

## Propagation and Growth of the Tree Dahlia—Some Observations

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The giant tree dahlia (*Dahlia imperialis*) has been grown by horticulturists, nursery propagators, and gardeners for about 100 years. A survey of books and literature on propagation shows that very little information is given specifically to tree dahlias apart from the fact that unlike the garden dahlia, they can be propagated by cuttings taken from the cane-like growths after flowering has finished in late autumn.

This paper discusses the propagation of tree dahlia from leaf-bud cuttings, softwood tip cuttings, canes, and single-bud cuttings. Also discussed is the summer pruning of tree dahlia plants to achieve dwarfed forms that will encourage new landscape usage of this plant and may promote pot culture of tree dahlia plants within the nursery trade.

The tree dahlia belongs to the same group of plants as the common garden dahlia. Some botanists consider that modern hybrid garden dahlias and the tree dahlia originated through a common source—a cross between *D. pinnata* and *D. coccinea*. Naturally growing tree dahlia plants have never been found growing in the wild.

The propagation of modern day hybrid dahlias is well documented and includes: propagation by seed, tuber division, repeated removal of new shoots cut from tubers, and chunk grafting into spare tubers of cuttings with some tuber attached. Tree dahlia plants are easily propagated from sections of their cane-like stems. Most references recommend stem sections with two or three nodes.

The results presented in this paper are observations from field trials over a period of two years with only a few plants. Further trials will be needed to replicate the findings and to verify the results.

**Summer Pruning of Tree Dahlia Plants.** Experimenting with propagation of the tree dahlia was secondary to that of trying summer pruning to produce low-growing, flowering tree dahlia plants. The idea to try pruning came from observation of strong regrowth from an accidentally severed tree dahlia clump.

Trial pruning of about one-third of a large clump of tree dahlia shoots was carried out in December 1991. The soft new growth shoots that were 200 to 300 mm long were cut back to 100 mm. Twin new growths arose from the base of each of the opposite leaves directly below the cut. By autumn of the following year these shoots had flowered. The growths were half the height (2 to 3 m) of the parent plant shoots that had received no pruning.

Flowering did not seem to be inhibited by pruning. In fact there were probably more flowers on the twin shoots of the pruned sections than on the unpruned section. The ultimate result was that the plant was reduced in height by half and this allowed the plant to present its flowers at eye level—a very pleasing landscape effect.

Double pruning of the growing shoots would probably result in a bushy flowering plant that only grows to about 1 m. This remains to be demonstrated.

## PROPAGATION

Summer (December) pruning produced many fresh softwood cuttings and a decision was made to try propagation using single leafbud cuttings, terminal growing shoots, soft canes, and small regrowth shoots.

**Leafbud.** a sharp knife was used to cut and scoop a section containing a leaf with an immature leaf axil bud. The base of this cutting was inserted into a palm-peat propagation medium and the leaf area reduced by half.

The resulting growth from this type of cutting produced small tubers at the base and a flowering shoot about 1 m in length. The cuttings received no fertiliser or nutrient supply during the period of the experiment. With further research or trials, a nutrient regime could be formulated. Pruning of the new growth or the application of growth retardants may result in compact flowering potted plants being produced from leaf bud cuttings within one season. The potted plants would need to be transplanted into the garden after flowering.

**Soft Tip Cuttings.** Soft tip cuttings were removed from the major growing shoots and from the leaf axils where regrowth had appeared.

Two-thirds of the leaves were removed from each cutting, then the cuttings were placed in a pot and watered. A plastic tent was placed over the pot to give extra humidity. Several cuttings rooted but most died due to irregular watering and no fungicide drench being applied.

The initial successful rooting shows propagation using soft tip cuttings is an optional method that can be used to propagate tree dahlia plants.

**Propagation by Canes and Single Bud Cuttings.** Some of the semi-hard canes that were cut from the plants during the summer pruning were defoliated and the cane sections placed into the palm-peat propagation mixture. The cuttings used contained at least two nodes. Plants grew from these canes and the canes formed miniature tubers around the root area.

Observations of tuber and root formation on the canes and leaf bud cuttings suggest that the cane sections could be cut into tiny one-bud pieces. If single-bud pieces were initially stuck into sterile rooting medium and a high humidity environment with bottom heat, it is likely that these too would quickly produce acceptable saleable plants.

The quick propagation and subsequent production of flowering potted plants of the tree dahlia in one season using the propagation and pruning methods described should be of some use to nurserymen. Summer pruning of tree dahlia plants in the outdoor environment to produce low-growing forms or hedges, should be of interest to plant propagators, home gardeners, and all those involved in landscaping with these plants.

## LITERATURE CITED

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