

Protocol Information

Natural Resources Conservation Service -
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United States Department of Agriculture

Family Scientific Name: **Fabaceae / Leguminosae**

Family Common Name: **Pea**

Scientific Name: *Senna hebecarpa* (Fernald) Irwin & Barneby

Common Name: **American senna**

Species Code: **SEHE3**

Ecotype: **Greenbrier River Source**

General Distribution: **Common throughout the Eastern United States from Maine south to Georgia and westward to Illinois and Wisconsin.**

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 Greenbrier River Source American senna was hand harvested from existing populations within the confines of the Appalachian Plant Materials Center in southeastern West Virginia.**

Propagule Processing: **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 - 14 days after placement in the greenhouse.**

Length of Establishment Phase: **7-14 days**

Active Growth Phase: **After germination, seedlings are maintained in a greenhouse environment 3-6 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: **3-6 months**

Hardening Phase: **Acclimation is typically accomplished through placement of seedlings outdoors in a protected location for a 2-4 week period prior to transplanting.**

Length of Hardening Phase: **2-4 weeks**

Outplanting performance on typical sites: **To establish seed production fields, plugs are mechanically transplanted into a conventionally tilled seedbed. Rows are typically spaced 40 inches apart. Spacing between plugs within rows is 12 inches. Once transplanting is completed, at least 1 inch of irrigation water is applied to enhance root-soil contact and stimulate plant growth.**

References: **USDA, NRCS. 2015. The PLANTS Database (<http://plants.usda.gov>, 2 September 2015). National Plant Data Team, Greensboro, NC 27401-4901 USA.**

Citation:

Vandevender, John 2015. Propagation protocol for production of container *Senna hebecarpa* (Fernald) Irwin & Barneby plants (1+0 container plug); Natural Resources Conservation Service - Appalachian Plant Materials Center, Alderson, West Virginia. In: Native Plant Network. URL: <http://www.nativeplantnetwork.org> (accessed 2 September 2015). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.