

Protocol Information

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Plant Materials Program

Family Scientific Name: **Juglandaceae**

Family Common Name: **Walnut**

Scientific Name: *Juglans nigra* L.

Common Name: **Black walnut**

Species Code: **JUNI**

Ecotype: **Stones River National Battlefield**

General Distribution: **Widely distributed throughout the eastern 2/3 of the United States.**

Known Invasiveness: **None**

Propagation Goal: **Plants**

Propagation Method: **Seed**

Product Type: **Bareroot (field grown)**

Stock Type: **1+0 bareroot**

Time To Grow: **2 Years**

Target Specifications: **A well developed plant suitable for transplanting by hand with at least 12" top growth and a healthy tap root.**

Propagule Collection: **Seeds of the Stones River National Battlefield ecotype black walnut are harvested from existing populations within the boundaries of the park.**

Propagule Processing: **Seeds are processed through a macerator to remove the husks. This process is completed shortly after seed collection to prevent the husks from becoming too hard and difficult to remove. The unfilled seeds**

are then removed from the filled seeds using a water floatation method. The filled seeds sink to the bottom and the unfilled ones float on the top.

Pre-Planting Treatments: **Seeds are direct sown in the fall to allow for natural cold stratification.**

Growing Area Preparation/

Annual Practices for Perennial Crops: **Area for planting of the seeds is roto-tilled to a depth of 4 - 6 inches in long strips.**

Establishment Phase: **Seeds are hand sewn directly onto the tilled soil surface with an approximate rate of 12 seeds per square foot. Seeds are pressed into the soil by walking on them to ensure good seed to soil contact. They are then covered with a 1 - 2 inch layer of soil. A layer of clean straw is placed on top of the soil surface to reduce heaving in the winter. Screens are placed over the beds to prevent predation by rodents.**

Length of Establishment Phase: **8 months**

Active Growth Phase: **Germination begins in the spring after the cold stratification period. A radicle is produced first and then the shoot emerges.**

Length of Active Growth Phase: **6 - 9 months**

Hardening Phase: **A hardening phase is not required.**

Length of Hardening Phase: **N/A**

Harvesting, Storage and Shipping: **Seedlings are lifted in early spring prior to breaking dormancy. The tap roots are often very long and the seedlings may be difficult to remove from the soil. Seedlings are placed in barrels with the roots covered with moist sawdust. Seedling are stored in a cooler at 34 degrees Fahrenheit until ready to be shipped in early spring. Seedlings are bundled together for shipment with moist sphagnum placed around the root systems to prevent drying out.**

Length of Storage: **1 - 2 weeks**

Outplanting performance on typical sites: **Because of the long tap roots, bareroot black walnut seedlings are difficult to transplant. It may be necessary to use an auger or shovel to prepare an adequate planting site. A 3 - 4 foot diameter area around the seedlings should be cleaned and maintained for the first 2 - 3 years to reduce competition and improve survivability. Black walnut prefers full sun locations.**

References: **Bonner, F.T. & R.P. Karrfalt, 2008. The Woody**

**Plants Seed Manual. USDA Forest Service.
Agriculture Handbook 727.**

**USDA, NRCS. 2012. The PLANTS Database
(<http://plants.usda.gov>, 12 July 2012). National
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Citation:

Lester, Randall K.; Vandevender, John C. 2012. Propagation protocol for production of field-grown *Juglans nigra* L. plants (1+0 bareroot); USDA NRCS - Appalachian Plant Materials Center, Alderson, West Virginia. In: Native Plant Network. URL: <http://www.nativeplantnetwork.org> (accessed 3 January 2013). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.