

## PROPAGATION OF DOGWOODS

LESLIE K. C. CLAY

*Les Clay & Son Ltd.*  
*Langley, B. C., Canada*

Dogwoods may be propagated in a number of ways. As my prime interest lies in the propagation of dogwood by cuttings, I will briefly touch on the other methods first.

**Seeding.** Species such as *Cornus nuttallii* and *Cornus florida* are best raised from seed which should be gathered in early fall just as the colour begins to change. Best results are generally obtained if seed is sown in early fall in rows or prepared beds outdoors and covered with a thin layer of sand. No further winter protection is required. The seed should germinate evenly in the early spring, producing a good stand of 15 to 24 inch seedlings by the end of the first season. If the seed cannot be planted in the fall and must be stored for spring planting, stratification is required to break dormancy. With spring-sown seed, germination is patchy; in some cases the seed may lay dormant and come up the following year.

**Layering.** *Cornus alba* and varieties, *Cornus florida* varieties, *Cornus kousa*, and *Cornus stolonifera* and varieties may all be produced by layering. Stock plants for layering should be headed back rather severely to promote the growth of a large number of shoots suitable for layering. The shoots are layered in a circular pattern out from the stock stock. The shoots are bent down, given a slight twist, and pegged securely with the terminal portion of the shoot rising at right angles to the ground, then covered with 3-4" of soil and left until the following spring by which time the layers should be rooted. They are then separated from the stock plant and field planted.

**Grafting.** One year *Cornus florida* seedlings are used as understock. These are potted in the fall and allowed to become established in the pot. Prior to grafting, the understock (preferably about pencil thickness) is cut back to a stump several inches in length. The scion, of at least two nodes and approximately six inches in length, (preferably from older basal growth) is placed on the understock by means of a side graft. Cotton twine or grafting tape is used to secure the scion to the understock after which both should be dipped in molten wax. The new grafts should be placed in a cool house to permit slow callusing, which forms a stronger union than if the plants are allowed to callus quickly at higher temperatures.

**Budding.** *Cornus florida* seedlings used for understock are planted out in field rows prior to growth commencing in the spring. By mid-summer the seedlings should be of sufficient caliper and well enough established to permit budding. A "T" cut is made as

close to the ground as possible and the bud inserted and bound in place with a budding strip. Care should be taken not to bud while the growth is too succulent, with too great a sap flow, else the inserted bud may flood out. The following spring, the top of the understock is cut off 2 to 3 inches above the bud. The young shoot as it develops may first be tied to the stub of the understock, then later staked to protect it from wind damage. The union between the bud and understock during the first growing season is very weak and unless staked the bud may be blown off by a strong gust of wind. Any shoots developing from the understock should be removed. Varieties grown in this manner are *Cornus florida* 'Rubra' and cultivars, *Cornus nuttallii* 'Goldspot' and *Cornus* 'White Wonder' (*Cornus nuttallii* x *Cornus florida*). *Cornus florida* 'Rubra' will make 2 to 3 foot plants the first year, while *Cornus nuttallii* 'Goldspot' and *Cornus* 'White Wonder' will produce lightly branched whips of 3 to 5 feet in length.

**Cuttings.** Many dogwoods propagate easily by cuttings. The cuttings are taken in late June and July and placed in flats containing a medium of 1/3 sand, 1/3 peat moss, and 1/3 coarse perlite. The cuttings are 4 to 6 inches in length and are cut just below the bottom node. Lower leaves are removed prior to hormone treatment. On species such as *Cornus alba* and cultivars and *Cornus stolonifera* and cultivars, we use Seradix No. 2 powder (0.3% IBA). The flats of cuttings are placed on bottom heat at 72° F and under intermittent mist controlled by a moisture leaf. These varieties root easily within a three week period and if immediately potted or set in the field will put on considerable growth by fall, making 8 to 12 inch plants. Tip cuttings of the current season's growth are used; however, if the shoots are long enough, sub-terminal cuttings may also be used, as these root just as easily and make bushier plants. With varieties such as *Cornus florida* and cultivars and *Cornus kousa*, cuttings are made in the same manner as above with the addition of a wound 1/2 to 3/4 inch in length on one side of the stem prior to hormone treatment. These varieties are treated with Seradix No. 3 powder (0.8% IBA) or Jiffy Grow diluted 1:5. Where Jiffy Grow is used the cuttings are given a quick dip to the depth of the wound. Rooting, while somewhat slower than *Cornus alba* and *Cornus stolonifera* cuttings, will be in evidence within 5 to 6 weeks. With these varieties I have found it better to let the cuttings go dormant in the flat prior to potting. If potted prior to fall dormancy we have had difficulty in getting the potted liners to break into growth in the spring whereas, if potted after they become dormant no difficulty has been encountered. In fact, a large number of *Cornus florida* and cultivars even produce flower buds and flower prior to coming into growth. Some of the results we have achieved are shown in the following table.

