SUBSTRATES ROOTING INFLUENCE ON THE PROCESS OF FORMING A NEW ROOTS AT SOME SPECIES OF ORNAMENTAL SHRUBS

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ABSTRACT

We have studied three species of ornamental shrubs Pyracantha coccinea Roem , Kerria japonica (L.) DC., Berberis vulgaris L. in the "Al. Buia " Botanical Garden of the University of Craiova.

For these three species it has been watched the percentage of forming roots from cuttings placed on different rooting substrates.

The plant cuttings were obtained from parent plant relevant from the phytosanitary point of view.

INTRODUCTION

Pyracantha coccinea Roem. is an evergreen shrub of medium to large sized (according to the style of cultivation) which can grow up to four meters high and as many wide

The stem shows many thorns, so it can be used especially for hedges, preventing access. This is a shrub not very demanding, is highly resistant at high temperatures or low temperatures, does not require a lot of water. It originated in Europe and Asia Minor.

Kerria japonica (L.) DC. It is a species originating in Japan and China and belongs to the Rosaceae family.

Popular is also called rose or lord rose.

It is an ornamental shrub-shaped shrub with very rapid growth, with heights between 1.5 and 3 m, very resistant to frost and adapted to grow in any soil moist and well drained.

Is a very famous shrub due to its varieties such as ’Flore Pleno’, ’Variegata’, ’Aureo Variegata’.

Berberis vulgaris L. is a species native to Central and South America, Africa and N-V and V Asia. It is also naturalized in northern Europe, including the British Isles, Scandinavia and North America.

The purpose of this paper is to observe the percentage of root formation in cuttings rooted put to various substrates.

MATERIAL AND METHOD

The experiments were set up at the Botanical Garden "Al. Buia "in Craiova, in the nursery. They were placed in the solarium sector, and rooting substrate was composed of perlite, sand, perlite + sand (1: 1)

Rooting substrate was not heated and it was used only Rigenal P rooting stimulator.

In this paper were studied three species of ornamental shrubs: Pyracantha coccinea Roem., Kerria japonica (L.) DC., Berberis vulgaris L. and has been watched the influence of rooting substrate to obtain swift new healthy plants .

Cuttings were fashioned and made from healthy plants aged 7-8 years from the Botanical Garden "Al. Buia "and were harvested from the upper parts of the donor plant.

There were made 20 cuttings for each species as well for each rooting substrate.

Cuttings had a length of about 20-25 cm and were cut into the bottom right in the bud, and at the top to slip to 4-5 mm above the bud, taking into account that the length of seedlings to be at least 4 buds.

. Cuttings leaves were reduced to a third of their size and the cuttings scheme used was 5 cm between rows and 2 cm between cuttings on a row

The cuttings were made in autumn 2010, ie on 15 October.

RESULTS AND DISCUSSIONS

Regarding the percentage of rooting, all the studied species had a good percentage of rooting in all substrates.

For Pyracantha coccinea rooting percentages were 90% on the substrate consisting of perlite as well on perlite with sand and 85% in the sand substrate. (Fig. 1)

The percentage of rooted cuttings of the Kerria japonica species was 95% on perlite substrate, 85% on sand substrate, and on the perlite with sand the percentage was 90%. (Fig. 2)

Also, regarding the species Berberis vulgaris presented 90% percentage rooting for the first two substrates, that is perlite and sand, and 85% on the perlite with sand substrate. (Fig. 3).

