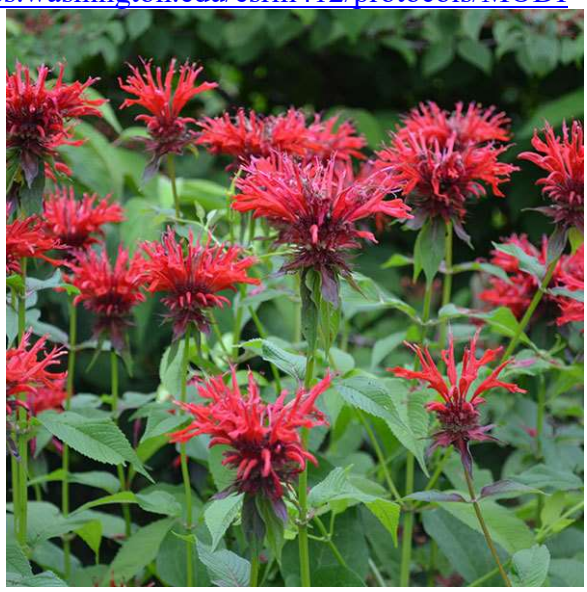
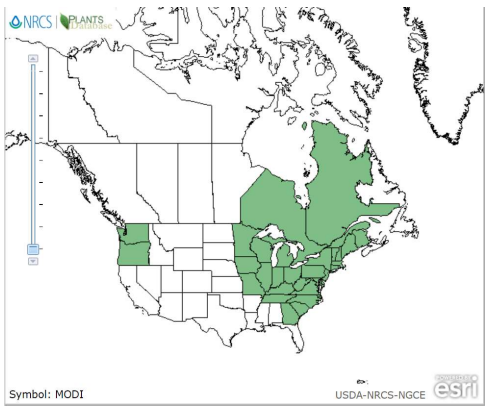
Plant Propagation Protocol for *Mondarda didyma* L.
ESRM 412 – Native Plant Production
Protocol URL: https://courses.washington.edu/esrm412/protocols/MODI

Source: T.G. Barnes



Source: Monticello shop



Source: USDA PLANTS Database

TAXONOMY	
Plant Family	
Scientific Name	Lamiaceae
Common Name	Mint Family
Species Scientific Name	
Scientific Name	*Monarda didyma* L.
Varieties	None
Sub-species	None
Cultivar	None
Common Synonym(s)	None
Common Name(s)	scarlet beebalm; oswego tea; bergamot; crimson beebalm; scarlet monarda

Species Code (as per USDA Plants database)	MODI
GENERAL INFORMATION	
Geographical range	*M. didyma* is distributed on the east side of the United States and Canada. In the Pacific Northwest it is located along the west side of the Puget Sound lowland in Washington and in Oregon. See above map for visual distribution (USDA NRCS National Plant Data Team, 2019).
Ecological distribution	Scarlet beebalm will occur in moist, well drained soils. It is partial shade tolerant but prefers full sunlight. It is found along stream and road edges as well as thickets and woodland openings (Lester, 2015).
Climate and elevation range	Dry to humid climates (Lester, 2015).
Local habitat and abundance	In New York *M. didyma* is vulnerable and in Michigan *M. didyma* is presumed extinct. However, in small communities the plant can become weedy and considered invasive by displacing wanted vegetation *M. didyma* attract many pollinators with their nectar, including hummingbirds and butterflies (Lester, 2015).
Plant strategy type / successional stage	Primary Succession *M. didyma* is very hardy and can tolerate many different conditions (Lester, 2015).
Plant characteristics	Forb/Herb Aromatic herbaceous perennial plant. Grows to 2-5 feet. *M. didyma* has branched, hairy, square stems. The leaves are opposite and colored long to dark green. The red tubular flowers bloom from June to September. The flowers have 2 long stamens protruding past the upper lip (Lester, 2015)
PROPAGATION DETAILS	
Ecotype	Monongahela National Forest
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	1+0 container plug
Time to Grow	6 months
Target Specifications	6 inches of top growth and a fibrous root system. Suitable for mechanical transplanting (Vandevender, 2012).

