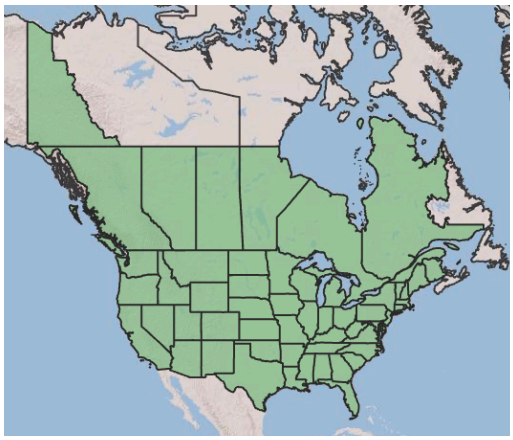
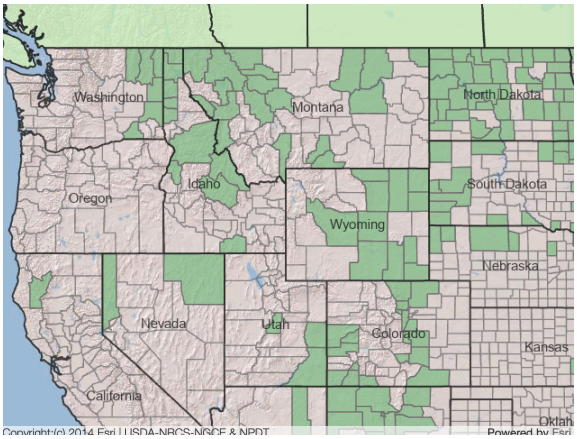
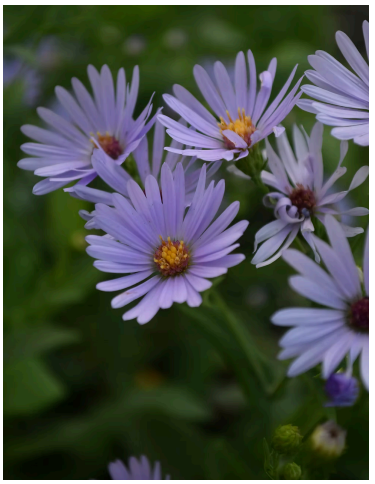
Plant Propagation Protocol for Smooth Blue Aster (*Symphyotrichum laeve*)
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/*2026*/*SYLA3.pdf]*

Both map images taken from USDA Natural resources Conservation Service Website. Photo by Emerson Sapienza







TAXONOMY	
Plant Family	
Scientific Name	Asteraceae
Common Name	Sunflower Family/Aster Family
Species Scientific Name	
Scientific Name	*symphyotrichum laeve* L. A&D Löve
Varieties	*Symphyotrichum laeve* (L.) Á. Löve & D. Löve var. *concinnum* (Willd.) G.L. Nesom *Symphyotrichum laeve* (L.) Á. Löve & D. Löve var. *geyeri* (A. Gray) G.L. Nesom *Symphyotrichum laeve* (L.) Á. Löve & D. Löve var. *laeve* *Symphyotrichum laeve* (L.) Á. Löve & D. Löve var. *purpuratum* (Nees) G.L. Nesom
Sub-species	NA
Cultivar	NA
Common Synonym(s)	*Aster laevis* L., Aster geyeri,
Common Name(s)	Blue aster, Smooth Aster, Geyer's Aster,

Species Code (as per USDA Plants database)	SYLA3
GENERAL INFORMATION	
Geographical range	North America(eastern and central), Canada (2),
Ecological distribution	Pacific Northwest: Prairies and in the open where sun is in every direction (5), Great Plains and Rocky Mountain area.
Climate and elevation range	Zone 3-8, pH level 5.5 - 7.5
Local habitat and abundance	Full to partial sun areas, with room to grow (4), medium moisture of sandy loam or clay loam soil types is most preferred (5), but it can tolerate moderately most meadows and light shade (6).
Plant strategy type / successional stage	Weedy colonizer, endures full sun and minimal soil depth, hardy perennial (3), Not an aggressive spreader(5). Blooms later relative to other flowers (August to October) which gives it a niche of pollinators when other flowers have already passed peak bloom.
Plant characteristics	Daisy like flowers, colors include: white, blue, purple, or pink petals with yellow centers. That are 1” in diameter, 24-48” tall and 12-24” wide when fully mature(4), upright and leans toward sunlight (5), leaves are oblong-ovate or lance shaped, blueish green, and hairless. Fibrous roots that produce rhizomes.
PROPAGATION DETAILS: FROM SEED. RNGR method written by Mark E. Majerus (8)	
Ecotype	Glacier National Park Seed source from Avalanche Area(8)
Propagation Goal	Seeds
Propagation Method	Seed
Product Type	Propagules (seeds, cuttings, poles)
Stock Type	10” cubic cell size conetainers for the plants that will produce the seeds
Time to Grow	1 year
Target Specifications	24-48” tall plants for the plants that will produce seeds. 90% pure seeds is the goal.

