**THE INFLUENCE OF SUBSTRATE AND CUTTINGS TYPE ON ROOTING CAPACITY OF MORUS ALBA SPECIES**

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**Abstract:** The number of mulberry trees as food plants for the sericulture industry significantly decreased in the last years. Therefore, the main aim of this research was to optimize mulberry propagation methods by cuttings, since its propagation by seeds is difficult due to seed dormancy. In order to break seed dormancy pretreatments are needed which can take up to 8-9 weeks and are expensive. To carry out this study 2 types of cuttings, 4 different rooting mediums and a rooting hormone were used to test the efficiency of the method. The results show that mallet cuttings treated with RADI-STIM rooting hormone inserted into the rooting medium containing universal substrate and sand exhibited the highest rooting percentage.

**Introduction**

However, mulberry is one of the fastest growing fruit trees of the temperate climate with abundant flowering and fruiting, the germination of the seeds is difficult and needs time because of the dormancy period. For this reason its propagation by cuttings remains still the most efficient method of propagation.

**Material and method**

Mulberry cuttings were taken in February from local, healthy, disease-free genotypes, from the upper part of the plant. Two types of cuttings (straight and mallet) were prepared to be tested on different rooting mediums (Figure 1). Radistem was also used as rooting-promoter.

**Rooting mediums + Rooting hormone** 1. RADI-STIM

1. Universal potting mixture
2. Biosubstrate – Compressed Coconut fiber+Perlit (2:1)
3. Sand + Universal potting mixture (1:1)
4. Vermiculite + Compressed Coconut fiber (1:3)

**Results and discussions**

Coconut fiber substrates had the highest performance in terms of rooting and bud swelling, regardless of the type of cuttings. The application of the rooting hormone with coconut fiber had a positive influence on cuttings, but the results were not clearly superior to variants on the same culture substrate without RADI-STIM. The lowest rooting percentage was recorded in the rooting mixtures that contained coconut fiber with perlite or vermiculite.

**Conclusions**

Mallet cuttings are more efficient for the propagation of mulberry by cutting than the straight ones. In general the application of the rooting hormone RADI-STIM had a positive effect on rooting in mulberry, but the type of the cutting had a greater influence on rooting and bud swell than the rooting hormone itself.