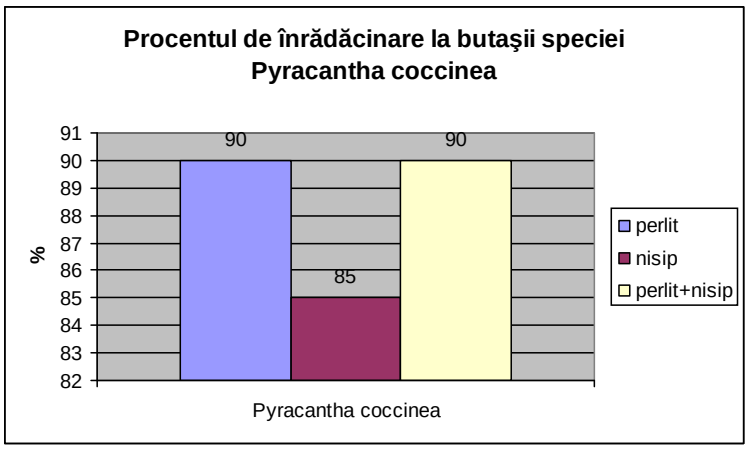

Fig. 1 – The rooting percentage for the cuttings of *Pyracantha coccinea*

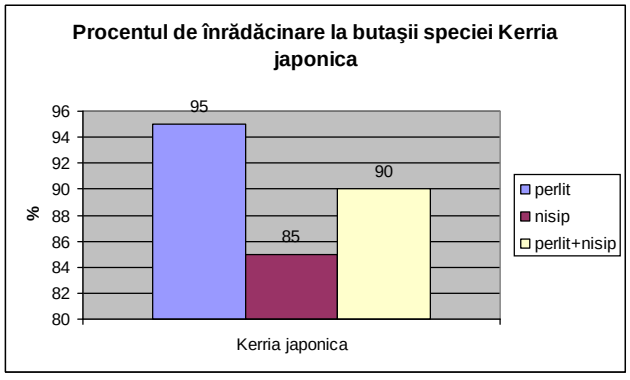

Fig. 2 – The rooting percentage for the cuttings of *Kerria japonica*

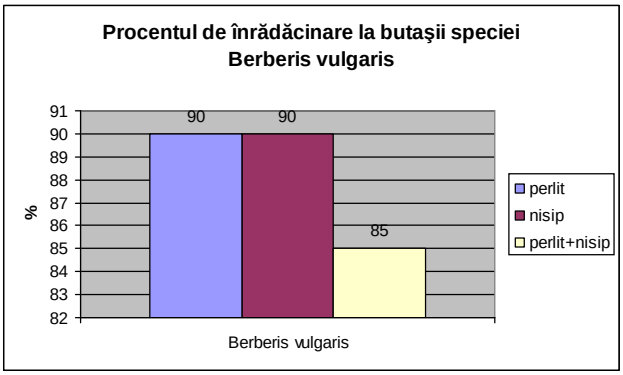

Fig. 3 – The rooting percentage of the cuttings of *Berberis vulgaris*

Fig. 4 – Cuttings placed for rooting (*Pyracantha coccinea* Roem.)

Fig. 5 – Cuttings placed for rooting *(Kerria japonica* (L.) DC.)

Fig. 6 – Cuttings placed for rooting *(Berberis vulgaris* L.)

CONCLUSIONS

The best results were recorded at Kerria japonica with a percentage of rooting of 95% on the substrate consisting of perlite and the worst results with a percentage of 85% were recorded for the species Pyracantha coccinea and Kerria japonica on the substrate consisting of sand as well for the species Berberis vulgaris on the substrate consisting of perlite with sand.

The maximum percentage of rooting substrate composed of perlite with sand was 90% for Kerria japonica and Pyracantha coccinea and the worst ie 85% foR the species Berberis vulgaris.

BIBLIOGRAPHY

1. Iliescu Ana Felicia, 1998 - Arboricultură ornamentală ; Editura Ceres, Bucureşti.
2. Luban E., 1979 - Producerea materialului săditor dendrologic pentru parcuri şi grădini; Editura Ceres, Bucureşti, 1971.
3. Miliţiu, I., 1968 - Horticultură, vol. 2. Edit. Didactică şi Pedagogică, Bucureşti, 1968
4. Radu S., L Contescu, 1994 - Pepiniere Bucureşti, 1994
5. Stănescu V., 1979 - Dendrologie; Editura Didactică şi Pedagogică Bucureşti.
6. Stănică, F., şi colab., 2002 - Înmulţirea plantelor horticole lemnoase. Edit.Ceres, Bucureşti, 2002
7. Sonea V., L. Palade, A.F.Iliescu, 1979 - Arboricultură ornamentală şi arhitectură peisageră; Editura Didactică şi Pedagogică Bucureşti, 1979