THE SUBSTRATUM INFLUENCE ON CUTTING`S ROOTING OF FICUS ELASTICA RUBRA

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Abstract

Kind of exotic plants, decorative through leafs, comprises about 200 species. They are found in culture as decorative houseplants by port and leaves. They are plants with low heat demands , resisting over the winter and in cooler rooms. During summer, the plants prefer air and soil moisture. The plant multiplies by peak and strain cuttings and strikes roots in 3-4 weeks.Ficus elastica Rubra is a decorative plant cultivated for its big,lasting leaves, oval-elongated(30-40cm), 3-5m tall . In present it is known as a decorative plant cultivated as indoor plant

Keywords: Ficus elastica Rubra rooting substrate variants, cutting

INTRODUCTION

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

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 perlite;

V_2 – rooting in peat;

V_3 – rooting in peat 50% + perlite 50%

For each variant have been used 100 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 64 rooted cuttings on V_1 – rooting in perlite variant, to 83 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 Rubra
(average values) Oradea, 2012 – 2014

Variantes	The number of rooted cutting		±D	Signification of the difference
	Absolute (pcs)	Relative (%)		
V_1 – rooting in perlite	64	100	-	-
V_2 – rooting in peat	74	116	10	xx
V_3 – rooting in peat 50% + perlite 50%	83	132	19	xxx

LSD 5% - 3
LSD 1% - 6
LSD 0,1% - 11

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 7,3 on V_1 – rooting in perlite variant, and 14,1on V_3 – rooting in peat 50% + perlite 50% (table 2).

Table 2

The average number of roots per cutting
Oradea 2012 – 20014

Variantes	The number of rooted cutting		±D	Signification of the difference
	Absolute (pcs)	Relative (%)		
V_1 – rooting in perlite	7,3	100	-	-
V_2 – rooting in peat	9,2	126	1,9	-
V_3 – rooting in peat 50% + perlite 50%	14,1	193	6,8	xxx

LSD 5% - 2,0
LSD 1% - 3,2
LSD 0,1% - 5,1

On relative aspect, the substratum quality has rised the number of roots cutting with 26% on V_2 – rooting in peat variant, and with 93% 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, 2012– 2014

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 – 0,9	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%	0,8– 15,3	9,2	7,0	16,2

On V_1 rooting in perlite variant, the cutting roots were 0,6-0,9 cm long and V_3-rooting in peat 50% + perlite 50% variant we obtained 0,8-15,3 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 Rubra 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

1. Ficus elastica Rubra, as ornamental tree, with great economical value, can be multiple vegetively, using cuttings.
2. Using a proper substratum increases the rate of multiplication.
3. A proper substratum rises the quality and the number of roots per cutting too

4. The substratum composed by peat 25% + perlite 75% has rised the rooting rate. The rooting percentage was 132% on V_3 – rooting in peat 50% + perlite 50%, on V_2 – rooting in peat variant and 126% on V_1 – rooting in perlite variant.

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