

Propagation of *X Cupressocyparis leylandii* and *Magnolia grandiflora*

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Rooting *X Cupressocyparis leylandii*, Leyland cypress, and *Magnolia grandiflora*, southern magnolia, requires totally different approaches. Leyland cypress is more likely to root than southern magnolia; therefore, I will start with the leyland cypress.

At Powell Propagators and Nursery, approximately 91,000 Leyland cypress cuttings were direct stuck starting in January and ending in March 1993. Three thousand of these were stuck in 4-in. square pots, about 30,000 in 3-in. round pots, and the remainder in 2 1/2-in. pots.

A solution of 6000 ppm of KIBA and 1500 ppm of KNAA in water was used on one half and a solution of 6000 ppm of IBA and 1500 ppm of NAA in alcohol was used on the other half. Each cutting was given a 5-sec quick dip.

Cuttings were taken from stock plants at the nursery or from apartment complexes in the area. Terminal cuttings were prepared by cutting to about 6 in. The bottom leaves were removed and the tips were trimmed. However, cuttings for the 3000 4-in. pots were not cut into smaller pieces nor were the tips cut. These were terminals about 12 in. long. All cuttings were from the previous season's growth and were showing red or brown at the base of the stems. Green stems were not used.

The medium was 4 pine bark : 1 part coarse sand (v/v) plus 10 lb lime, 8 lb. Osmocote 18-6-12, and 1 lb of minor elements per cubic yard. A Phytotronic mist controller and a day-night clock were used for misting, starting at 10:00 a.m. and stopping at 5:00 p.m., with 10-sec mist every 16 min. The interval between misting was lengthened to 32 min after a few weeks. Cuttings were placed in a 30- × 96-ft or a 35- × 144-ft poly greenhouse. No heat or shade were used during rooting. Results are as follows: The large cuttings rooted best. These were stuck in early January with the KIBA/KNAA water mix hormone. These rooted almost 100% by June. Rooting was slow due to the cloudy weather during the winter of 1993.

The other Leyland cypress cuttings that were stuck in January with the KIBA/KNAA water hormone rooted after warm weather arrived in March. Most, but not all, had good roots by June, and the crop was removed from the greenhouse in July. The cuttings that had only callused failed to survive.

Cuttings stuck in February and March using the IBA/NAA alcohol hormone mix also rooted after the weather became warmer.

A few were well enough rooted by July to be shipped. More of the cuttings dipped in the hormone in alcohol had large callus formations than those dipped in hormone in water.

In summary, the larger cuttings stuck in January into larger pots gave the best transplants. The larger tip cuttings gave the best results of the remaining cuttings.

The time of sticking in 1993 did not seem to matter because of the cloudy days. Usually cuttings root in March and are ready to be removed from the greenhouse by May. The rooting hormone mixed with water seemed to produce a better liner

because most of the cuttings rooted without forming a callus. The final rooting percent for the 6-in. cuttings was about 70%. When leyland cypress cuttings have rooted, they will put out new growth. If they remain green for months but do not put out new growth, they have usually only callused.

When I spoke on Leyland cypress in 1985, I reported that 8000 ppm IBA was used. Since then I have found that the lower concentration of IBA does not produce the big callus, which means a better rooted liner.

ROOTING *MAGNOLIA GRANDIFLORA*

Rooting southern magnolia is an art. Timing, temperature, the right hormone, the right soil mix, and proper watering are the keys to success.

Procedures for rooting. Eight-inch terminal cuttings from the current season's growth should be taken in August or early September. Care should be taken to keep them from drying out. The base of the cutting should be cut approximately 1/4 in. below a bud. Wound each side of the base of the cutting about 1/2 in. long.

Cuttings are dipped into half-strength Woods Rooting Hormone for 10 sec. If mixing your own or using another brand, it is important that the solution contain NAA. I suggest using a water solution of 6000 ppm KIBA and 3000 ppm KNAA. I have noticed that the alcohol seems to burn the base of the cutting.

Cuttings are direct stuck in 4-in. or larger pots filled with well-drained medium such as 100% aged pine bark.

Cuttings are put in a white plastic-covered greenhouse. The doors are kept closed so that the house gets very hot.

The most important part of rooting magnolia is the watering. Cuttings in the hot greenhouse are hand watered only a few times during the day. They are watered as needed to keep the humidity very high and the leaves slightly wet without overwetting the medium.

CONCLUSION. I have watched this procedure and have found that the high temperature is a very important ingredient. This past year I stuck my southern magnolia cuttings in October hoping for a normal sunny winter to keep the greenhouse hot. This did not happen. The magnolia cuttings sat until spring before they started to root. By then a lot of them had rotted. I believe that for best results that magnolia cuttings need to be in a separate greenhouse so that the necessary conditions can be maintained just for them.