

Caprifoliaceae

Species: *Viburnum rufidulum* Raf.

Common Name: Rusty blackhaw

Species Code: VIRU

Ecotype:

Outplanting Site: Natchez Trace Parkway 3X section and others.

Outplanting Date: 3X section planted in 1994, other sections of the Natchez Trace Parkway were planted in 1996.

TARGET SEEDLING INFORMATION

Stock Type: Containerized and bareroot.

Height: 0.9 to 1.5 meter (3 to 5 foot).

Caliper:

Root System:

SEED PROPAGATION

Propagation Environment: Outdoor growing bed.

Seed Propagation Method: Sow seeds in the fall. They will not germinate until they have gone through two winters.

Source of Seeds: Natchez Trace Parkway maintenance office at Ridgeland, Mississippi.

Collector/Date: B.B. Billingsley, Jr./November 1991, 1992, 1993, 1994.

Seeds/Kg: 12,000 (Dirr and Heuser, 1986).

% Germination:

% Purity:

Seed Processing: Pulp was rubbed off of the seeds and then washed away.

Seed Storage: Normal cool, dry storage. PMC cooler is maintained at 12.7 °C (55 °F) and 45% relative humidity.

Seed Dormancy: Most *Viburnum* species have a dormant embryo and many also have impermeable seed coats (USDA Forest Service, 1974).

Seed Treatments: Northern *Viburnum* species require warm stratification followed by cold stratification (Young and Young, 1986), however, rusty blackhaw, which is a southern species requires warm stratification for 6 to 17 months followed by cold stratification for 3 to 4 months (Dirr and Heuser, 1985). Results from small study conducted at the PMC to determine the response to warm stratification and cold stratification both alone and in combination as well as gibberellic acid treatments were less than desirable. Gibberellic acid did appear to overcome some of the dormancy, but germination percentages were poor. Seeds in the stratification treatments often germinated prematurely during the treatment period, which led to etiolated seedlings in the stratification containers. Best results came when seeds were planted soon after collection in the fall in outdoor beds and waiting two years for the seedlings to germinate.

Container Type and Volume: 2 gallon plastic containers were the final planting container for the 3X section. Plants to be planted on the other sections needed to be held longer so they were moved from a 2 to a 3 gallon in 1995. Seedlings were initially planted in 4 inch pots before moving up to the two gallon size. Some of the seedlings produced in 1994 and 1995 were also planted in the field as bareroot stock.

Growing Media: Media was mixed by PMC staff and ranged from a 3:1 to 6:1 pine bark to sand medium throughout the production years.

Total Time To Harvest:

Sowing Date: November to December.

% Emergence and Date: Percentages not determined, but appeared to be fair. Seedlings emerged in March, about 14 months after planting.

Sowing/Planting Technique: Rows were made in the growing media in the outdoor bed and seeds were sown somewhat thickly in the row. The rows were covered with approximately 2.5 cm (1 inch) of potting soil. A hardware cloth cover was placed over the seedbed to prevent rodent feeding.

Establishment Phase:

Rapid Growth Phase:

Hardening Phase:

Harvest Date: October.

Storage Conditions:

Storage Duration: *Viburnum* seeds can remain viable for 10 years under proper storage conditions (USDA Forest Service, 1974).

VEGETATIVE PROPAGATION

Vegetative Propagation Method: Cuttings taken in May through August root easily (Dirr and Heuser, 1985). No suitable stock plants for cuttings were available along the Natchez Trace Parkway.

Propagator: Janet Grabowski and B.B. Billingsley, Jr.

Comments: Large sized roots that grew out the drainage holes of containers were frequently severed when plants were moved. Many of these root masses produced new shoots, which indicates that plants might also be propagated from root cuttings.

Distribution: *Viburnum rufidulum* can be found from southern Virginia to southern Ohio, Missouri and Kansas, south to Florida and Texas.

References:

Dirr, M.A. and Heuser, C.W, Jr. 1985. The reference manual of woody plant propagation from seed to tissue culture. Varsity Press, Inc., Athens, GA. 239 p.

U. S. Department of Agriculture, Forest Service. 1974. Seeds of woody plants in the United States. Agric. Handb. 450, U. S. Government Printing Office, Washington, D.C.

Young, J.A. and Young, C.G. 1986. Collecting, processing and germinating seeds of wildland plants. Timber Press, Portland, OR. 236 p.