

## WESTERN ASTER

### *Symphotrichum ascendens* (Lindl.) G.L. Nesom

Plant Symbol = SYAS3

Contributed by: USDA NRCS Idaho Plant Materials Program



Western aster. G.D. Carr. Oregon State University. Used with permission.

#### Alternate Names

*Common Alternate Names:*

Pacific aster, purple aster, long-leaved aster

*Scientific Alternate Names:*

*Aster adscenden*, *A. ascendens*, *A. chilensis* ssp. *adscendens*, *A. macounii*, *A. subgriseus*, *Virgulaster ascendens*

#### Uses

##### Reclamation

Western aster is a forb species that may have potential for rangeland seedings in semi arid plant communities. It establishes readily from broadcast or drill seedings and competes with and even suppresses cheatgrass (*Bromus*

*tectorum*) (Stevens and Monsen 2004). Western aster recovers well from wildfires and spreads naturally by seed and rhizomes (Stevens and Monsen 2004). It does not require significant soil preparation for establishment and can be used on shallow, rocky and infertile soils including roadways (Stevens and Monsen 2004).

##### Erosion control

Western aster can be used for seeding unstable slopes. Young plants do not attract heavy use from cattle, and the mature plants provide good cover and have extensive roots (Stevens and Monsen 1994).

##### Wildlife/range

In most instances western aster is a valuable forage species for large animals and livestock (Stevens and Monsen 2004). The plants green up early in spring and stay green through fall and into winter. Englemann aster (*Eucephalus engelmannii*) is believed to be more palatable than western aster; however Stevens and Monsen (2004) note that western aster receives moderate to heavy seasonal grazing. Its root system of dense rhizomes makes it resistant to trampling and grazing. Western aster can accumulate selenium on contaminated soils and become toxic to livestock.

##### Pollinators

Western aster is a valuable species for attracting native pollinators. It is visited by native bees and butterflies (Lady Bird Johnson Wildflower Center 2012).

##### 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:* Composite family (Asteraceae). Western aster is a rhizomatous perennial forb with flowering stems reaching 12 to 105 cm (5 to 42 in) tall. The leaves are 1 to 16 cm (0.4 to 6 in) long and 2 to 15 mm (0.08 to 0.6 in) wide becoming smaller upwards. The leaves are mostly entire with ciliate margins. The inflorescence is an open cluster of numerous flower heads. Each flower head bears 15 to 40 purplish to violet (rarely white) ray flowers 5 to 15 mm (0.2 to 0.6 in) long surrounding a series of yellow disk flowers (Cronquist et al. 1994). The fruit is a pubescent brown, cylindrical to obovoid achene, 2 to 3.5 mm (0.08 to 0.14 in) long bearing a 4 to 7 mm (0.16 to 0.28 in) long pappus of capillary bristles (SEINet 2012).

### *Distribution:*

Western aster occurs throughout western North America from British Columbia south to California and east to New Mexico, Nebraska and Saskatchewan. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

### *Habitat:*

Western aster can be found growing in a wide range of habitats from 850 to 3,200 m (2,790 to 10,500 ft) (Welsh et al. 2003). It is common in arid areas in sagebrush, rabbitbrush and pinyon juniper communities. It is frequently found in wetter sites at low elevations including hanging gardens and riparian areas in cottonwood and willow communities. At higher elevations it is found in mountain brush, aspen and spruce-fir communities (Welsh et al. 2003).

### **Adaptation**

Western aster is adapted to a broad range of conditions. It is found in arid to mesic conditions on sites receiving 200 to 1067 mm (8 to 42 in) mean annual precipitation. Western aster grows in loamy soils with a pH of 5.0 to 8.0. It is recommended for use in USDA Plant Hardiness Zones 3 to 9 (Wilson 2012).

### **Establishment**

Western aster can be established via direct seeding or by sprigging with rhizomes. Western aster is typically broadcast seeded, but drill seeding is also effective. Seed should be drilled to a depth of no more than 6 mm (0.25 in) (Stevens and Monsen 2004). To facilitate seed flow through seeding equipment, seed should be better than 50% purity (Stevens and Monsen 2004). Western aster seed decreases in viability under storage conditions. Stevens and Monsen (2004) recommend the use of seed less than 3 years old.

Western aster seedlings develop an extensive root system during the first growing season. It is not typically damaged by grazing, rabbits or rodents during the first year (Stevens and Monsen 2004).

### **Management**

Western aster should be used as a minor component of 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. 2011; Stevens and Monsen 2004). Once established, western aster is relatively competitive against weeds including cheatgrass (Stevens and Monsen 2004).

