Softwood Propagation of *Platanus* x*hispanica* 'Columbia'

David Schmidt
Royal Botanical Gardens, Hamilton, Ontario L8N 3H8 Canada

INTRODUCTION

Platanus ×*hispanica* (syn. *P.* ×*acerifolia*) is a hybrid cross between *P. orientalis* and *P. occidentalis*. It is a large, widely branched fast-growing tree known for its beautiful exfoliating bark. It thrives in a rich moist soil but this plant will also tolerate polluted city conditions. It was so widely planted in London, England, because of its adaptability that it became known as the London planetree.

A combination of disease problems coupled with overplanting have tempered the use of *P.* ×*hispanica*. Superior cultivars such as 'Columbia' and 'Liberty' which are resistant to anthracnose and powdery mildew are now grown.

Goals. In 1986 the Royal Botanical Gardens in Hamilton received a few plants of *P.* ×*hispanica* 'Columbia' and 'Liberty' which we lined out in our nursery to size up. As so often happens in many nurseries some plants for various reasons are forgotten or left behind. Before we knew it 'Columbia' had grown too large too move. Our goal was to secure propagules which would eventually go to our collection.

A review of past proceedings of the I.P.P.S. reveal that *P.* ×*hispanica* can be successfully propagated by seed, but leaf-bud cuttings as well as hardwood cuttings have had limited success. As for softwood cuttings, Dirr mentions that if taken in June they would root successfully. No information could be found on rooting any of the cultivars. It was our hope that they would root as well as *P.* ×*hispanica*.

MATERIALS AND METHODS

Cuttings (120 each) with a minimum of three nodes were collected on 12 June 1998. Every cutting was given a ½-inch wound just above the bottom node and the leaves were trimmed by half to help reduce transpiration. They were then given a 5-sec quick dip into Stim–Root 5000 (0.5% indole-3-butyric acid) and stuck into trays of sand and peat moss (4 : 1, v/v). The cuttings were set under intermittent mist and checked daily.

RESULTS AND DISCUSSION

On 24 July 1998 the cuttings were inspected for roots. Of the 120 cuttings 111 had well branched roots which were then potted into 4-inch pots and set under the mist for another week to acclimatize.

A total of 92.5 % of the cuttings rooted. The potted plants were then placed into our lathouse and by 1 Sept. many had started to break bud and to set some new growth. The plants will be protected in a cool greenhouse for the winter for the hardiness of the roots is not known at this time.

Not only were we able to successfully propagate 'Columbia' for our collection but the results also indicate that softwood propagation of this cultivar may be profitable for the nursery trade.

LITERATURE CITED

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IBA-K Induced Rooting in Perennials

Shelton R. Singletary and Stacy A. Martin
Green Leaf Enterprises, 2369 Old Philadelphia Pike, Lancaster, Pennsylvania 17602 U.S.A.

The effects of IBA-K treatment on the adventitious root rate and root number of cuttings of three herbaceous perennial species were determined. Cuttings were submerged in 500, 1000, or 2000 ppm IBA-K for 2 min or were quick-dipped in 1000, 3500, or 7000 ppm IBA-K for 20 sec. After 2 weeks rooting success was determined by root rate and root number. Root rate was evaluated by assigning cuttings numbers 0 to 3 (0-dead, 1-no callus, 2-callus, and 3-roots longer than 1 mm). Rooting success depended on season, method of IBA-K application, cutting technique, and concentration of IBA-K. However, response to these four factors was mostly inconsistent within and between species. Phytotoxicity was observed at high concentrations of IBA-K. Therefore, no recommendations for optimal treatment can be given without quantitatively measuring phytotoxicity as well as root rate and root number.

***Veronica* 'Noah Williams'.**

Root rate was not clearly affected by IBA-K. Cuttings that were submerged showed little difference among the control, 500 ppm, and 1000 ppm IBA-K treatments. At 2000 ppm, submerged cuttings showed a decrease in root rate. Cuttings that were basally dipped followed a similar pattern. The control, 1000 ppm, and 2000 ppm all rooted at the same rate. In addition, the control and 1000 ppm in the basal dip application had the same root rate as cuttings submerged at those treatments. At the highest basally dipped treatment (7000 ppm), root rate decreased and rooted at the same rate as the highest submerged treatment (3500 ppm) (Fig.1).

Results describing the effect of IBA-K on root number were unclear as well. In the submerged application, root number decreased at 500 ppm and then continued to increase at 1000 and 2000 ppm IBA-K. In the basal dip application, root number slightly increased as concentration of IBA-K increased up to 3500 ppm. At this point, there was a large increase from 3500 to 7000 ppm IBA-K. In both submerged and basal dip applications, the highest concentration of IBA-K had the smallest root rate but the largest number of roots (Fig.2).