**Table 1. Results obtained in rooting cuttings of various dogwood species and cultivars.**

Variety	Cuttings	Hormone Treatment	Number Rooted	Percent Rooted
<i>Cornus alba</i> 'Elegantissima'	1,260	Seradix No. 2	1,230	97.7
<i>Cornus alba</i> 'Gouchaulti'	1,440	Seradix No. 2	1,394	96.8
<i>Cornus alba</i> 'Variegata'	200	Seradix No. 2	196	98.0
<i>Cornus stolonifera</i> 'Flaviramea'	300	Seradix No. 2	295	98.3
<i>Cornus florida</i>	300	Seradix No. 3	239	79.6
<i>Cornus florida</i> 'Rubra'	290	J. G. 1:5	227	78.3
<i>Cornus florida</i> 'Cherokee Chief'	290	J. G. 1:5	217	74.8
<i>Cornus florida</i> 'Sweetwater'	390	Seradix No. 3	264	67.7
<i>Cornus florida</i> 'White Cloud'	290	J. G. 1:5	186	64.1
<i>Cornus kousa</i>	200	Seradix No. 3	109	54.5
<i>Cornus kousa</i> 'Chinensis'	300	J. G. 1:5	193	64.3
<i>Cornus</i> 'White Wonder'	60	J. G. 1:5	4	6.6
<i>Cornus nuttallii</i> 'Goldspot'	120	J. G. 1:5	0	0.0
<i>Cornus contro-</i> <i>versa</i> 'Variegata'	60	J. G. 1:5	0	0.0

While the results obtained were not subjected to statistical analysis, I think some differences appear within the *Cornus florida* and cultivars and *Cornus kousa*. Jiffy Grow gave slightly more consistent results. The rooting response of *Cornus* 'White Wonder' (*Cornus nuttallii* x *Cornus florida*) was slight with only 4 rooting out of 60 cuttings and then with poor quality roots. No rooting was obtained on either *Cornus nuttallii* 'Goldspot' or *Cornus controversa* 'Variegata'. However, this may have been the result of poor timing as these cuttings were taken in late July.

VOICE: When you layer, do you wound the layer or do anything to it?

LES CLAY: Well, for the varieties that we have used, no wounding was required.

VOICE: What type of growth do you get from your cuttings of *Cornus florida* Rubra and things like that after you root them?

LES CLAY: We find that taking them from cuttings, we get a good saleable plant in three years. It's about comparable to a two-year-old budded plant that's had two years of growth. But the overall picture is that you still have to grow the understock for one year so it makes the total plant age three years also. Now another interesting thing that we found with a lot of these *C. florida* varieties is to let them go completely dormant prior to potting; by the following spring, when they start to grow, many will have flower buds and will come into flower before they start vegetative growth. It looks rather odd to go into the house and see a bench full of small plants three or four inches tall, all covered with flowers.

AL ROBERTS: Do you get strong orthotropic growth; that is, upright growth, from these rooted cuttings like you would get from a strong bud?

LES CLAY: I think the growth is maybe a little slower than from budding but we do develop a fairly straight stem.

DICK JOYCE: Our next speaker, Ivan Arneson, grows fruit trees, shrubs, deciduous azaleas, and various understocks. If you want to see a nursery where things are not just grown, but they are manicured, then his nursery is the place to go. Ivan Arneson:

## PROPAGATION OF CERTAIN FRUIT TREE UNDERSTOCKS

IVAN ARNESON  
*Arneson Nursery*  
*Canby, Oregon*

My first experience in growing trees in the nursery involved the use of seedlings as practiced by most nurserymen at that time. Back in the 1940's Dr. Al Roberts brought in some of the East Malling apple understocks from England and naturally I became interested in them. I started with the East Malling and later on used the Malling Merton apple stocks, the quince 'A', and the Mazzard 'F-12-1' cherry. Since, we have added St. Julien plum, filbert and Provence quince, as well as cherries, and pear stocks.

The suggested way to propagate these was by layering in stool beds. A lot of experimenting was done in the years following to