

Plant Propagation Protocol for *Erigeron acris* L.

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/ERAC2.pdf>

TAXONOMY	
Plant Family	
Scientific Name	<i>Compositae</i> , tribe <i>Astereae</i>
Common Name	Daisy, tribe Aster
Species Scientific Name	
Scientific Name	<i>Erigeron acris</i> L.
Varieties	<i>Erigeron acris</i> L. var. <i>debilis</i> A. Gray, <i>Trimorpha acris</i> (L.) Gray var. <i>debilis</i> (A. Gray) G.L. Nesom, <i>Erigeron acris</i> L. var. <i>kamtschaticus</i> (DC.) Herder, <i>Trimorpha acris</i> (L.) Gray var. <i>kamtschatica</i> (DC.) G.L. Nesom, <i>Erigeron acris</i> L. var. <i>asteroides</i> (Andrz. ex Besser) DC., <i>Trimorpha acris</i> (L.) Gray var. <i>asteroides</i> (Andrz. ex Besser) G.L. Nesom
Sub-species	<i>debilis</i> (A. Gray) Piper, <i>decoloratus</i> (H. Lindb.) Hiitonen, <i>droebachiensis</i> (O.F. Müll.) Arcang., <i>kamtschaticus</i> (DC.) H. Hara, <i>politus</i> (Fr.) Schinz & R. Keller
Cultivar	None.
Common Synonym(s)	<i>Erigeron acris</i> auct. non L. p.p., <i>Erigeron angulosus</i> Gaudin <i>ssp. debilis</i> (A. Gray) Piper, <i>Erigeron debilis</i> (A. Gray) Rydb., <i>Erigeron jucundus</i> Greene, <i>Erigeron nivalis</i> Nutt., <i>Trimorpha acris</i> auct. non (L.) Gray p.p., <i>Erigeron kamtschaticus</i> DC., <i>Erigeron droebachensis</i> O.F. Müll., <i>Erigeron elongatus</i> Ledeb., <i>Erigeron politus</i> Fr., <i>Trimorpha elongata</i> (Ledeb.) Vierh.
Common Name(s)	Bitter Daisy, Bitter Fleabane, Blue Fleabane (<i>ssp. debilis, politus</i>) (USDA NRCS)
Species Code (as per USDA Plants database)	ERAC2

GENERAL INFORMATION

Geographical range	
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Ecological distribution	Although it can apparently grow in shade, in dry or rocky woods, this species seems to grow most vigorously in rich, moist soil where it receives at least partial sunlight. (Erigeron 2013)
Climate and elevation range	670-1589 m Climate is currently unknown or variable (Klinkenberg 2017)
Local habitat and abundance	Blue fleabane grows best in well-drained, neutral, or calcareous soils particularly on warm southing facing slopes. Habitats include sand dunes, quarries, waste areas, walls and rock outcrops. (Emorsgate Seeds)
Plant strategy type / successional stage	Weedy/colonizer
Plant characteristics	Herb (Klinkenberg 2017)
PROPAGATION DETAILS	
Propagation Goal	Plants
Propagation Method	Seeds
Product Type	Container
Stock Type	Plugs
Time to Grow	Approximately 2 months
Target Specifications	Adequate root and shoot development
Propagule Collection Instructions	Plants exhibiting the densest capitula produced the highest quantity of viable seeds (Hind 2018)
Propagule Processing/Propagule Characteristics	Seed density is regularly low, chaff can be excessive and difficult to separate (Deno 1993)
Pre-Planting Propagule Treatments	No scarification or stratification necessary
Growing Area Preparation / Annual Practices for Perennial Crops	Well-drained soil with adequate moisture (Hind 2018)
Establishment Phase Details	Ideal germination at 70 F (Deno 1993)
Length of Establishment Phase	4-10 days (Deno 1993)
Active Growth Phase	Provide ample sunlight and not excessive amounts of water

Length of Active Growth Phase	Approximately 1.5 months
Hardening Phase	No excessive fertilizers as it may decrease adequate root development, shadier conditions, and cooler temperatures.
Length of Hardening Phase	Approximately 2 weeks.
Harvesting, Storing, and Shipping	Quite hardy, keep roots moist.
Length of Storage	Unknown
Guidelines for Outplanting / Performance on Typical Sites	Plant in well-drained soil, these plants prefer sandier soils.
PROPAGATION DETAILS	
Adapted from propagation methods of <i>E. glaucus</i> and <i>E. peregrinus</i>	
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Bareroot
Stock Type	Bareroot
Time to Grow	Approximately 2 weeks
Target Specifications	Plant demonstrates that its root system is well intact and still photosynthesizing
Propagule Collection Instructions	Plants should be collected in early spring and aged 2-3 years (Hind 2018)
Propagule Processing/Propagule Characteristics	Maintain moisture in the propagule's roots
Pre-Planting Propagule Treatments	None.
Growing Area Preparation / Annual Practices for Perennial Crops	Well-drained soil with adequate moisture (Hind 2018)
Establishment Phase Details	N/A
Length of Establishment Phase	N/A

