It can be used to enhance wildlife habitat for species of concern such as lesser prairie-chicken, painted bunting, and Bell's vireo; used as a shrub row in multi-row windbreaks; and critical area treatment plantings to control soil erosion.

Description

Chisholm Germplasm Chickasaw plum is a short, thickly-branched shrub less than 10 feet tall often forming extensive thickets or colonies due to extensive suckering. Leaves are lanceolate to oblong lanceolate, 0.8 – 2.4 inches long and 0.4 – 0.8 inches wide; acute or short acuminate; rounded at the base; slender, lustrous, and glabrous above; and strongly trough shaped with stalks that bear two red glands near the apex with leaf teeth finely serrate, tipped with glands or scars of these. Its numerous zigzag twigs are smooth, reddish brown, and slender. Younger branches have smooth, reddish-brown bark with large, horizontal lenticels. Older trees have rough, scaly trunk bark. There are short side twigs that bear flowers and end in sharp points. The numerous off-white or yellowish-white flowers with little fragrance appear before the leaves and are less than 1/2 inch across; sepals green, no glands on the calyx lobes. The blooms are attractive to honey bees and other pollinator species. Open-pollinated, Chisholm Germplasm blooms early, March to April. The fruits are small, thin-skinned, red, orange-red, or yellow, not glaucous but with a slight

bloom; the stone is small, rough, yellowish, turgid, and almost spherical. Some trees bear edible fruits; others have very bitter fruits. The fruit can be harvested in June to August and put up as preserves or jellies. Fruits are eaten by many wildlife species.

Source

Chisholm Germplasm is comprised of eight accessions whose origin is 75 percent from Oklahoma and 25 percent from Kansas. Seeds were collected from sites along or near the Chisholm Trail in Major Land Resource Areas 72, 78, and 80A where elevations ranged from 1,002 to 2,664 feet above sea level with a precipitation range of 19 – 29 inches, in USDA Hardiness Zones 5b to 7a.

The eight accessions were selected from a field of 34 entries in an Initial Evaluation Planting (IEP) at the Manhattan, Kansas, Plant Materials Center (PMC), following 6 years of evaluation. All collections were evaluated for survival, vigor, overall growth and spread, potential seed and fruit production, resistance to disease and insects; and fruit retention, stem abundance, and foliage abundance. Fifteen mother plants meeting selection criteria were lifted with a tree spade from the IEP and moved to a polycross nursery or breeder's block where breeder's seed was produced.

Conservation Uses

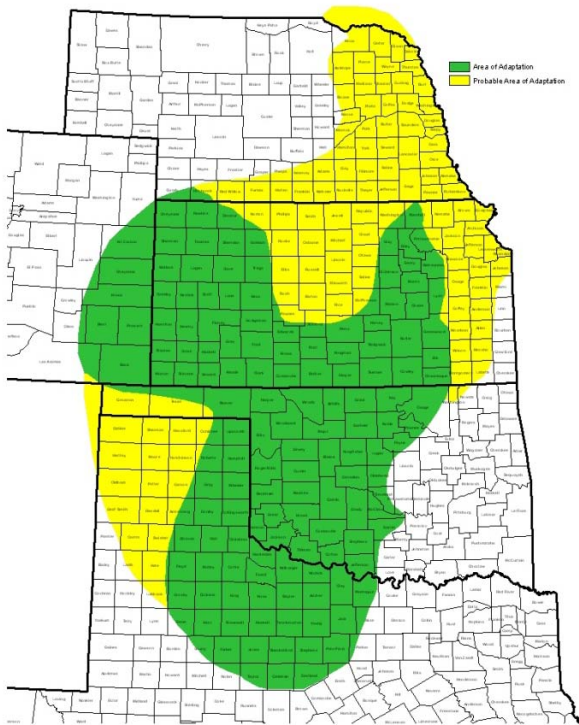
The potential uses for Chisholm Germplasm Chickasaw plum include wildlife habitat improvement on sandy soils, critical area treatment for erosion control, and recreation area beautification. Chickasaw plum is very effective in stabilizing blowing soil. It also is used to stabilize stream banks and gullies. It is often included as a shrub row in multi-row windbreaks.