Propagule Collection Instructions	Ripening is indeterminate, so either collection in intervals, or once when the greatest amount of seeds seem ripe, which is the more cost effective method. Vacuuming, hand clipping seed heads, mechanical harvesting with a swather are gathering options. Clipped seed heads are spread on a tarp to ripen. Seeds are ready to collect after petals fade, early to late autumn (9).
Propagule Processing/Propagule Characteristics	Hit ripe seed heads on the inside of a barrel or container, and discard the stems. Process the seeds in a hammer hill with 0.08 diameter holes, use a fanning mill to remove the chaff with wind (8).
Pre-Planting Propagule Treatments	None needed, but for old seeds, 30-60 day cold, moist stratification is recommended (10).
Growing Area Preparation / Annual Practices for Perennial Crops	Greenhouse temps at 70F-80F during the day and 65-70F for nights for seedlings to germinate, and a lathe house for growing and hardening off. Metro-Mix 360 media. (1) (10)
Establishment Phase Details	Sow seeds in February for plants ready to out plant in spring. hand sow into media with a light layer of media on top. 4-5 seeds per container. water regularly. (1)
Length of Establishment Phase	rapid, within 8 weeks they will need bigger containers(8)
Active Growth Phase	Monitor watering, add fertilizer if needed (Miracle grow is mentioned) plants should be thinned to 2 plants per cell. (1)
Length of Active Growth Phase	10-12 weeks to fill a 10”cubic container
Hardening Phase	Move containers from greenhouse to outside or a hoophouse before being planted outside of the containers to acclimate them to early spring temperatures (1). Keep the temperatures above freezing in case of severely cold weather (10)
Length of Hardening Phase	30-60 days
Harvesting, Storage and Shipping	600 container plants lined out produced .551 kg seeds in the first year, .428 seeds in the second year, and .545 kg seeds in the third year of clean seeds.
Length of Storage	None mentioned

Guidelines for Outplanting / Performance on Typical Sites	Drill or belt seeders work with other species of Aster for ideal seed production, and smooth blue aster has been successful with lines of them planted like this (8)
Other Comments	This guideline listed in citation (8) has no information about the length of growing phases, and focuses more on how to process and collect seeds before planting them, and the amount collected for the end result(8). Growth information is supplemented with another guideline written by the same person about the same species, from reference (10). Neither has information for length of Storage.
PROPAGATION DETAILS: FROM SEED. RNGR method written by David J. Horvath(11)	
Ecotype	Central Illinois, 650 ft msl elevation
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Bareroot (field grown)
Stock Type	1+0 container plugs
Time to Grow	7 months
Target Specifications	Herbaceous perennial with a firm root plug root system. 6-9 cubic inch containers
Propagule Collection Instructions	Seeds are collected with a custom designed combine of nursery stock. This species flowers from beginning of July to end of August, and seeds are harvested in the middle of September (11).
Propagule Processing/Propagule Characteristics	After drying, seed is cleaned by hand, then run through a “Debearder” with the middle screen size. then run through the “Clipper” Machine, then run through the “Jesse Aspirator” to remove dust. 88% purity with 62.5k seeds per ounce (11).
Pre-Planting Propagule Treatments	8 ounces of seed used. Damp stratified with equal amounts of vermiculite to seed, lightly dampening it, and putting in a plastic bag or container. Stored 3-4 months in a cold room of 34-36F degrees (11).

