

Propagation of Camellias by Cuttings

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INTRODUCTION

Camellias are relatively easy to root. Our biggest problem is obtaining enough cutting wood. This is especially true with the *Camellia japonica* cultivars. At Hines Nurseries, Houston facility, we grow camellia cultivars of *C. japonica*, *C. sasanqua*, and *C. hiemalis*, and selected hybrids.

ROOTING CAMELLIAS

Collecting Propagation Wood. All propagation wood is collected from container-grown material. Normally, this occurs in July. We like to cut as early as possible to allow the stock plants more growing time before fall sales. Most of the cuttings are taken from plants that are 2 to 4 years old. In the first year of container growing, no cuttings are removed from the 1-gal container plants. This allows us to prune more frequently, which increases the branching of the young plants. When making cuttings, we only use tips that are about 15 cm (6 in.) long and firm. The color of the wood is green or light brown. The shoots are stored in a 10C (50F) walk-in cooler for 24 h or less before use.

Preparation of Cuttings. Preparation of cuttings take place indoors. During preparation the lower leaves are removed. Usually 3 to 5 leaves are retained per cutting, depending on the leaf size. We do not reduce the size of the leaves and the terminal bud is pinched off. The cutting is wounded by dragging the clipper along the side of the base. The wound is 2.5 to 5 cm (1 to 2 inches) in length. The length of the final cutting is 10 to 13 cm (4 to 5 inches). It is not precise, because we hold our cuttings in bundles and cut the bottoms off as a group. After the bottoms are cut, the bundles are held together with a rubber band.

Treatment with Rooting Compounds. The cuttings, still in bundles, are dipped for 2 to 3 sec in the liquid rooting compound, Dip & Grow[®]. We use a mixture of 5000 ppm of IBA and 2500 ppm of NAA. After dipping, the cuttings are immediately stuck into 8-cm (2.5-inch) rose pots at two cuttings per pot. Sticking depth is about 2.5 to 4 cm (1 to 1.5 inches). We are careful not to stick cuttings too deep.

Propagation Medium. The medium we use is 2 fine pine bark : 1 peat moss : 1 sand (by volume). To that we add 3.3 kg m⁻³ (5.6 lb yd⁻³) of 18N-6P-12K (8-9 month formulation) Osmocote[®] and 0.6 kg m⁻³ (1 lb yd⁻³) of Micromax[®].

Placing Cuttings in the Mist Bed. The cuttings are rooted under intermittent mist in a quonset house with 40% to 50% shading. The misting is done using brass spinners spaced 3.5 m × 4.6 m (12 ft × 15 ft). The duration of the mist is 6 to 8 sec. The misting frequency depends on weather conditions. Usually we will start the cutting crop off at a higher frequency for about 2 to 3 weeks, then reduce it to a medium frequency. Typically when it is hot the mist will come on every 6 min. The mist is turned on about 3 to 4 h after sunrise and is turned off 2 h before sunset.

Sanitation. Sanitation is important in camellia rooting. We disinfect our clippers with Consan[®] both when collecting and preparing the cuttings. By not cutting any leaves we reduce potential wounds where pathogens enter. To reduce disease problems in the mist area, foliage is provided ample time to dry before sunset—normally about 2 h. But in our humid environment, fungicides are still required. Cuttings are sprayed twice a week with a rotation of Daconil[®], Clearys 3336[®], Kocide[®], or Bayleton[®] at the recommended rates. Application takes place after the mist is turned off at the end of the day. Once the cuttings are rooted, we make sure the quonset house is well aerated and that no watering is done late in the day.

Table 1. Rooting percentages of selected *Camellia* cultivars in 1992 and 1993 at Hines Nursery, Houston, Texas.

Cultivar	Rooting (%)	
	1993	1992
<i>Camellia</i> hybrids		
Tom Knudsen (<i>C. reticulata</i> × <i>C. japonica</i>)	75	100
Yuletide (<i>C. xvernalis</i>)	99	100
<i>Camellia japonica</i>		
Ave Maria	70	100
Colonel Fiery	85	95
Debutante	72	94
Grace Albritton	100	-
Julia Drayton	71	100
Mabel Bryan	99	100
Margie	75	99
Mathotiana Supreme	12	84
Charles Cobb	91	100
Nuccio's Gem	82	95
Pearl Maxwell	59	43
Pince Eugène Napoléon (syn. Pope Pius IX)	88	100
Professor Sargent	96	-
Rosea Plena	98	-
Scentsation	74	100
Kramer's Supreme	80	100
Nuccio's Pearl	97	98
<i>C. sasanqua</i>		
Bonanza	100	94
Cleopatra	98	100
Hana-jiman	100	100
Kanjiro	100	100
Setsugekka	100	95
Shishi Gashira	100	99
White Dove	97	-
<i>C. hiemalis</i>		
Shôwa-no-sakae	94	100

Rooting Period. Camellia cultivars differ in rooting time, but typically most are rooted within 3 to 5 months. We do not separate the cultivars as to rooting speed. All are stuck at basically the same time and all are removed from the mist at the same time. We like rooting camellias in quonsets because the rooted plants are then overwintered in the same area, saving labor to move the rooted liners to another area.

Liquid Fertilization of Rooted Liners. Liquid fertilization starts when the plants are in the latter stages of rooting, typically Oct. Those rates are 50 ppm of nitrogen and 20 ppm of potassium. Also, the plants are top dressed using 17N-6P-12K (3-4 month) Sierra[®] blend with micros in Jan. and April.

Rooting Success. Typical rooting percentages are in the 70% to 100% range. Table 1 shows actual rooting percentage for 1992 and 1993. These results are based on the number of pots that had quality plants rooted in them. There could be one or two rooted cuttings in the pot, but the key is that at least one rooted cutting must be a quality plant.

Cuttings that are stuck in July are mostly rooted by Oct. or Nov. After being overwintered in the same quonset, these plants are shifted into 1-gal containers in April or May. In the field, plants are pruned as needed until July, about 15 months later. It is after this pruning period that we start to take cuttings off of them.

Biggest Concern in Propagating. As stated earlier, our biggest concern in propagating camellias is obtaining enough cutting wood. Once that is accomplished there are few problems, as long as you follow basic propagation and growing procedures.