

PROPAGATION OF *ILEX VOMITORIA* 'NANA'

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There is very little room for error in the propagation phase of *Ilex vomitoria* 'Nana' (dwarf yaupon). Any mistake reduces percentage of take and profit goes down rapidly. To avoid this, a propagator must pay very close attention to detail from the time the cuttings are taken until the time all the cuttings are rooted and the mist is turned off. It is very important that the cuttings are not allowed to go through any type of heat stress or water stress. This will probably have more effect on success than anything else.

Cuttings should be taken from clean stock, with care taken that there are no infestations of spider mites or leaf miners. These two pests can greatly reduce rooting percentage. I prefer cuttings taken from container stock over field stock because the container stock is normally more vigorous and healthy. We immediately put cuttings under wet burlap and take them back to the propagation house at regular intervals. Take large-caliper branch cuttings if possible, from current-year wood with the first branch $\frac{1}{4}$ in. from the basal end of the cutting. This will assure that the cuttings are not stuck too deep into the rooting medium. When this size cutting roots, it can almost be called a liner. The cuttings are prepared in the field and put into bundles of 25, which are held loosely with a number 64 rubber band. We can then dip in rooting hormone and be sure each one is treated. We direct-stick into $2\frac{1}{4}$ -in. Lerio pots. This creates a more ideal micro-environment and at the same time allows us to get in more cuttings per ft.² of rooting area.

I prefer to use covered houses because this gives more control over how much water the cuttings receive. Cuttings propagated in the spring and summer are covered with poly and a 55%-shade cloth; in the fall and winter they are covered with poly only.

Our propagation medium consists of 3 parts bark, 2 parts peat, and 2 parts perlite. To this we add 6 lbs. Osmocote (18-6-12), 8 lbs. dolomite lime, and $1\frac{1}{2}$ lbs. MicroMax per yd.³

The strength of the auxin dip varies with the time of year the cuttings are put in. Spring through summer we use K-IBA at 3000 ppm. Fall through winter we use K-IBA at 5000 ppm. We use a 3-sec. dip in both cases. I have used IBA at 1250 ppm and 1870 ppm but have had some problems with basal flaming. I have used NAA at 1500 ppm in combination with K-IBA with disastrous results. My advice at this time would be not to use

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-