

THE INFLUENCE OF THE SUBSTRATE ON STRIKING ROOTS AT THE CUTTINGS OF *THUJA OCCIDENTALIS DANICA*

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SUMMARY

After a convincing presentation of *Thuja Occidentalis Danica*, as ornamental specie with useful economic implication, that can be multiplied on vegetative way through cuttings, the author, based on the conducted experiments, reach the conclusion that the substrate formed out of 50% perlite and 50% peat, ensures the striking of the roots of the cuttings, in a percentage of 89.3%. *Thuja Occidentalis Danica* is an ornamental tree with a globular port, a brown-reddish bark, compressed tendrils and flake shaped leaves grouped on 4 rows distributed oppositely. (Foucard, 1994). Semi-ligneous cuttings of *Thuja Occidentalis Danica* were collected at a length between 8-10 cm. The experience was organized in 4 variants:

V1 – rooting in sand, V2 – rooting in perlite, V3 – rooting in peat coal, V4 – rooting in a substrate composed of 50% perlite and 50% peat coal. A number of 600 cuttings were used for each variant.

The number of rooted cuttings out of the total recorded values increased from 352 pieces with the first witness variant to 536 pieces with the fourth variant (Tabel 1).

Table 1

The ratio of striking roots at the cutting of *Thuja Occidentalis Danica*

| Variants | Number of rooted cuttings | | ± D | Significance of the difference |
|--|---------------------------|--------------|-----|--------------------------------|
| | Absolute (pcs.) | Relative (%) | | |
| V1 – rooting in sand | 352 | 100 | - | - |
| V2 – rooting in perlite | 425 | 121 | 73 | * |
| V3 – rooting in peat coal | 489 | 139 | 137 | ** |
| V4 –rooting in a substrate composed of 50% perlite and 50% peat coal | 536 | 152 | 184 | *** |

DL 5% = 72 :DL 1%= 135 ; DL 0.1% = 183

Relatively speaking, the number of rooted cuttings is greater by 21% with the 2nd variant, by 39% with the 3rd variant and by 52% with the 4th one as compared to the 1st variant, the witness one. *Thuja Occidentalis Danica* as ornamental species and a plant with useful economic implications may be propagated in a vegetative manner by cuttings. The increase of the propagation rate by cuttings may be stimulated by the use of an adequate substrate. The substrate composed of 50% perlite + 50% peat coal increases the rooting percentage. Thus, the cuttings in perlite 50% +50% may be rooted in a percentage of 89.3% as compared to the 58.6% those rooted in sand.

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