Active Growth Phase	Provide ample sunlight and not excessive amounts of water
Length of Active Growth Phase	Approximately 1.5 months
Hardening Phase	No excessive fertilizers as it may decrease adequate root development, shadier conditions, and cooler temperatures.
Length of Hardening Phase	Approximately 2 weeks.
Harvesting, Storing, and Shipping	Quite hardy, keep roots moist.
Length of Storage	Unknown
Guidelines for Outplanting / Performance on Typical Sites	Plant in well-drained soil, these plants prefer sandier soils.
PROPAGATION DETAILS	
Adapted from propagation methods of <i>E. glaucus</i> and <i>E. peregrinus</i>	
Propagation Goal	Rooted cuttings
Propagation Method	Vegetative
Product Type	Propagules
Propagule Collection Instructions	Healthy stem tissues collected in early spring or early summer and kept moist (Hind 2018)
Target Specifications	Sufficient root development
Propagule Processing/Propagule Characteristics	Stem cutting including leaf rosette or midstem cutting with dead or dying leaves removed and the cut end to be treated with rooting hormone (Hind 2018).
Growing Area Preparation / Annual Practices for Perennial Crops	Container not specified. 1:2 sand/John Innes No. 2 potting compost mix (Hind 2018).
Active Growth Phase	Keep cuttings in shade to semi-shade and do not over water (Hind 2018).
Hardening Phase	Sufficient root development, plant is quite hardy (Hind 2018).
Guidelines for Outplanting / Performance on Typical Sites	Plant in well-drained soils (Pettinger and Costanzo 2002).
Other Comments	Beware of tephritid flies during active growth phase.

	Early flowering plants seemed more susceptible to insect attack (Hind 2018)
INFORMATION SOURCES	
References	<p>“Erigeron Acris L. .” Edited by Brian Klinkenberg, <i>E-FLORA BC: ELECTRONIC ATLAS OF THE FLORA OF BRITISH COLUMBIA</i>, Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver, 2017, linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Erigeron%2Bacris.</p> <p>“Erigeron Acris L. Var. Kamtschatica (DC.) Hara.” <i>Department of Agriculture, Conservation, and Forestry</i>, 2013, www.maine.gov/dacf/mnap/features/eriacr.html.</p> <p>“Erigeron Acris – Blue Fleabane.” <i>Erigeron Acris – Blue Fleabane Wild Flowers Species Emorsgate Seeds – (01553) 829 028</i>, Emorsgate Seeds, wildseed.co.uk/species/view/284.</p> <p>Hind, Nicholas. “Erigeron Glaucus.” <i>Curtis's Botanical Magazine</i>, Dec. 2018, pp. 359–379.</p> <p>“Mountain Habitat.” <i>Native Plants in the Coastal Garden: a Guide for Gardeners in the Pacific Northwest</i>, by April Pettinger and Brenda Costanzo, Whitecap Books, 2002, p. 191.</p> <p>“Summary of Data Arranged by Genera.” <i>Seed Germination: Theory and Practice</i>, by Norman L. Deno, 2nd ed., 1993, p. 139.</p> <p>USDA NRCS National Plant Data Team. “Erigeron Acris L. .” <i>USDA Natural Resource Conservation Service</i>, plants.sc.egov.usda.gov/core/profile?symbol=ERAC2.</p>
Other Sources Consulted	<p>Scott, P. “Bellplants.” <i>Detailed Collection Record Information</i>, 2009, usegalaxyp.msi.umn.edu/collections/individual/index.php?occid=195411.</p> <p>“Propagation of Selected Plant Species.” <i>Hartmann and Kester's Plant Propagation: Principles and Practices</i>, by Hudson T. HARTMANN et al., 7th ed., Prentice-Hall, 2002, p. 822.</p> <p>Knoke, Don, et al. “Erigeron Acris.” <i>Burke Herbarium Image Collection</i>, Burke Museum, 2017.</p>
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