

**Plant Propagation Protocol for *Mimulus moschatus***

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/mimo3.pdf>



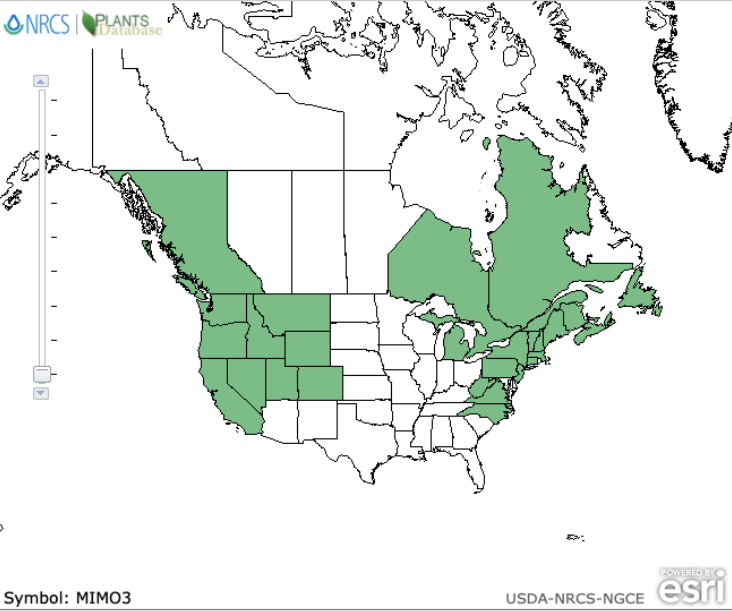
Image credit: Bransford, W.D. and Dolphia<sup>6</sup>

<b>TAXONOMY</b>	
<b>Plant Family</b>	
Scientific Name	Scrophulariaceae <sup>7</sup>
Common Name	Figworts <sup>7</sup>
<b>Species Scientific Name</b>	
Scientific Name	<i>Mimulus moschatus</i> Douglas ex Lindl. <sup>7</sup>

Varieties	<ul style="list-style-type: none"> <li>• <i>Mimulus moschatus</i> Douglas ex Lindl. var. <i>moniliformis</i> (Greene) Munz</li> <li>• <i>Mimulus moschatus</i> Douglas ex Lindl. var. <i>moschatus</i></li> <li>• <i>Mimulus moschatus</i> Douglas ex Lindl. var. <i>Sessilifolius</i> A. Gray</li> <li>• <i>Mimulus moschatus</i> Douglas ex Lindl. var. <i>longiflorus</i> A. Gray<sup>7</sup></li> </ul>
Sub-species	None
Cultivar	None
Common Synonym(s)	None
Common Name	Muskflower <sup>7</sup>
Species Code	MIMO3 <sup>7</sup>

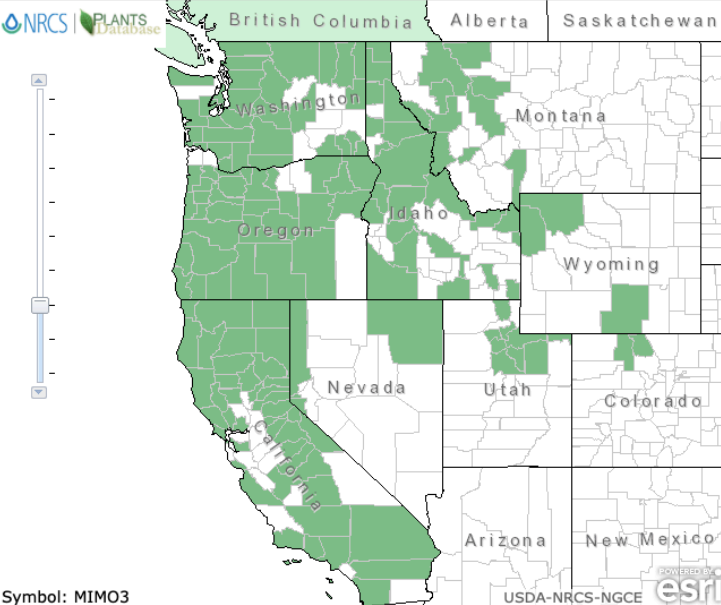
**GENERAL INFORMATION**

Geographical range in North America



Symbol: MIMO3

USDA-NRCS-NGCE

<p>Geographical range in the Pacific Northwest</p>	 <p>Symbol: MIM03</p>
<p>Ecological distribution</p>	<p>Occurs in moist meadows, stream banks, thickets, roadsides, and other moist shady areas<sup>4</sup>.</p>
<p>Climate and elevation range</p>	<p>Occurs from low to middle elevations<sup>4</sup>.</p>
<p>Local habitat and abundance</p>	<p>No information available.</p>
<p>Plant strategy type / successional stage</p>	<p>No information available.</p>
<p>Plant characteristics</p>	<p>A slimy-hairy perennial, 10-70 cm long, may be musk-scented<sup>4</sup>.</p> <p>Leaves opposite, stalkless, ovate, entire-toothed, and 1-8 cm long<sup>4</sup>.</p> <p>Flowers yellow and funnel-like, weakly 2-lipped, with dark spots or lines. Flowers have 4 stamens and occur on long slender stalks<sup>4</sup>.</p>
<p><b>PROPAGATION DETAILS</b></p>	
<p>Ecotype</p>	<p>N/A</p>
<p>Propagation Goal</p>	<p>Plants</p>
<p>Propagation Method</p>	<p>Seed</p>
<p>Product Type</p>	<p>Container</p>
<p>Stock Type</p>	<p>No information available.</p>

