



Effect of mechanical stimulation on the growth and branching of garden rose

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Résumé en anglais

One of the main criteria for the visual quality of an ornamental potted plant is its shape, which should be compact and branched. In the case of rose, like that of many other ornamental plants, it is essential to be able to control both growth and branching. The most common method used is the application of chemical growth regulators. However, their toxicity in relation to health and their impact on the environment cast doubts on their use. Mechanical stimulation is one of the alternative methods proposed to replace these chemical regulators. It was applied to young rose plants, *Rosa hybrida* 'Radrazz' Knock-Out®, at two different frequencies: once a day, three times per week, for seven weeks (Exp. 1), and five times a day, four times per week, for five weeks (Exp. 2). It consisted of passing a horizontal bar over the upper part of the plants. Significant results were obtained in the two trials, with an increase in the number of branchings from the most proximal metamers (of 102% and 97% in Exps. 1 and 2, respectively) and a reduction of the length of metamers of order 1 axes (of 8% and 9% in Exps. 1 and 2, respectively), resulting in a significant reduction in axis length in Exp. 2. A reduction in the length of order 2 axes during growth was also observed in the two trials. These results lead the way to interesting potential horticultural applications for controlling plant growth, in particular, the elongation of branches, and for promoting basitone branching.

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