The Development of Cutting Propagation of *Camellia reticulata* Hybrids

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A dramatic introduction of Yunnan reticulata camellias into Western gardens occurred in 1948 when the Kunming cultivars from China were imported into the United States. This heralded a new era of interest and progress in the cultivation of the genus *Camellia* which has since gained further impetus with the development of new interspecific hybrids, scented cultivars, and the introduction of the yellow-flowered *C. chrysantha*.

These early Kunming reticulatas were traditionally propagated by grafting. Scions were worked onto pot-grown *C. reticulata* or *C. sasanqua* seedlings. Robust, well-established, 3-year-old seedlings, 1 to 2 cm in diameter, were decapitated and either cleft, or, less-commonly rind grafted, to unite scion to rootstock. This was a costly time-consuming, labour-intensive method of propagation. However, it was most successful in producing excellent plants at a time when labour costs were not as high as they are today.

In the early 1970s, increasing costs prompted investigation into finding a more economical propagation method. Cutting-grafts were successfully tried. Good plump cuttings of a *C. reticulata* cultivars, e.g. 'Satans Robe' that had proved to be easily rooted (>80% with 0.8% IBA powder) were made in the usual way, but with a slightly longer shank below the foliage. Onto this unrooted, long-shanked cutting, a side veneer graft was made in the following manner. Approximately 3.5 cm from its base, an oblique angled, straight, clean cut was made about 2.0 cm long. The desired scion cultivar was prepared with an approximately 2.0 cm long, slender wedged base and trimmed foliage. The scion was tied firmly into the incision in the cutting, which was basally wide-wounded in the usual way, treated with 0.8% IBA powder, and inserted into the propagation medium to a point above the union area. Light intermittent misting, moderate humidity, and bottom heat (20 to 23°C) were maintained, as for camellia cuttings. Callus tissue quickly formed and as the cutting rooted, the scion united with it. After approximately 10 weeks, the young cutting graft was untied and potted up. When established with good root development evident, the cutting top was removed above the scion union, leaving the selected culitvar joined to the cutting roots. While a successful method of grafting *C. reticulata*—greater than 70% outturn could be achieved consistently—cutting grafts were a slow and fiddly procedure, and much more labour input was required than for traditional cutting propagation.

In the late 1970s trials were continued with cuttings of the many new *C. reticulata* hybrids that had been introduced along with the original Yunnan cultivars. Different timing and stronger hormone treatments gave us some excellent results. Cuttings from young, barely half-ripe, late spring shoots were made and treated with stronger hormones than usually considered adequate for "soft or green" wood cuttings. Timing was important to obtain optimum results; when cutting wood was in prime condition, some excellent rooting percentages were achieved. Further trials confirmed that barely half-ripe, very pliable green-wood cuttings, basally

wide-wounded, and treated with IBA powder (0.8 to 1.0% up to 2.0% with talc base containing Captan) gave very acceptable results (Table 1). The resulting rooted cuttings produced good, vigorous, saleable young plants in 18 months for PB5 grade (3 litre) or 30 months for PB12 (7.5 litre). They were nicely branched young trees.

Table 1. Rooting of selected *Camellia reticulata* cultivars.

Cultivar	IBA (talc based) (%)	Weeks from sticking to potting	Rooting (%)	Sticking date
Buddha	1.0	18	90	Nov
Buddha	0.6	18	40	Feb
Butterfly Wings	0.8	12	35	Dec
Ghittagong	0.8	12	72	Dec
Curtain Call	0.8	10	90	Dec
Curtain Call	0.8	10	43	Feb
Doctor Clifford Parkes	1.0	16	83	Feb
Doctor Clifford Parkes	0.8	16	48	Apr
El Greco	0.8	14	66	Dec
El Greco	0.8	12	25	Mar
Howard Asper	1.0	10	65	Dec
Howard Asper	0.8	12	30	Mar
LASCA Beauty	2.0	14	74	Apr
Miss Tulare	1.0	13	88	Dec
Pagoda	1.0	18	73	Nov
Pagoda	0.8	18	20	Mar
Royalty	0.8	12	62	Dec
Satan's Robe	0.8	12	80	Feb
Terrell Weaver	1.0	12	71	Dec
Valentine Day	2.0	16	52	Apr
William Hertrich	1.0	12	93	Dec
William Hertrich	0.8	12	52	Mar

In this way the production of *C. reticulata* cultivars can be achieved without costly grafting techniques, without the cost and need for producing compatible understocks, and with much more cost-effective labour input.