### **Pests and Potential Problems**

Western aster is known to absorb selenium in selenium rich soils causing it to become toxic to cattle and sheep (Davis et al. 2011; Davis et al. 2012).

### **Environmental Concerns**

Western aster is native to western North America and poses no known environmental concerns.

### **Seed and Plant Production**

Seed is collected from August to November. The inflorescence and seed are brown when mature (Young 2001). Flowers of western aster mature indeterminately, and there may be large amounts of immature seeds in a lot. Most seed sold has approximately 10 to 14% purity with the pappus intact. The pappus can be removed using brush machine or light hammer milling (Stevens and Monsen 2004). Seed should be purchased and utilized using PLS rates. There are approximately 2.5 million seeds per pound (Stevens and Monsen 2004).

Western aster seed does not require a pretreatment or chill period for germination (Young 2001). Viable seed germinates in 15 to 20 days (Stevens and Monsen 2004; Young 2001).

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

Seed of western aster is available in limited quantities on the commercial market. Larger quantities of seed can be grown on a contract basis (Walker and Shaw 2005).

### **References**

- Cronquist, A. 1994. Asterales. In: Cronquist, A., A.H. Holmgren, N.H. Holmgren, J.L. Reveal and P.K. Holmgren (eds). 1994. Intermountain flora: Vascular plants of the Intermountain West, U.S.A. Vol. 5. Bronx, New York: The New York Botanical Garden. 496 pp.
- Davis, T.Z., Stegelmeier, B.L., Green, B.T., Welch, K.D., Panter, K.E. and J.O. Hall. 2011. Acute toxicity of selenium compounds commonly found in selenium-accumulator plants. In: Riet-Correa, F. Pfister, J. Schild, A.L. Wierenga, T. (eds.). *Poisoning by Plants, Mycotoxins and Related Toxins*. CABI. 660p.
- Davis, T.Z., Stegelmeier, B.L., Panter, K.E., Cook, D., Gardner, D.R. and J.O. Hall. 2012. Toxicokinetics and pathology of plant-associated acute selenium toxicosis in steers. *Journal of Veterinary Diagnostic Investigation*. 24 (2): 319-327.
- Lady Bird Johnson Wildflower Center. 2012. The University of Texas at Austin. Accessed October 18, 2012. Available at [http://www.wildflower.org/plants/result.php?id\\_plant=SYAS3](http://www.wildflower.org/plants/result.php?id_plant=SYAS3).
- Ogle, D., St. John, L., Stannard, M., and L. Holzworth. 2011. Technical Note 24: Conservation plant species for the Intermountain West. USDA-NRCS, Boise, ID-Salt Lake City, UT-Spokane, WA. ID-TN 24. 57p.
- [SEINet] Southwest Environmental Information Network. 2012. Arizona State University. Accessed October 18, 2012. Available at <http://swbiodiversity.org/seinet/index.php>.

Stevens R., and S.B. Monsen. 2004. Forbs for seeding range and wildlife habitats. In: S.B. Monsen, R. Stevens, and N.L. Shaw [compilers]. Restoring western ranges and wildlands. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station. General Technical Report RMRS-GTR-136-vol-2. p. 425-491.

Walker, S.C., and N.L. Shaw. 2005. Current and potential use of broadleaf herbs for reestablishing native communities. USDA Forest Service Proceedings. RMRS-P-38. Rocky Mountain Research Station. Boise, Idaho. pp. 56-61.

Welsh, S.L., Atwood, N.D., Goodrich, S. and L.C. Higgins. 2003. A Utah Flora. Brigham Young University. Provo, UT. 912p.

Wilson, B. 2012. *Symphyotrichum ascendens* fact sheet. Las Pilitas Nursery. Accessed October 18, 2012. Available at <http://www.laspilitas.com/nature-of-california/plants/symphyotrichum-ascendens>.

Young, Betty 2001. Propagation protocol for production of container *Symphyotrichum chilense* (Nees.) Nesom *chilense* plants (Deepot 16); , San Francisco, California. In: Native Plant Network. URL: <http://www.nativeplantnetwork.org> (accessed 18 October 2012). Moscow (ID): University of Idaho,

College of Natural Resources, Forest Research Nursery.

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**Citation**

Tilley, D. 2012. Plant Guide for western aster (*Symphyotrichum ascendens*). USDA-Natural Resources Conservation Service, Aberdeen Plant Materials Center. Aberdeen, Idaho 83210.

Published November 2012

Edited: 19October2012djt; 19oct2012ls; 01Nov2012jab

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