Propagule Collection Instructions	Hand harvest the seed of the plant (Vandevender, 2012).
Propagule Processing/Propagule Characteristics	N/A
Pre-Planting Propagule Treatments	Plant the seed in to round cell greenhouse flat liners. Fill the 38 cells with a growing medium of coarse processed bark and composted pink bark. Put 3-5 seeds per cell and cover with starter granite poultry grit (1/16”-1/8” diameter). Moisten the growing material by lightly hand watering. Stratify the seeds at 35 degrees Fahrenheit for at least 21 days (Vandevender, 2012).
Growing Area Preparation / Annual Practices for Perennial Crops	Once the seeds are stratified, put the seed into the greenhouse with natural lighting and a temperature of 70 degrees Fahrenheit. During the day, set an overhead watering system to cycle for 20 seconds every thirty minutes (Vandevender, 2012).
Establishment Phase Details	After 7-10 days in a greenhouse setting germination will occur (Vandevender, 2012).
Length of Establishment Phase	7-10 days
Active Growth Phase	Maintain the seedlings in a greenhouse environment for 2-4 months. This will promote the target characteristics for transplanting. Reduce the watering to once daily. Fertigate bi-weekly until the hardening phase (Vandevender, 2012).
Length of Active Growth Phase	2-4 months
Hardening Phase	Place the plants outside in a protected area for 1-2 weeks before the outplanting period (Vandevender, 2012).
Length of Hardening Phase	1-2 weeks
Harvesting, Storage and Shipping	N/A
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	Randomly hand plant the plugs into unprepared seedbeds at the outplanting sites (Vandevender, 2012).
Other Comments	Powdery mildew and rust are common diseases associated with *M. didyma* (Vandevender, 2012).
PROPAGATION DETAILS	
Ecotype	None
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Container (plug)
Stock Type	N/A
Time to Grow	N/A
Target Specifications	Well rooted in the soil.

Propagule Collection Instructions	Take basal softwood cuttings with lots of underground stem in the spring (Bee balm, 2006).
Propagule Processing/Propagule Characteristics	None
Pre-Planting Propagule Treatments	None
Growing Area Preparation / Annual Practices for Perennial Crops	None
Establishment Phase Details	None
Length of Establishment Phase	None
Active Growth Phase	Place the cuttings into individual pots. Keep the pots in light shade and a cold frame or greenhouse. Keep the plants in the pots until they are well rooted (Bee balm, 2006).
Length of Active Growth Phase	N/A
Hardening Phase	N/A
Length of Hardening Phase	None
Harvesting, Storage and Shipping	N/A
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	None
Other Comments	Deadhead to prolong flowering. If foliage develops mildew, cut back infected leaves at the base of the plant. Thinning stems early reduces the threat of mildew. To delay the flowering and mildew, cut back by half when the plant reaches a foot in height (Bee balm, 2006).
PROPAGATION DETAILS	
Ecotype	None
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Container (plug)
Stock Type	N/A
Time to Grow	N/A
Target Specifications	Plants that can be outplanted.
Propagule Collection Instructions	Divide clumps of the spreading root system every 2 or 3 years in the early spring before growth begins (Bee balm, 2006).
Propagule Processing/Propagule Characteristics	N/A
Pre-Planting Propagule Treatments	N/A

Growing Area Preparation / Annual Practices for Perennial Crops	Once the seeds are stratified, put the seed into the greenhouse with natural lighting and a temperature of 70 degrees Fahrenheit. During the day, set an overhead watering system to cycle for 20 seconds every thirty minutes (Bee balm, 2006).
Establishment Phase Details	After 7-10 days in a greenhouse setting germination will occur (Bee balm, 2006).
Length of Establishment Phase	7-10 days
Active Growth Phase	Plant the clumps into a sunny moist location. Smaller divisions can be potted and grown in light shade in a cold frame before outplanting (Bee balm, 2006).
Length of Active Growth Phase	N/A
Hardening Phase	None
Length of Hardening Phase	None
Harvesting, Storage and Shipping	N/A
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	N/A
Other Comments	Divide every 2 to 3 years as clumps die out in the center (Bee balm, 2006).
INFORMATION SOURCES	
References	See Below
Other Sources Consulted	See Below
Protocol Author	Rachel May
Date Protocol Created or Updated	05/29/19

Reference

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