Growing Area Preparation / Annual Practices for Perennial Crops	Fully controlled greenhouse and field grown in beds. 6-9 cubic inch containers, in sterile Pro-Mix PGX. Vermiculite and perlite added at a 1:10 ratio with the mix. Sow the seeds by hand, sprinkling 3-5 seeds per cell. These plants were sown in late December (11).
Establishment Phase Details	70-80F degree temperature in the greenhouse during the day, 65-75F degrees at night. Hand water gently to avoid seeds splashing out(11).
Length of Establishment Phase	1-2 weeks
Active Growth Phase	Greenhouse temperatures can be slowly turned down after germination to acclimate to outside temperatures. soak in the morning for 20-30 minutes with irrigation. Once true leaves appear, they can be fertilized. 50ppm of Rapid Grow or Peter's Liquid fertilizer was used once a week. Increased to 200 ppm fertilizer, and then decreased back down to 50ppm, by the time they are ready to be out planted. Thin cells to 2 plants per cell before the roots are too extensive(11).
Length of Active Growth Phase	Late December to Late January/Early February, 1 month. Then move the plants to a hoop house (11).
Hardening Phase	Irrigation rate is reduced to 50ppm and temperatures are decreased to 55-60 before moving to the hoophouse where they complete their hardening phase. Reduced irrigation also slows vegetative growth in the fall (12).
Length of Hardening Phase	7 months until they are ready to be outplanted in October or November (12).
Harvesting, Storage and Shipping	Can be stored for spring in cold but not freezing temperatures, 40-50F degrees. Store in plastic bags to avoid the roots drying out. Remove dead vegetation before storage (11).
Length of Storage	4-6 months
Guidelines for Outplanting / Performance on Typical Sites	Not mentioned

Other Comments	Length of time in the source (source 11) was listed by mentioning the month plants were onto the next stage, without mentioning the number of months or weeks between each stage. If plants were planted in a different month, it is not clear how much of this guideline could be accurate.
INFORMATION SOURCES	
References	See below
Other Sources Consulted	See below
Protocol Author	Catalina Hagen
Date Protocol Created or Updated	05/17/2026

References:

(1) Reforestation, Nurseries, and Genetic resources: Scianna, Joe. 2003. Propagation protocol for production of Propagules (seeds, cuttings, poles, etc.) Symphyotrichum laeve laeve (L.) A.& D. L" ve seeds Seeds; USDA NRCS - Bridger Plant Materials Center Bridger, Montana. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2026/05/18). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

(2) "Symphyotrichum Laeve (L.) Á. Löve & D. Löve." *USDA Plants Database*, USDA, 2014, plants.sc.egov.usda.gov/plant-profile/SYLA3.

(3) Powell, Eileen. From Seed to Bloom: How to grow over 500 annuals, Perennials, and Herbs by Eileen Powell, published by Schoolhouse Road Pownal, Vermont 05261 (pg 57) Accessed 18 May 2026.

(4) "Smooth Blue Aster, Symphyotrichum Laeve." *American Meadows*, www.americanmeadows.com/products/perennial-aster-smooth-blue?utm_source=google&utm_medium=cpc&utm_campaign=&gad_source=5&gad_campaignid=20373021804&gclid=EAIaIQobChMI8q7gn-rDlAMVoiatBh36xwXIEAAYAyAAEgLN__D_BwE. Accessed 18 May 2026.

(5) Foster, Joe. "Smooth Blue Aster – a Complete Guide (Symphyotrichum Laeve)." *Growit Buildit*, 2 Apr. 2021, growitbuildit.com/symphyotrichum-laeve-smooth-blue-aster-laevis/.

(6) "Smooth Blue Aster: Native Wildflower for Pollinators." *PlantNative.Org*, plantnative.org/native-plants/smooth-blue-aster-symphyotrichum-laeve.htm. Accessed 18 May 2026.

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(9) Gwmag. *How to Grow Asters*, BBC Gardeners’ World Magazine, 26 Aug. 2025, www.gardenersworld.com/how-to/grow-plants/how-to-grow-asters/. Accessed 18 May 2026.

(10) Mark E. Majerus. Scianna, Joe. 2003. Propagation protocol for production of Container (plug) Symphyotrichum laeve (L.) A.& D. L”ve plants Ten-cubic-inch containeris; USDA NRCS - Bridger Plant Materials Center Bridger, Montana. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2026/05/18). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

(11) Blessman, Gary; Flood, Roberta Mo untz; Horvath, David J.. 2001. Propagation protocol for production of Bareroot (field grown) Symphyotrichum laeve (L.) A.& D. L”ve plants 1+0 container plugs; Illinois Department of Natural Resources - Mason State Nursery Topeka, Illinois. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2026/05/19). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

(12) Blessman, Gary; Flood, Roberta Mountz; Horvath, David J.. 2001. Propagation protocol for production of Bareroot (field grown) Symphyotrichum laeve (L.) A.& D. L”ve plants 1+0 bareroot; Illinois Department of Natural Resources - Mason State Nursery Topeka, Illinois. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2026/05/19). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

<u>Other sources consulted:</u>

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