

THE SUBSTRATUM INFLUENCE ON CUTTING'S ROOTING OF COTINUS COGGYGRIA

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Abstract

Cotinus coggygia is an ornamental tree, 3th stature, with large-pyramidal crown and several stems. The trunks are covered with red scales, the scales take off in places. The wood of *Cotinus coggygia* is compact, strong and is of a great demand in carving.

The shoots are green, the buds are oval, are green color, and are clustered to the top of the shoots. The leaves are 4-5 cm long, 2-3 cm broad, dark-green on the adaxial side, light-green on the abaxial side. The flowers are unisexual and the plants are dioic. The seed is ovoid with a hard and brown tegument, covered by a fleshy aryl, green at the beginning, becoming red. The aryl is edible but the plant contains poisoning alkaloid named taxyn.

Key words: *Cotinus coggygia*, rooting substrates variants, cuttings

INTRODUCTION

Cotinus coggygia vegetates also in vegetated areas from plain, as well as in vegetated areas from hills and mountains. It is resistant to frost, drought and dust.

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

MATERIAL AND METHOD

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

The experiment included 3 variants:

V₁-rooting in perlite;

V₂-rooting in peat;

V₃-rooting in peat 50% + perlite 50%.

For each variant have been used 500 cuttings.

The cuttings were planted on 6x6 cm distance, 3 cm depth, before planting the substratum has been tramped to eliminate the air bags from the rooting area. 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°C-20°C in rooting substratum. The relative humidity oscillated between 75%-85%. The light was directioned by covering the cuttings with a green net. We have 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 DISCUSSIONS

The number of rooted cuttings varied from 335 cuttings on V₁-rooting in perlite variant, to 452 rooted cuttings on V₃-rooting in peat 50% + perlite 50%, (table 1).

On relative aspect, the number of rooted cuttings had with 20% on V₂-rooting in peat and with 35% on V₃-rooting in peat 50% + perlite 50% as on V₁-rooting in perlite variant.

Table 1

The number or rooted cuttings of *Cotinus coggygria*
(average values 2009-2011)

Variants	The number of rooted cutting		±D	Semnification of the diference
	Absolute (pcs.)	Relative (%)		
V ₁ - rooting in perlite	335	100	-	-
V ₂ - rooting in peat	402	120	67	x
V ₃ -rooting in peat 50% + perlite 50%	452	135	117	xx

LSD 5% - 62;

LSD 1% - 99;

LSD 0.1% - 158

The rooting substratum has a great influence an the quality af the rooting material. The number and the dimensions of roots of every cutting watched to prove that. The medium number of roots per cutting oscillated between 6,8 on V₁-rooting in perlite variant, and 12,7 on V₃-rooting in peat 50% + perlite 50% (table 2).

CONCLUSIONS

1. *Cotinus coggygria*, as an ornamental tree, with great economical value, can be multiplied vegetatively, 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 50% +perlite 50% has risen the rooting rate. The rooting percentage was 90% on V₃-rooting in peat 50% +perlite 50%, 80% on V₂-rooting in peat variant and 67% on V₁-rooting in perlite variant.

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