Time to Grow	No information available.
Target Specifications	No information available.
Propagule Collection Instructions	No information available.
Propagule Processing/Propagule Characteristics	No information available.
Pre-Planting Propagule Treatments	No information available.
Growing Area Preparation / Annual Practices for Perennial Crops	In a greenhouse setting, seeds should be sown directly and lightly covered with growing medium <sup>3</sup> .
Establishment Phase Details	When seedlings are large enough to handle, they should be moved to individual containers <sup>3</sup> .
Length of Establishment Phase	No information available.
Active Growth Phase	No information available.
Length of Active Growth Phase	Seedlings may grow for up to 3 months before outplanting <sup>3</sup> .
Hardening Phase	No information available.
Length of Hardening Phase	No information available.
Harvesting, Storage and Shipping	Seedlings can be stored in a dry, cool place over the winter before being out planted in the spring <sup>2</sup> .
Length of Storage	3 months <sup>2</sup>
Guidelines for Outplanting / Performance on Typical Sites	No information available.
Other Comments	Seeds may also be planted directly outside after the last frost <sup>3</sup> .

### **PROPAGATION DETAILS**

Ecotype	N/A
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Container
Stock Type	No information available.
Time to Grow	0-3 months <sup>3</sup> .

Target Specifications	No information available.
Propagule Collection Instructions	Best propagated by dividing large plants in early spring while plants are still dormant <sup>5</sup> .  Take 5 cm cuttings in spring or early summer <sup>3</sup> .
Propagule Processing/Propagule Characteristics	No information available.
Pre-Planting Propagule Treatments	No information available.
Growing Area Preparation / Annual Practices for Perennial Crops	Large divisions can be planted directly outside. Smaller divisions should be planted in pots <sup>3</sup> .  Cuttings root readily in a mixture of sandy loam and heath-mould <sup>1</sup> .  Cuttings should be planted in early spring in a shady spot that is protected from the wind <sup>5</sup> .
Establishment Phase Details	N/A
Length of Establishment Phase	N/A
Active Growth Phase	Potted cuttings or divisions should be grown in light shade in a cold frame until they are well-established <sup>3</sup> .  Plants should be kept well watered <sup>1</sup> .
Length of Active Growth Phase	No information available.
Hardening Phase	N/A
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	Seedlings can be stored in a dry, cool place over the winter before being out planted in the spring <sup>2</sup> .
Length of Storage	3 months <sup>2</sup>
Guidelines for Outplanting / Performance on Typical Sites	Once plants are well-established, outplant in late spring or early summer <sup>3</sup> .
Other Comments	None
<b>INFORMATION SOURCES</b>	

References	<ol style="list-style-type: none"> <li>1. Delamer, E. S. (1892). <i>The Flower Garden; or, the Culture in the open ground of bulbous, tuberous, fibrous-rooted, and shrubby flowers ... The sixth thousand</i>. G. Routledge &amp; Co.: London, Glasgow, Manchester, and New York.</li> <li>2. F., W. (1874). Basket Plants. <i>Gardener's Monthly and Horticulturist, Volume 16</i>.</li> <li>3. Huxley, A., Griffiths, M., &amp; Levy, M. (1999). <i>The new RHS dictionary of gardening</i>. London: Macmillan.</li> <li>4. MacKinnon, A., &amp; Pojar, J. (2016). <i>Plants of the Pacific Northwest coast: Washington, Oregon, British Columbia &amp; Alaska</i>. Vancouver, British Columbia: Partners Publishing.</li> <li>5. McLaren, J. (1909). <i>Gardening in California, landscape and flower</i>. San Francisco: A.M. Robertson.</li> <li>6. Mimulus Moschatus (Muskflower). (2012). Retrieved from <a href="https://www.wildflower.org/plants/result.php?id_plant=MIMO3">https://www.wildflower.org/plants/result.php?id_plant=MIMO3</a></li> <li>7. Plants Profile for Mimulus moschatus (muskflower). (n.d.). Retrieved from <a href="https://plants.usda.gov/core/profile?symbol=MIMO3">https://plants.usda.gov/core/profile?symbol=MIMO3</a></li> </ol>
Other Sources Consulted	<p>Cullina, W. (2000). <i>The New England Wild Flower Society guide to growing and propagating wildflowers of the United States and Canada</i>. Boston: Houghton Mifflin Co.</p> <p>Love, S. L., &amp; Akins, C. J. (2019). Fourth summary of the native seed germination studies of Norman C Deno: species with names beginning with letters L through O. <i>Native Plants Journal, 20</i>(3), 279–305. doi: 10.3368/npj.20.3.279</p> <p>Paxton, S. J. (1840). <i>Paxtons magazine of botany, and register of flowering plants volume 7</i>. London: Orr and Smith.</p>
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