NETTLELEAF GIANT HYSSOP

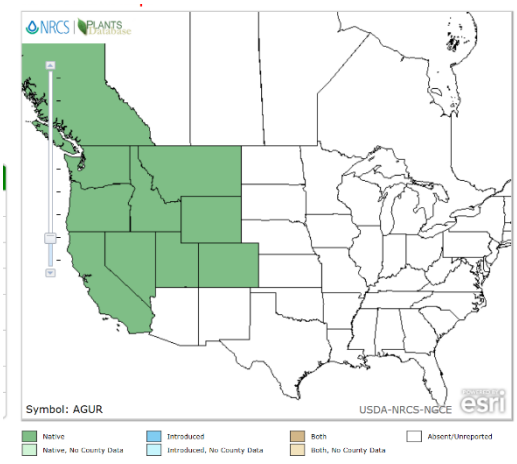
Agastache urticifolia (Benth.) Kuntze

Plant Symbol = AGUR

Description

General: Mint family (Lamiaceae). Nettleleaf giant hyssop is a strongly aromatic, upright, perennial forb typically reaching heights of 3 to 4 feet. The stems are square in cross section, and the leaves are arranged oppositely on the stem as is typical for the family. Leaves are 1 to 2 inches in length, mostly ovate or deltoid-ovate in shape with the under surface of the leaves somewhat paler than the upper. The inflorescence is a verticilaster, a dense, spike-like cluster at the apex of the stem. The flowers are whitish purple, approximately 0.5 to 0.75 inches in length, with the distinct bilabiate shape. The seeds form as four nutlets (Cronquist et al., 1984; Welsh et al., 2003). There are approximately 1,400,000 seeds per pound (Ogle et al., 2014). Nettleleaf giant hyssop flowers from late spring to early summer.

Distribution: Nettleleaf giant hyssop is found in western North America from Montana, Wyoming and Colorado west to California, north to British Columbia and south to Nevada and Utah. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.



Habitat: Nettleleaf giant hyssop is found in meadows and sunny areas in sagebrush, mountain brush, ponderosa pine, aspen, woodlands and spruce-fir communities (Hickman, 1993; Welsh et al., 2003).

Adaptation

Nettleleaf giant hyssop requires approximately 18 to 36 inches of mean annual precipitation (Ogle et al., 2014; USDA NRCS 2019). It is adapted to a broad range of soil textures and can grow in pH levels of 6.0 to 8.0 (USDA NRCS 2017).

Uses

Pollinators: Nettleleaf giant hyssop is a valuable plant species for western pollinators (Mader et al., 2011; Ogle et al., 2014). Additionally, it is an excellent nectar source for butterflies including monarchs. (Fallon et al., 2016a; Fallon et al., 2016bTilley et al., 2018).

Livestock: This species is readily browsed by livestock and large ungulates. It is considered desirable forage to cattle, horses and elk in spring, summer and fall, and desirable for deer and antelope in spring. It is regarded as preferred forage for sheep in spring and summer. (Ogle and Brazee, 2009).

Status

Threatened or Endangered: No.

Wetland Indicator: Nettleleaf giant hyssop is considered a facultative upland species (FACU) in the Arid West and Western Mountains, Valleys, and Coast. (USDA NRCS 2019).

Planting Guidelines
The full stand rate for an estimated 50 seeds per square foot would be approximately 1 to 2 lbs/ac. The actual seeding rate should be adjusted to reflect the desired percentage of the overall mix. Seed should be planted at or just below the soil surface, to no more than 1/8 inch depth. Broadcast seeding followed by light harrowing is preferred.

Management
Nettleleaf giant hyssop should be used as a minor component of pollinator and restoration seed mixtures. Management strategies should be based on the key species in the established plant community. Grazing should be deferred on seeded lands for at least two growing seasons to allow for full stand establishment (Ogle et al., 2014).

Pests and Potential Problems
There are no known pests or potential problems associated with this species.

Environmental Concerns
Nettleleaf giant hyssop is native to western North America. It will spread under favorable conditions but does not pose any environmental concern to native plant communities under proper management.

Seeds and Plant Production
Seed can be removed from plant material with a hammermill or brush machine. Seed is cleaned using an air-screen cleaner with 1.40 mm top screen and solid bottom screen and light air. Seed should be stored in cool-dry conditions with temperatures of approximately 10° C (50° F) and relative humidity of 20 to 30%.

