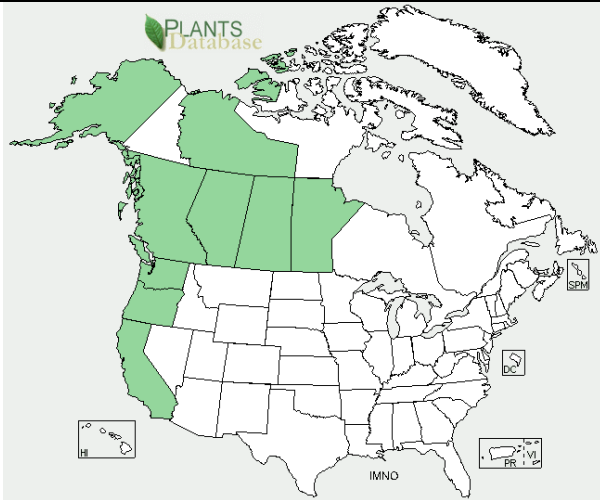
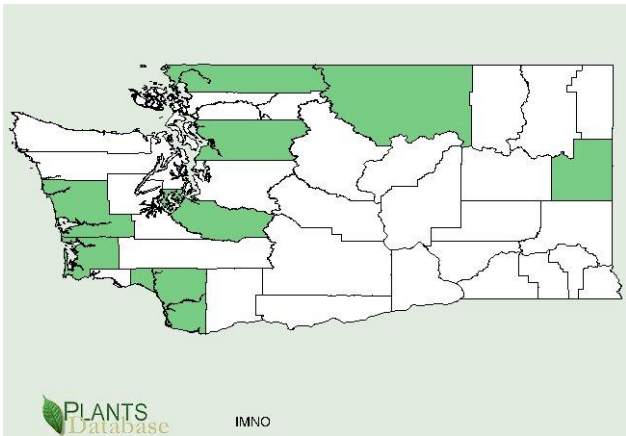


Plant Propagation Protocol for *Impatiens noli-tangere*
ESRM 412 – Native Plant Production



Photo credit Peter Zika (1)

TAXONOMY	
Family Names	
Family Scientific Name:	Balsaminaceae
Family Common Name:	Touch-Me-Not
Scientific Names	
Genus:	<i>Impatiens</i>
Species:	<i>noli-tangere</i>
Species Authority:	Linnaeus
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym(s) (include full scientific names (e.g., <i>Elymus glaucus</i> Buckley), including variety or subspecies information)	<i>Impatiens occidentalis</i> Rydberg
Common Name(s):	Jewelweed, Touch-me-not, Western Touch-me-not, Wild Balsam

Species Code (as per USDA Plants database):	IMNO
GENERAL INFORMATION	
Geographical range (distribution maps for North America and Washington state)	 <p>Washington State County Distribution Map</p>  <p>(7)</p>
Ecological distribution (ecosystems it occurs in, etc):	<p>Moist forest, thickets, stream-banks and streamside areas (8). Grows on a range of open-textured soils, generally found on mull-type soils rich in humus and available nitrogen. Found in weakly acidic to circumneutral soils but not on highly acid soils (5).</p>
Climate and elevation range	<p>Common at low to middle elevations in WA (8). USDA average, annual minimum temperature Zone 8 (7).</p>
Local habitat and abundance; may include commonly	<p>The following table of associated species is a list of the top 40 plants observed in conjunction with <i>Impatiens noli-tangere</i> taken from the</p>

associated species	California Native Plant Link Exchange. A score of 1 indicates 100% co-occurrence based on number of observations. Example- <i>Phyla nodiflora</i> (common lippie) has a score of .76, or 76 %, based on 4 sources (1).				
	40 records (plants with the highest coincidence score)			• <i>number of sources</i>	
	Scientific Name	Common Name	Lifeform	Score	•
	Impatiens noli-tangere	Western touch me not	Annual herb	1.000	2
	Phyla nodiflora	Common lippia	Perennial herb	0.760	4
	Ranunculus repens	Crowfoot, creeping buttercup	Perennial herb	0.760	2
	Agrostis stolonifera	Redtop	Perennial herb	0.760	1
	Agrostis gigantea	Creeping bentgrass	Perennial herb	0.760	5
	Aster novae-angliae	New england aster	Perennial herb	0.705	10
	Lolium multiflorum	Italian rye grass	Annual, Biennial herb	0.705	6
	Myosotis scorpioides	Forget me not	Perennial herb	0.705	2
	Sorghum bicolor ssp. drummondii	Sudangrass	Annual herb	0.705	1
	Agrostis capillaris	Colonial bentgrass	Perennial herb	0.705	2
	Aptenia cordifolia	Dew plant	Perennial herb	0.705	1
	Liquidambar styraciflua	Sweetgum	Tree	0.705	5
	Lotus corniculatus	Bird's foot trefoil	Perennial herb	0.705	9
	Sorghum bicolor	Sorghum	Annual herb	0.705	2
	Cyperus involucratus	Umbrella plant	Perennial herb	0.705	4
	Parkinsonia aculeata	Jerusalem thorn	Tree	0.705	10
	Solanum dulcamara	Bittersweet	Vine, Shrub	0.705	1

