

## CUTTING SELECTION IN CONIFERS

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The initial timing and selection of cutting material plays a major part in how successful the subsequent propagating techniques will be. There is no rule of thumb that can be given for all conifers as to the best material to use but the following points are worthy of note:

*Age of Stock Plants.* This affects the rooting of many cuttings, not only conifers, and is a factor that can only be determined after several seasons of experimenting. While it is generally agreed that cuttings from young plants root more readily, I have noticed a number of exceptions where conifers are concerned. For example, cuttings of *Thuja occidentalis* cultivars definitely root better if taken from mature plants. On the other hand, plump lateral cuttings from young *Cupressus* stock of several types, give far better results than similar cuttings taken from older mature trees.

*Juvenility factors* can be most important when selecting cuttings of conifers. In *Chamaecyparis lawsoniana* cultivars, a marked difference occurs in foliage types — some are juvenile, others intermediate, and still others are quite adult. I am sure you all have noted when rooting Lawson types that the quickest and easiest to root are the juvenile forms, e.g. *C. lawsoniana* 'Ellwoodii'. The ease of rooting of the other forms is in direct relation to this juvenile factor. The intermediate cultivars, e.g. 'Fletcheri', being slower than the juvenile but more readily rooted than the adult types, such as 'Alumii'. Differentiation tends to take place more readily in some juvenile tissue than it does in mature wood, and with some species this factor can make the difference between an economical crop or a costly waste of time and valuable space.

Consider, for example, our native *Dacrydium bidwillii*. After nine weeks cuttings from adult growths have not rooted whereas juvenile material, after the same period has a well-established root system. Most of our native *dacrydiums* show a similar comparison although most take longer to root. After potting on, subsequent growth of these juvenile types far exceeds that of similar well-rooted adult forms. A saleable plant of *Dacrydium kirkii* may be achieved in 18 months using the juvenile form, whereas the adult form may take two or three times as long to reach a similar size, pointing up the importance of this factor from an economic viewpoint.

*Timing.* Most New Zealand nurserymen tend to prepare conifer cuttings in the winter — more as a matter of convenience than because this is the best time, I feel. However, I will admit they can be done too early. For example, with *Juniperus* spp. the best results are

achieved when cuttings are taken after several good frosts. Even in our relatively mild climate they seem to need this hardening-up before reasonable results can be expected. If cuttings are taken too early basal decay usually occurs.

*Thuja orientalis* 'Aurea Nana', on the other hand, can be taken in late summer (February-March), giving much better results than those taken later in the season. This again is an area open for investigation and I feel that certain hormone treatments may give good results at any time of the year.

*Size of Cuttings.* There is a popular theory that the bigger the cuttings, the sooner the plant will be saleable, and I go along with this to a certain extent. Obviously, space is a limiting factor and cuttings of certain cultivars over a given size will just not root. Large cuttings are obviously impractical for dwarf-growing species as the basic characteristics are then lost. I take most *Chamaecyparis lawsoniana* cultivar cuttings about 6-9' long but it is largely a matter of preference and availability of wood which determines the size.

*Retaining characteristics.* This is of particular importance in dwarf conifers as the whole character of the plant can be destroyed by taking the wrong type of wood. As a general rule, strong terminal growths should be avoided and cuttings chosen from that part of the plant which best represents the general form. For example, upright symmetrical dwarf types are best propagated from non-vigorous terminal shoots near the top of the bush. Similarly, spreading forms should be increased from lateral side growths and 'bun' forms from bushy lateral shoots.

*Evenness of Grade.* Although this can be controlled to some extent at the cutting bench, better results are achieved if done when actually selecting the cuttings, especially as one person usually does this while a group are making the cuttings. A good even line of cuttings is more likely to produce an even grade of plant, and reduce the subsequent labour needed to produce a uniform sized article.

In propagating there are many other related factors to be taken into account such as conditioning of stock plants, hormones and other subsequent operations, e.g. wounding of cuttings, but I feel the points I have raised greatly influence the rooting of conifer cuttings and therefore reflect the ability of the propagator.