No stratification treatments are necessary with this species. The following comes from first-hand production experience of the authors producing seedlings in 10 cubic inch cone-tainers. Additional information can be found at the Plant Propagation Protocol Database housed at Reforestation, Nurseries, & Genetic Resources (Tilley, 2016). Five to 25 seeds are placed on the soil surface and pressed for good seed-to-soil contact. Seed is lightly covered with pea gravel, and the soil surface is kept moist with 20 minutes of daily irrigation from overhead sprinklers for the first 30 days. Day time greenhouse temperatures range from 24 to 29° C (75 t 85° F). Night time temperatures average around 21° C (70° F). Plants were fully established within 4 weeks. Our seed lot had very high viability and most cones had multiple plants in them and required thinning. We left 2 to 4 plants in each cone to ensure a full root system. After full establishment, plants are fertilized once per week with Miracle Grow All Purpose Plant Food (15-30-15). After 30 days the irrigation schedule is changed to 40 to 60 minutes every other day to encourage root growth. We had to trim our plants with an electric hedge trimmer periodically as they grew and began to affect the sprinkler distribution.

Cultivars, Improved, and Selected Materials (and area of origin)
Limited quantities of wildland collected seed may be available from commercial sources. Commercially available seed sources should be selected based on the local climate, resistance to local pests, and intended use. Consult with your local land grant university, local extension or local USDA NRCS office for recommendations for use in your area.

Literature Cited

Cronquist, A., Holmgren, A.H., Holmgren, N.H., Reveal, J.L. and P.K. Holmgren. 1984. Intermountain Flora, Vascular Plants of the Intermountain West, U.S.A. Volume 4: Asterales. The New York Botanical Garden, Bronx, NY. 496p.

Fallon, C., Adamson, N.L., Jepsen, S. and M. Vaughan. 2016a. Monarch Nectar Plants Rocky Mountains. The Xerces Society for Invertebrate Conservation.

Fallon, C., Adamson, N.L., Jepsen, S., Sardinas, H. Stine, A. and M. Vaughan. 2016b. Monarch Nectar Plants Great Basin. The Xerces Society for Invertebrate Conservation.

Hickman, J.C. 1993. *The Jepson manual. Higher plants of California*. University of California Press. 1399 pp.

Long, R.F. and J. H. Anderson. 2010. Establishing hedgerows on farms in California. University of California Agriculture and Natural Resources. Publication 8390.

Mader, E., Shepherd, M., Vaughan, M., Hoffman Black, S., and G. LeBuhn. 2011. Attracting Native Polliantors: Protecting North America's Bees and Butterflies. Storey Publishing. North Adams, MA. 257p.

Ogle, D., and B. Brazee. 2009. Technical Note 3: Estimating initial stocking rates. USDA-NRCS, Boise, ID. ID-TN 3. 39p.

Ogle, D., Tilley, D., St. John, L. Stannard, M. and L. Holzworth. 2014. Technical Note 24: Conservation plant species for the Intermountain West. USDA-NRCS, Boise, ID-Salt Lake City, UT-Spokane, WA. ID-TN 24. 72p.

Tilley, Derek. 2016. Propagation protocol for production of Container (plug) *Agastache urticifolia* (Benth.) Kuntze Plants 10 cubic inch conetainer; USDA NRCS - Aberdeen Plant Materials Center Aberdeen, Idaho. In: Native Plant Network. URL: http://NativePlantNetwork.org (accessed 2019/01/25). US Department of Agriculture, Forest Service, National

Center for Reforestation, Nurseries, and Genetic Resources.USDA, NRCS 2019. *The PLANTS database*. National Plant Data Center, Baton Rouge, Louisiana. <http://plants.usda.gov> Version: 05APR1999.
Tilley, D, Cracroft, T., Brazee, B., and M. Vaughan. 2018. Technical Note 71: Monarch butterfly habitat: development and maintenance. USDA-NRCS, Boise, ID. ID-TN 71. 10p.
Welsh, S.L., Atwood, N.D., Goodrich, S., and L.C. Higgins. 2003. A Utah Flora. Third Edition, revised. Brigham Young University, Provo, UT.

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