

PLAINS GERMPLASM PRAIRIE ACACIA SELECTED RELEASE Acacia angustissima (P. Mill.)

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Plant Symbol = ACAN

*Contributed by: USDA NRCS Plant Materials
Center, Knox City, Texas*



NRCS James E. "Bud" Smith PMC, Knox City, TX.

Alternate Names

Fern acacia, white-ball acacia, Texas acacia, prairie guajillo

Uses:

Prairie acacia is recommended for use in range seedings and for wildlife food and ground cover. Prairie acacia is a nutritious plant and is readily eaten by all classes of livestock and deer. It decreases under heavy grazing and is an important range condition indicator. Its seeds are readily consumed by birds and rodents. It can be used in range revegetation projects. May provide ground cover vegetation for critically eroding areas to reduce soil erosion and improve water quality.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Description

General: The Pea family (Fabaceae). Prairie acacia is a perennial, warm season, hardy, deep rooted legume found in dry soils on prairies and savannahs. This plant is a smooth and small rounded shrub, forming colonies by means of woody rhizomes with aerial stems that are thornless and rarely over three feet tall. The plant is an attractive and delicate fern-like foliage which closes at night and when touched. Stems are thin, usually unbranched, glabrate, and ridged. Leaves are alternate, the blade divided into usually 3-12 pairs of segments, these again decided in 6-20 pairs of tiny leaflets. Flowers are small and white to creamy yellow. It has 5 petals and stamens numerous, long, and protruding. Numerous flowers, congested in rounded terminal clusters on long stalks arising from upper leaf axils. Fruit is brownish flat seed pod 1.6 to 2.8 inches long and .25 to .3 inch wide. Plant is similar in appearance to Illinois bundleflower, *Desmanthus illinoensis*, but the fruit and leaf structures are different.

Distribution: For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site. *Acacia angustissima* is a widely distributed species in the United States. It ranges westward from Missouri to Kansas to Arizona and eastward through New Mexico, Texas, Oklahoma, Arkansas, Louisiana and Florida.

Habitat: It is found on various soils in prairies, grasslands, and brushlands, on rocky hillsides and along edges of woodlands.

Adaptation

In Texas natural populations are most often found in Gulf Prairies and Marshes, Post Oak Savannah, Blackland Prairies, Cross Timbers and Prairies, South Texas Plains, Edwards Plateau, Rolling Plains, and Trans-Pecos. This plant is found growing in soil pH from neutral to slightly alkaline. It tolerates on loamy soils, to sandy soils to gravelly or rocky soils, but grows abundantly in heavy, tight soils. More vigorous and more abundant growth is realized in 30+ inches rain fall zones. Good drought tolerance

can be expected in open communities with reduced levels of competition.

Establishment

It is easily established from seed or transplanting. Prairie acacia seed mixed with the proper inoculant may be sown alone at a drill depth of .5 to .75 inch deep. Sow with a grass drill equipped with legume box into a prepared and clean seed bed or dead stubble for mulch may help establishment. Additional mulch and irrigation will aid establishment on critical sites, such as land disturbed by mining or road construction. Plantings made in early to mid spring time would provide the seedlings optimum moisture, while late falls or winter planting would pre-chill and stimulate better germination of 'hard' legume seed.

If transplanting seedlings in small areas watering and mulching would be necessary during the first growing season for establishment in spring.

Management

Prairie acacia has the ability to spread by seed and vegetatively from underground stems, but can be controlled by disking or using the proper foliar herbicide. As an indicator of range condition, it decreases under misuse or heavy grazing. It starts growth in spring and will remain green until frost. This plant is a highly palatable legume with high crude protein. It also forms a symbiotic association with rhizobial bacteria, which convert nitrogen, from the air to build up nitrogen in the soil.

These plants with their round white flowers that appear in the summer into fall are attractive to bees, butterflies and birds, and have potential for aesthetic landscaping. Plants flourish in full or part shade with several watering in the summer depending on where you live.

Pests and Potential Problems and Environmental Concerns

No pest or potential problems were identified on Plains Germplasm prairie acacia, *Acacia angustissima* growing at the NRCS/James E. "Bud" Smith Plant Materials Center near Knox City, Texas. There were no environmental concerns expressed on this leguminous, native prairie plant. It is compatible and competitive with perennial grasses and annual weeds.

Seed and Plant Production

The seeds of Plains Germplasm prairie acacia have a hard coat and are slightly larger than the seeds of Illinois bundleflower. It could become an economically important species with a modest plant breeding effort. Seed fields can be harvested by direct combining and run through a hammer mill, if seeds are in pods and then seeds processed by a seed cleaning mill. Seed production records of the Plains Germplasm prairie acacia at the James E. "Bud" Smith Plant Materials Center indicate that purity of harvested seed is routinely 99 percent or greater and germination numbers of 76 to 87 percent. In a 3 year harvest Plains Germplasm has demonstrated seed yield of 279.7 pounds per year at the James E. "Bud" Smith Plant Materials Center (PMC) near Knox City, Texas. There are approximately 22,600 seeds per pound for this selected species.

Cultivars, Improved, and Selected Materials (and area of origin)

Contact your local Natural Resources Conservation Service (formerly Soil Conservation Service) office for more information. Look in the phone book under "United States Government." The Natural Resources Conservation Service will be listed under the subheading "Department of Agriculture."

Plains Germplasm prairie acacia is a selection named and released by the USDA-NRCS James E. "Bud" Smith Plant Materials Center, near Knox City, Texas. It is a composite of seventeen accessions collected from several native stands from north Texas to south Texas and from southeast Texas to west Texas. Plains Germplasm was selected for emergence, drought-hardiness, seedling vigor, and persistence. The plant could be used for range seeding mixtures, wildlife food and habitat, and revegetation of land disturbed by mining or road construction.

References

- Fort Hays State University, Prairie acacia, *Acacia angustissima*, *Pasture and Range Plants*, pp. 75
- Ajilvsgi, Geyata, 1991. *Wildflowers of Texas* pp. 55
- Texas Parks and Wildlife Department, 2004. *Texas Plant Information Database*, pp. 1-3
- Tropical Forages, Fact Sheet - *Acacia angustissima*, pp. 1-7

Wasowski A. and S. Wasowki. *Native Texas Plants - Landscaping Region By Region*, second edition, pp. 95

Prepared By and Species Coordinator

Rudy G. Esquivel, USDA NRCS James E. "Bud"
Smith Plant Materials Center, Knox City, TX

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

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