Area of Adaptation and Use

Chickasaw plum is native to much of Kansas, Oklahoma, and the Texas Panhandle. It is found most commonly on sandy soils in pastures or open woods, along fence rows, and other disturbed sites. It frequently colonizes disturbed prairie sites and edges. Target areas for Chisholm Germplasm would include western Oklahoma, western Kansas, and the Texas Panhandle in MLRA 72, 78, and 80A. It has performed well in MLRA 76 and expected to perform well in adjacent MLRAs.



Figure 2 Towards the base of a Chickasaw plum, the smooth reddish brown bark is becoming rough with age; with large, horizontal lenticels. Note side twigs that end in sharp points.



Establishment and Management for Conservation Plantings

The average number of seeds per pound is 1,030. Seed should receive 60 – 120 days of moist cold treatment prior to spring sowing. Stratify in a sand-peat mixture with seeds thoroughly mixed with 1 to 3 times the volume of stratification medium between 36° and 41°F. Stratified seed should be monitored for germination. Sow as early as possible in the spring. It is best if a high proportion of the seed has cracked stones, but the seeds should not have begun radical elongation as elongated radicals can be damaged in planting. A pretreatment is not needed for fall sowing. Plant 15 – 20 seeds per square foot, 1 inch deep. Seedlings can be outplanted as 1-0 stock. Space plants 3 – 6 feet apart in windbreaks. Protect from deer and rabbit browsing while young. Though not heavily browsed by deer, young trees are often rubbed by the males in the fall.

Management depends on objectives of the planting. Weed control may be needed until seedlings are established. Tilling between the rows of plantings and hand weeding around the young trees is recommended. Consult your local county extension agent for herbicide recommendations. Once established the plums should be able to fend for themselves. If fruit/seed production is the goal, then annual maintenance is required. In this case, fruit orchard management techniques should be employed.

Ecological Considerations

While management decisions for wildlife and livestock are at opposite ends of the spectrum, the value of Chickasaw plum in its ability to control blowing sand is recognized by land managers as a natural and important component of the environment. On Oklahoma, Texas, and Kansas rangelands, Chickasaw plum provides important wildlife habitat for 43 species of birds, of which 23 species use the shrub for nesting, foraging, or cover. Species of concern include two passerines, painted bunting (*Passerina ciris* L.) and Bell's vireo (*Vireo bellii* Audubon); and lesser prairie-chicken, (*Tympanuchus pallidicinctus* Ridgway), an upland game bird species uses plum for resting, roosting, and escape cover. The plum is extremely important to bobwhite and other upland game birds. Fruits of the plant are consumed by numerous birds and other animals. The plant's flowers and fruits are visited and used by various pollinator species.

Seed and Plant Production

Seed production orchards may be established from seedlings or root suckers from established plants. Seedlings should be planted in rows with sufficient space between rows to accommodate equipment used for orchard maintenance. Spacing plants within rows 10-12 ft apart or closer if desired. Protect the young plants from browsing by deer and rabbits and rubbing from deer.

Availability

For conservation use: Not yet available commercially. Contact the Manhattan PMC for a list of commercial vendors that handle Chisholm.

For seed or plant increase: Generation 1 seed is available to commercial growers from the Manhattan PMC, in Manhattan, Kansas, to establish seed production orchards.

For more information, contact:
 Manhattan Plant Materials Center, 3800
 South 20th Street, Manhattan, KS 66502,
 785-539-8761, 785-539-2034. <http://plant->

Citation

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For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District <<http://www.nrcs.usda.gov/>>, and visit the PLANTS Web site <<http://plants.usda.gov/>> or the Plant Materials Program Web site <<http://www.plant-materials.nrcs.usda.gov/>>

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