

Vegetative Propagation in Seabuckthorn (*Hippophae rhamnoides* L.).

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Abstract—Seabuckthorn (*Hippophae rhamnoides* L., *Elaeagnaceae*) is a promising plant with high ecological and economical significance. Every part of the plant is considered to be used by the folk medicinal practitioners of trans- Himalayan region for different purposes. Seabuckthorn (SBT) thus encompasses great prospect to be investigated in various fields like biotechnology, nutraceutical, pharmaceutical, cosmetic and environmental sciences. Elucidation of standardized propagation technique in SBT becomes important basically of its increasing demand. Selection of genotype with better quality could be executed by screening the population in wild based on desirable requirements including ease of leaf and berry harvest, high fruit yield, less thorny, etc. However, efficient mass propagation system must be standardized for successful plantation of SBT for commercial cultivation. Woody plants are often propagated through hardwood cuttings as it is one of the most inexpensive method for vegetative propagation. Typically, they require less or no special equipment during rooting and can be readily performed in nurseries. The conventional method for propagating SBT is done through thickness approximately equivalent to thickness of pencil diameter (5-10 mm diameter) hardwood cutting. There are drawbacks in using the method of conventional thickness for mass propagation as it results in fewer cuttings from each plant and success rate of conventional method of cutting propagation is low. In recent year an improved propagation method of SBT from last year growth stem cutting has been developed where one can collect an average of 300 approx cuttings in two years while by conventional method only 21.3 ± 8.3 can be collected after waiting for two years. Moreover, the new method gave more than 95% rooting success without an application of rooting hormone too. Research on elucidating standardized propagation technique hence deduced in an effective outcome however multi-locational trails are suggested for commercial SBT industry uses.

Keywords: Seabuckthorn, health benefits, last year growth, stem cuttings, commercial industry.