Behaviour of some ornamental deciduous species in the vegetative propagation process

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Abstract The ornamental species and varieties of Magnolia, Lagerstroemia and Clematis genera are of great decorative interest being utilized in landscape arrangements as simple samples or together with others (1, 2). The propagation of these ornamental varieties is usually difficult due to their specific biological features. The studies carried out at the Research Institute for Fruit Growing have had in view the response of two Magnolia, one Lagerstroemia and one Clematis ornamental varieties to propagation by softwood cuttings, employing Radistim2, using two rooting substrates, under artificial mist.

Key words Magnolia, Clematis, cutting, rooting substrates

The importance of the ornamental deciduous species and varieties comes off their complex role in the landscape design and natural environment. The parks, family and organization gardens as well as the entertainment areas play a major role in the modern development of the towns. The propagation of these ornamental varieties is usually difficult due to their specific biological features. Having in view the importance of these species in the landscape field as well as their difficult propagation, studies focused on: behavior of ornamental deciduous species in vegetative propagation process (2, 3).

Biological material and working method

The experiments were performed in the plastic tunnels at the Research Institute for Fruit Growing Pitesti- Maracineni, during 2007-2009.

The studies carried out at Research Institute for Fruit Growing have had in view the response of two Magnolia ornamental varieties, one Lagerstroemia ornamental variety and one Clematis ornamental variety to propagation by softwood cutting employing Radistim2 biostimulator using two rooting substrates perlite and mixture perlite and peat.

The summer cottage was done between June 15–July 20 as recommended (4).

After propagation, the cuttings defoliated at the bottom were treated by the biostimulators: Radistim 2 and then planted in a two rooting substrates.

After planting, the artificial mist was used.

According to biometric measurements on the rooting system the data were statistically recorded using test t and test Duncan.

The experiments were bifactorial (4x2) with 8 treatments in 3 replications arranged as subdivided plots as reported by I. Botu (1997).

Results and Discussion

The statistical analysis of the results has shown a variation between the two ornamental varieties of Magnolia, Lagerstroemia and Clematis.

Over the investigation period, Lagerstroemia indica had a high rooting percentage, getting the first place in the two graduations of B factor (the values have ranged from 85.8 to 90.2 %, fig. 1) and Magnolia liliflora with values between 58.8-62.4 %.

Clematis x jackmanii had a little rooting percentage, (the values have ranged from 25.7-28.3 %, fig. 1).

The average of rooting substrates (fig. 2) proved that the mixture perlite and peat to be the best rooting substrates inducing the highest rooting yields in all ornamental varieties, with values between 32.5-69.7 %.
Fig. 1 - Variability of rooting percentage for the ornamental varieties of the rooting substrates used

Fig. 2 - Variability of rooting percentage for the ornamental varieties, of the rooting substrates used
Conclusions

1. *Lagestroemia indica* and *Magnolia liliflora* showed the highest rooting percentage in all treatments.

2. *Clematis x jackmanii*’ had a little rooting percentage, the values have ranged between 25.7-28.3 %.

3. The media of rooting substrates proved that between mixture perlite and peat to be the best rooting substrates inducing the highest rooting yields in all ornamental varieties, with values between 32.5-69.7 %.

References

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