



Effect of potting media and *Azospirillum* on the rooting of *Gymnema sylvestre* cuttings

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ABSTRACT

An experiment was carried out to study the effect of potting media and *Azospirillum* on the rooting of *Gymnema sylvestre* cuttings at the Department of Horticulture, Faculty of Agriculture, Annamalai University, Annamalai Nagar. The cuttings were planted in polybags containing different combinations of potting media viz., 1 part of soil, 1 part sand and 2 parts FYM or vermicompost or coirpith compost along with *Azospirillum* according to the treatments. The results of the study indicated that cuttings planted in the potting mixture of 1 part soil + 1 part sand + 2 parts vermicompost along with *Azospirillum* dipping significantly increased the rooting parameters like rooting percentage, number of roots per cutting and root length and shoot parameters like number of sprouts per cutting, length of sprout, number of leaves per cutting and leaf area. This treatment also significantly reduced the duration of first sprout appearance.

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Key words : *Gymnema sylvestre*, Potting media, FYM, vermicompost, Coirpith compost

Gymnema sylvestre known as Gurmar belonging to the family Asclepiadaceae, is an important medicinal woody climber and is acclaimed for its antidiabetic properties. It is extensively used in almost all the Indian systems of medicine as a remedy for rheumatism, cough, dyspnoea, ulcers and eye pains. It is an astringent, stomachic, anti-periodic, diuretic and tonic. It stimulates the heart and circulatory system, increases the secretion of urine and activates the uterus. The roots have been reported to be a remedy for snake bite. The antidiabetic property is attributed to the presence of a mixture of triterpenes and saponins in leaves being designated as gymnemic acids A, B, C and D which have gymnemagenin and gymnestrogenins. Due to heavy demand, the plant has become endangered and its commercial cultivation has recently gained importance in Tamilnadu and other Southern states.

Potting medium is one of the important factors that can influence the growth and vigour of the cuttings to a greater extent. Cuttings raised in a good medium can ensure better establishment and growth when planted out in the mainfield. A cheap and successful medium will enable the farmers and nurserymen to produce good seedlings of medicinal plants for extensive and commercial

cultivation. Considering the above facts, the present investigation was conducted in order to study the effect of potting media and *Azospirillum* on the rooting of *Gymnema sylvestre* cuttings

MATERIALS AND METHODS

A pot culture experiment was carried out in the Medicinal plant unit, Department of Horticulture, Faculty of Agriculture, Annamalai University, Annamalai Nagar during 2009. There were totally eight treatments viz., T₁ – control (Garden soil only), T₂ – garden soil + sand, T₃ – garden soil + sand + FYM (1:1:2), T₄ – T₃ + *Azospirillum* dip, T₅ – garden soil + sand + vermicompost (1:1:2), T₆ – T₅ + *Azospirillum* dip, T₇ – garden soil + sand + coir pith compost (1:1:2) and T₈ – T₇ + *Azospirillum* dip. The experiment was laid out in a completely randomized block design with four replications. Healthy and uniform sized semi hard wood cuttings of 20 cm length having 3-4 nodes were prepared from the middle portion of the vine and planted in tube pots containing various potting media. The basal portion of the cuttings was dipped in the *Azospirillum* culture as per the treatments. Root and shoot parameters such as rooting percentage, number of roots per cutting, root length, days taken for first sprout appearance, number