Propagation of Baja Fairy Duster (Calliandra californica) by Stem Tip Cuttings

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ABSTRACT

Stem tip cuttings of Calliandra californica were treated, prior to rooting, with 0, 4,000, 8,000, 12,000 or 16,000 ppm IBA in a talc formulation. Rooting was enhanced by application of 12,000 and 16,000 ppm IBA. Root system fresh weight increased with increasing concentration of IBA. No treatment effected percent survival of cuttings.

INTRODUCTION

Many of our common landscape plants, such as fairy dusters, vary in number of flowers produced, season of flowering, branching habit, foliage density, and winter hardiness. It is difficult for a grower to select for desirable traits when dealing with plants grown from seed; the "ideal" fairy duster probably would not produce "ideal" seedlings. Cutting propagation would allow us to make clonal selections, for example, for winter hardiness and floriferousness. Therefore, we examined the possibility of producing Calliandra californica plants from cuttings.

MATERIALS AND METHODS

Fairy duster cuttings were taken 20 April 1987 and were treated with 0, 4,000, 8,000, 12,000, or 16,000 ppm IBA (mixed with talc). The stem tip cuttings averaged 10 cm, and the lower 3 cm were stripped of leaves prior to rooting trials. The IBA-treated cuttings were rooted under mist in a 1 perlite: 1 vermiculite (v:v) media. The flats were placed in a 18°C minimum temperature greenhouse, and the cutting bases were kept at 22°C using Biotherm bottom heat. Rooting was very slow, probably hindered by too much mist (6 seconds every 8 minutes from 6 am to 6 pm). The experiment was terminated after 6 weeks, and cutting survival, number of roots per cutting, and root system fresh weight were recorded.

RESULTS AND DISCUSSION

Although the percent survival changed with treatment, the differences were not statistically significant (Table 1). However, the number of roots per cutting and root system fresh weight was affected by treatment and both increased with increasing IBA concentration. Our experiences with rooting fairy duster lead us to suggest an IBA treatment between 8,000 and 12,000 ppm. Although we obtained slightly more roots and a more massive root system with the higher level, the resulting plants were slower to establish.

Table 1. Rooting of *Calliandra californica* after 6 weeks under mist.

Treatment	Cutting survival (%)	No. of roots per cutting	Root system fresh weight (mg)
Control	63 A[z]	3.7 A	181 A
4,000 ppm IBA	75 A	4.9 A	246 AB
8,000 ppm IBA	83 A	4.8 A	325 AB
12,000 ppm IBA	70 A	8.0 B	330 AB
16,000 ppm IBA	70 A	9.4 B	382 B

[z]Mean separations within columns by Student-Newman-Kuels, $\alpha = 0.1$.