THE SUBSTRATUM INFLUENCE ON CUTING`S ROOTING OF *FICUS ELASTICA SEHRIJERIANA*

Mariana Vlad*, Ioan Vlad*, Ioana Andra Vlad*

University of oradea, Faculty, for Enverionmental Protection, 26 General Magheru St., 4100848, Oradea, Romania: mariana_popvlad@yahoo.com

Abstract

In Romania the species exhibits a restricted spread is little spread, tha cause might be the absence of the planting material. To rise the efficiency of the vegetative multiplication by, we investigated the substratum influence on cutting rooting

Keywords: *Ficus elastic Serijeriana*, rooting substrate variants, cutting

MATERIALS AND METHODS

The cutting were gathered on the first decade of November. There have been used 10 – 12 cm long cuttings.

The experiment included three variants:

V_1 – rooting in perilte;

V_2 – rooting in peat;

V_3 – rooting in peat 50% + perlite 50%

For each variant have been used 500 cutings

The cuttings were planted on 6x6 cm distance, 3 cm depth, befor plenting the substratum has been trumped to eliminate the air bags from the rooting are. The experiment took place in a green house, the thickness of the rooting substratum was 10 – 12 cm.

In the rooting period the temperature oscillated between 10°C – 24°C in air and 15 - 20°C in rooting substratum. The relative humidity ascillated between 75% - 85%. The ligh was directioned by covering the cutting with a green net. We heave made observations and determinations about the period of rooting process, the cuttings rooting percentage, the length and the number of roots for every cutting. The complete rooting period took 210 days.

RESULTS AND DISCUTION

The number of rooted cuttings varied from 319 rooted cuttings on V_1 – rooting in perlite variant, to 421 rooted cuttings on V_3 – rooting in peat 50% + perlite 50%, (table 1)

On relative apect, the number of rooted cuttings had rised with 16% on V_2 – rooting in peat and with 32% on V_3 – rooting in peat 50% + perlite 50%, as on V_1 – rooting in perlite variant.

Table 1

The number of rooted cuttings of *Ficus elastica Serijeriana*
(average values Oradea, 2010 – 2012)

Variantes	The number of rooted cutting		±D	Signification of the difference
	Absolute (pcs)	Relative (%)		
V_1 – rooting in perlite	319	100	-	-
V_2 – rooting in peat	370	116	51	xx
V_3 – rooting in peat 50% + perlite 50%	421	132	102	xxx

DL 5% - 39
DL 1% - 63
DL 0.1% - 101

The rooting substratum has a great influence on the quality of the rooting material. The number and the dimensions of roots of every cutting watched to prove that. The medium number of roots per cutting oscilated between 8,4 on V_1 – rooting in perlite variant, and 16,2 on V_3 – rooting in peat 50% + perlite 50% (table 2).

Table 2

The average number of roots per cutting
Oradea 2010 – 2012

Variantes	The number of rooted cutting		±D	Signification of the difference
	Absolute (pcs)	Relative (%)		
V_1 – rooting in perlite	8.4	100	-	-
V_2 – rooting in peat	11.3	134	2.9	-
V_3 – rooting in peat 50% + perlite 50%	16.2	218	7.8	xxx

DL 5% - 3.0
DL 1% - 4.6
DL 0.1% - 6.9

On relative aspect, the substratum quality has rised the number of roots cutting with 34% on V_2 – rooting in peat variant, and with 118% on V_3 – rooting in peat 50% + perlite 50% variant. The rise of rooting capacity shows from the length and the thickness of the cuttings roots, too.

The thickness and the length of the roots alternates but the highest values, obtained on V_3 – rooting in peat 50% + perlite 50% variant (table 3).

Table 3

The dimensions of the cutting roots
(average values) Oradea, 2010 – 2012

Variantes	The length of the roots (extreme values) (cm)	The number of the roots per cutting with		The number of roots per cutting (pcs.)
		Diameter <1mm (pcs.)	Diameter > 1.1 mm (pcs.)	
V_1 – rooting in perlite	0.6 – 0.8	5.2	3.2	8.4
V_2 – rooting in peat	0.7 – 12.9	7.5	3.8	11.3
V_3 – rooting in peat 50% + perlite 50%	0.7 – 14.5	9.2	7.0	16.2

On V_1 rooting in perlite variant, the cutting roots were 0.6-0.8 cm long and V_3-rooting in peat 50% + perlite 50% variant we obtained 0.7-14.5 cm length. About thickness of the roots we acquired following: the average number of roots with diameter < 1 mm, per cutting was 5.4 on V_1 – rooting in perlite variant and 8.4 on V_3 – rooting in peat 50%+perlite 50% variant, and the medium number of roots with diameter >1.1 mm was 2.5 on V_1-variant.

The paper describes an experiment of rooting the cuttings of *Ficus elastica Serijeana* prowed that the substratum has an great influence to the rooting process. From three variants of rooting we obtained the best results on rooting in peat 50% + perlite 50% variant.

CLONCUSIONS

Ficus elastica Scrijeriana, as ornamental tree, with great economical value, can be multiple vegetively, using cuttings.

Using a proper substratum increases the rate of multiplication. A proper substratum rises the quality and the number of roots per cutting too.

The substratum composed by peat 50% + perlite 50% has rised the rooting rate. The rooting percentage was 131% on V_3 – rooting in peat 50% + perlite 50%, 80% on V_2 – rooting in peat variant and 113% on V_1 – rooting in perlite variant.

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