

EFFECT OF POTTING MEDIA FOR SPROUTING ON AIR LAYERING AND STEM CUTTING OF MORINGA (*Moringa oleifera* L.)

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Abstract

Moringa oleifera L., commonly known as Moringa or drumstick tree, is a versatile plant with a global presence. It is renowned for its exceptional nutritional value, and various value-added products derived from Moringa have gained popularity in the market. Due to the soaring demand, it has become imperative for the plants to expedite their growth process in order to alleviate the shortage in supply. This urgent need for accelerated growth aims to address the increasing demand and ensure a steady and sufficient provision of resources. So this study aimed to identify the most effective vegetative propagation method and the ideal propagation medium for Moringa. To ensure the reliability of the experiment, a single variety of Moringa plants was employed throughout the experiment. The research design involved two distinct propagation techniques: air layering, which followed a Randomized Complete Block Design, and stem cutting, executed in accordance with the Complete Randomized Design. There were three different media types, such as top soil, coir dust and sand media for stem cutting and for the air layering, topsoil, coir dust and cow dung. These media were sterilized by sun drying. They were used as treatments, with three replicates for stem cutting and two for air layering (low number of plants available in the area). Several parameters, including the number of successfully rooted stems, the number of shoots and roots, and the length of roots, were meticulously measured and analyzed by using SAS software. The data analysis indicated that the air layering method outperformed stem cutting in terms of the percentage of successful rooting. According to that the most suitable propagation method is air layering for the Moringa plant. Meanwhile, the coir dust medium exhibited superior performance in terms of root and shoot formation compared to top soil and sand media. According to the result, the best media for the Moringa is coir dust media.

Keywords: Air layering, Media, *Moringa oleifera*, Propagation, Stem cutting

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