

NAA on *Ilex vomitoria* 'Nana'. although the possibility exists that a low concentration of NAA could be beneficial. I would recommend that you experiment with this first on a small group of cuttings.

In summary, dwarf yaupon has been a difficult crop to propagate. There are so many interacting environmental, mechanical, and chemical factors that success is never assured. Experience and luck are still the best tools a propagator can have in propagating dwarf yaupon.

PROPAGATION OF *BERBERIS THUNBERGII* 'ATROPURPUREA NANA'

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There are three factors that I feel are extremely important in the rooting of all *Berberis* species. They are timing, application of mist, and the hardening-off process. I am convinced the most critical of the three is the mist control.

In Houston, we like to take cuttings as early in the spring as possible. The cuttings are taken from our container-grown plants in May and June. We start propagating as soon as the new growth is firm at the base of the cutting. The stem of the cuttings are a greenish yellow color; we do not use any brown wood. We use 5- to 6-in. cuttings.

These cuttings are then stored in a walk-in cooler until they are prepared. The propagators wear 0.02 gauge latex gloves while preparing this plant. The bottom leaves are stripped off the plant, which also removes most of the thorns. The cuttings are then put into bundles, and basal stems and tops trimmed to about 4 in. in length. The cuttings are then dipped in a fungicide bath of Benlate, captan and Agristrep at the recommended rates. The cuttings, still in bundles, are dipped into 1870 ppm IBA made with 50% alcohol. We have not seen any benefit from the use of K-IBA. Two cuttings are then stuck into a new 2¼-inch liner pot. The medium we are using is 50% pine bark, 25% peat, and 25% sand with an adjusted pH of 5.0-6.5; 2½ pounds of 18-6-12 (8-9 mo.) Osmocote is added to the mix.

The cuttings are rooted under mist, with a frequency two to three times what the mist is for most other crops. It is very important that the foliage not dry out during the normal mist-

ing hours. This is extremely important; however, oversaturation of the medium can be a problem so we carefully monitor the duration of the "on" time. We usually cut down the "on" time to compensate for increased frequency. We will continue this until a small root system develops and will then start to harden the cuttings off. The nozzle that is being used is a ¼ E 5.8 parasol nozzle by Spraying Systems, Inc. It gives a fine spray without a lot of water volume. I am very pleased with this nozzle, but it does require 80 to 100 psi pressure. Ours are spaced 7½ ft. apart.

The cuttings are rooted in a 47%-shade mist area. This area is sprayed twice a week with the routine fungicide program. It is extremely important to monitor for root rot as the plants are very susceptible to this problem, especially under the high mist environment. The hardening-off process needs to be accomplished slowly. Rapid hardening-off will cause defoliation, and plants left under mist too long will get root rot. They should be ready for hardening in five to six weeks. These liners are ready for fall-canning of the same year.

PROPAGATION OF *CLETHRA ALNIFOLIA*

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We propagate *Clethra alnifolia* from two sources:

1.) Old stock plants, or 2.) liners, bedding plants

We usually take cuttings by the second week of June in our area, which is lower Delaware (Zone 7) along the Mason/Dixon Line of the DelMarVa Peninsula. These cuttings must be taken at this time as the percentage of rooting drops drastically as the growth on the stock plants harden off.

The second group used is the young plants (liners). Softwood cuttings of 3 to 6 in. can be taken any time as long as they are growing or have green stems. These softwood tip cuttings will root easily in about a month under mist. We take growing tip cuttings from liners up until October with reasonably good results.

We use Chloromone at a 1:3 dilution for our rooting compound. Wood's Rooting Compound has been used with the same good results.

Clethra cuttings will root in almost any medium. However, I prefer half peat and half perlite in trays in outside mist beds