<u>Dichondra micrantha</u>	Asian ponysfoot	Perennial herb	0.705	1
<u>Asclepias curassavica</u>	Blood flower	Perennial herb	0.705	11
<u>Stenotaphrum secundatum</u>	Saint augustine grass	Perennial herb	0.705	1
<u>Phleum pratense</u>	Common timothy	Perennial herb	0.705	4
<u>Salix lasiolepis</u>	Arroyo willow	Tree, Shrub	0.572	29
<u>Cyperus eragrostis</u>	Tall cyperus	Perennial herb	0.572	12
<u>Populus angustifolia</u>	Narrow leaved cottonwood	Tree	0.572	4
<u>Equisetum hyemale</u>	Scouringrush horsetail	Fern	0.572	23
<u>Alnus viridis</u>	Green alder	Tree, Shrub	0.572	1
<u>Agrostis idahoensis</u>	Colonial bentgrass	Perennial herb	0.572	3
<u>Carex unilateralis</u>	Lateral sedge	Perennial herb	0.572	2
<u>Cyperus strigosus</u>	Straw colored cyperus	Perennial herb	0.572	1
<u>Camassia quamash ssp. breviflora</u>	Small camas	Perennial herb	0.572	1
<u>Camassia leichtlinii</u>	Large camas	Perennial herb	0.572	12
<u>Rudbeckia californica</u>	California cone flower	Perennial herb	0.572	2
<u>Juncus tenuis</u>	Slender rush	Perennial herb	0.572	12
<u>Juncus ensifolius</u>	Sword leaved rush	Perennial herb	0.572	9
<u>Juncus orthophyllus</u>	Straight leaved rush	Perennial herb	0.572	1
<u>Triteleia peduncularis</u>	Marsh tritileia	Perennial herb	0.572	5
<u>Helenium puberulum</u>	Sneezeweed	Perennial herb	0.572	6

	<p>Oenothera elata Evening primrose Perennial herb 0.572 13</p> <p>Arnica amplexicaulis Streambank arnica Perennial herb 0.572 3</p> <p>Suaeda occidentalis Western horned sea blite Annual herb 0.572 1</p> <p>Alnus rhombifolia White alder Tree 0.572 42</p> <p>NB: Coincidence of plants shown on this page is based on observation and specimen data compiled by various sources.</p> <p>http://www.cnplx.info/nplx/nplx?page=coincident&taxon=Impatiens+noli-tangere&available=t&action=t#results (1)</p>
Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)	Early-successional; stands associated with soil disturbance (4).
Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc)	<p>Hairless, succulent, juicy annual. Leafy stems upright to ascending, 20-80cm tall. Alternate, elliptic to egg-shaped leaves, coarsely toothed. Irregular flowers are large, yellowish, often with purple to reddish-brown spotting. 3 sepals, one enlarged with strongly down-curved spur. 5 petals, 2 partially fused (lateral pairs). Fruits are explosive, 5 chambered capsules with numerous seeds (8). Forb: temperate, annual herb (4).</p> <p>Cleistogamous (CL) and chasmagamous (CH) flowers can be found on same plant. Chasmagamous flowers are strongly protandrous, though flowers have no genetic self-incompatibility system. Pollinated flowers develop fruits with 1-9 seeds within 2 weeks. Cleistogamous flowers develop fruits with 1-5 seeds within 1 week. Proportions of CH and CL flowers is determined by light conditions, with more light yielding more CH flowers (4).</p>
PROPAGATION DETAILS	
Ecotype (this is meant primarily for experimentally derived protocols, and is a description of where the seed that was tested came from):	

