

Stem Cutting Propagation of *Magnolia grandiflora* L.

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Magnolia grandiflora L. (southern magnolia) is an evergreen tree which is native to the southeastern US. It is a popular and important landscaping and garden tree for its glossy green leaves and large milky white fragrant flowers. So far its propagation has mainly relied on grafting propagation, and its cutting propagation has rarely been reported although it has been introduced and cultivated for nearly one hundred years in China. Its application is restricted by the vegetative propagation difficulty. In order to meet the increasing of market demands on its large-scaled propagation, we carried through the effect of timing and hormone on the stem cutting propagation of *M. grandiflora*. The stem cuttings of *M. grandiflora* were respectively collected in March, June, August and November 2006 from 5-8 year-old plants and treated with various concentrations of IBA and NAA potassium salt. All treated cuttings were inserted into peat and perlite media and randomly placed on mist benches in the greenhouses. *M. grandiflora* could be vegetatively propagated by stem cuttings. Timing played a vital role on the rooting of southern magnolia and the best time to collect cuttings was November, which resulted 70.8% of rooting. Cuttings collected in June could be rooted up to 40.6% and only less than 21.9% of rooting rate were observed from the cuttings collected in March and August. Rooting hormones significantly affected the rooting of southern magnolia stem cuttings and the highest rooting rate, 70.8%, was obtained under the treatment of K-IBA at 20g/L. K-IBA concentrations from 10 to 20g/L yielded 60.4% and 70.8% of rooting rate. Both higher (40g/L) K-IBA concentrations reduced the rooting rate. The rooting percentage of K-NAA at 5, 10, and 20g/L produced 58.3%, 50%, and 60.4%, respectively. *M. grandiflora* could be reproduced from stem cuttings and the better time to collect the cutting should be November. Both K-IBA and K-NAA could increase its rooting rates and the recommended concentrations should be 10-20g/L for K-IBA and 5-20g/L for K-NAA. Researchers and growers should focus on the selection of new southern magnolia clones and propagate them by stem cuttings.