

# Protocol Information

USDA NRCS - Appalachian Plant Materials  
Center  
P. O. Box 390  
Alderson, West Virginia 24910  
304-445-3005  
304-445-7049  
John.Vandevender@wv.usda.gov  
<http://plant-materials.nrcs.usda.gov/wvpmc>



## Plant Materials Program

---

Family Scientific Name: **Lamiaceae**

Family Common Name: **mint**

Scientific Name: *Monarda didyma* L.

Common Name: **scarlet beebalm**

Species Code: **MODI**

Ecotype: **Monongahela National Forest**

General Distribution: **Scarlet beebalm is widely distributed throughout eastern North America from Quebec and Ontario in Canada south to Georgia and west to Missouri, Iowa and Minnesota. It is also found in Oregon and Washington.**

Known Invasiveness: **None**

Propagation Goal: **Plants**

Propagation Method: **Seed**

Product Type: **Container (plug)**

Stock Type: **1+0 container plug**

Time To Grow: **6 Months**

Target Specifications: **A well developed plant suitable for mechanical transplanting that has at least 6 inches of top growth and a dense, fibrous root system.**

Propagule Collection: **Seed of Monongahela National Forest ecotype scarlet beebalm was hand harvested from existing populations within the West Virginia confines of the Monongahela National Forest.**

**Pre-Planting Treatments:** Seed is planted into round cell greenhouse flat liners with 38 cells per flat that have been filled with coarse processed bark and composted pine bark growing medium. Seed is surface sown at a rate of 3-5 seeds per cell and lightly covered with starter sized, 1/16" - 1/8" diameter, granite poultry grit to combat damping off diseases. Prepared flats are lightly hand watered to slightly moisten the growing medium and cold stratified at 35 degrees Fahrenheit for a minimum of 21 days.

**Growing Area Preparation/**

**Annual Practices for Perennial Crops:** Stratified seed is placed in a greenhouse maintained under natural lighting and at a minimum temperature of 70 degrees Fahrenheit. Soil moisture is maintained during germination by an automatic overhead watering system set to cycle for 20 seconds every thirty minutes during daylight hours.

**Establishment Phase:** Germination typically occurs 7 - 10 days after placement in the greenhouse.

**Length of Establishment Phase:** 7-10 days

**Active Growth Phase:** After germination, seedlings are maintained in a greenhouse environment 2-4 months to promote development of a plug with at least 6 inches of top growth and a dense, fibrous root system suitable for mechanical transplanting. Watering is reduced to overhead hand watering once daily. seedlings receive a water soluble complete fertilizer bi-weekly until hardening.

**Length of Active Growth Phase:** 2-4 months

**Hardening Phase:** Acclimation is typically accomplished through placement of seedlings outdoors in a protected location for a 1-2 week period prior to transplanting.

**Length of Hardening Phase:** 1-2 weeks

**Outplanting performance on typical sites:** To re-establish scarlet beebalm into natural landscapes, plugs are randomly hand transplanted into an unprepared (untilled) seedbed.

**References:** USDA, NRCS. 2012. The PLANTS Database (<http://plants.usda.gov>, 10 July 2012). National Plant Data Team, Greensboro, NC 27401-4901 USA.

**Citation:**

Vandevender, John 2012. Propagation protocol for production of container *Monarda didyma* L. plants (1+0 container plug); USDA NRCS - Appalachian Plant Materials Center, Alderson, West Virginia. In: Native Plant Network. URL: <http://www.nativeplantnetwork.org> (accessed 10 July 2012). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.

---