Propagation Goal (Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagates):	Plants
Propagation Method (Options: Seed or Vegetative):	Seed
Product Type	Mature plant
Stock Type:	
Time to Grow (from seeding until plants are ready to be outplanted):	
Target Specifications (size or characteristics of target plants to be produced):	Mature, reproducing plants
Propagule Collection (how, when, etc):	Collect seed from plants by hand. Collect seeds prior to expulsion, fruits can be placed on frames for several days until seeds are shed (3).
Propagule Processing/Propag ule Characteristics (including seed density (# per pound), seed longevity, etc):	Seeds are short-lived, should be sown as soon as possible (6). Store between 3 and 5% moisture at 5°C (3).
Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):	Seeds may be primed, pelleted, or pre-germinated (3).
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):	Sow seeds <i>in situ</i> after danger of frost has passed for outdoor plants. Keep well watered. For greenhouse/indoor conditions grown in low-fertility loam-based mix and give cool conditions and filtered light in summer, with direct light and minimum of 10°C/50°F in winter (6).
Establishment Phase (from seeding to	Germination/establishment April-June (5) Seeds will usually germinate in 21-30 days, though this may be erratic

germination):	even under optimum conditions (2).
Length of Establishment Phase:	Approximately 3 months Germination/Establishment April-June (5)
Active Growth Phase (from germination until plants are no longer actively growing):	Plant growth July-August (5)
Length of Active Growth Phase:	3 months (5)
Hardening Phase (from end of active growth phase to end of growing season; primarily related to the development of cold-hardiness and preparation for winter):	
Length of Hardening Phase:	
Harvesting, Storage and Shipping (of seedlings):	
Length of Storage (of seedlings, between nursery and outplanting):	
Guidelines for Outplanting / Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering):	Sow seeds <i>in situ</i> after danger of frost has passed for outdoor plants. Keep well watered (6).
Other Comments (including collection restrictions or guidelines, if available):	

INFORMATION SOURCES	
References (full citations):	See below
Other Sources Consulted (but that contained no pertinent information) (full citations):	See below
Protocol Author (First and last name):	Sarah Otto-Combs
Date Protocol Created or Updated (MM/DD/YY):	04/17/2012

Note: This template was modified by J.D. Bakker from that available at:
<http://www.nativeplantnetwork.org/network/SampleBlankForm.asp>

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Ornduff, R. (June 01, 1967). Hybridization and Regional Variation in Pacific Northwestern *Impatiens* (Balsaminaceae). *Brittonia*, 19, 2, 122-128. Garden Press

Powdermill Nature Reserve- Carnegie Museum of Natural History

<http://collections.carnegiemnh.org/botany/types/>

Appendix

Jewelweed (*Impatiens noli-tangere*)

Range:

Pacific Northwest from Washington to Alaska, throughout B.C. Extremely similar species/subspecies eastward from the Rocky Mountains to New England, South to Florida.

Climate:

Extremely variable climate tolerations throughout broad range. Low to mid-elevations.

Local Occurrence:

Locally abundant and widespread, forming extensive thickets in valleys and drainages.

Habitat Preferences:

Moist forests, thickets, swamps, wetland margins, streamsides. Shade to full sun. Anywhere with adequately moist soil conditions.

Plant Strategy:

Annual. Colonial. Mid-Late Succession

Associated species (In Pacific Northwest):

Black Cottonwood (*Populus trichocarpa*), Red Alder (*Alnus rubra*), Salmonberry (*Rubus spectabilis*), Stinging Nettle (*Urtica dioica*), and many, many others.

Collect As:

Seed.

Collection Guidelines:

No restrictions. Collect seed in Late Summer and Early Fall. The alternate common name Touch-Me-Not, is derived from the dehiscent capsule which burst open to disperse the seeds within, at only the slightest touch when ripe.

Seed Germination:

A period (~1 month) of cold stratification greatly improves germination rates.

Seed Life:

12-18 months storage.

Storage Conditions:

Best Germination occurs when seeds are stored at 41°F.

Propagation Recommendations:

If sufficient quantities are available, sow seeds *in situ* in fall or spring. Seeds are the only feasible propagation vector. If seeds are limiting, sow in greenhouse in spring, transplant as soon as acceptable size is achieved. Once established on site, patch should be self-sustaining.

Soil/Medium requirements:

Tolerates many soil types, pH levels. Acceptable pH range from 3.4 to 7.7. Plants of all ages are susceptible to frost.

Installation Form:

Seeds or seedlings

Recommended Planting Density:

2-6 inches.

Care Requirements After Planting:

If transplanting from greenhouse, ensure that danger of frost is past. Do not plant into soils that are not adequately moist. As a garden ornamental/medicinal herb, water frequently.

Normal rate of Spread/Lifespan:

A patch of jewelweed should persist indefinitely.

Sources:

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Compiled By Shannon Kachel, Spring 2006