Standardization of Propagation Techniques in Selected Native Plants of Kuwait

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Abstract: Biodiversity conservation has become one of the challenging priorities to combat species extinction for many countries, including the state of Kuwait. Since native plants are better adapted to the local environment, can endure long spells of drought, withstand high soil salinity levels and provide a more natural effect to landscape projects, their use will both conserve natural resources and produce sustainable greenery. When native plants are properly blended with naturalized exotic ornamental plants in a landscape, they can improve social and cultural benefits. Screening of exotic and native plants in Kuwait during the past two decades has led to the selection of some very promising plants. Continuation of evaluation of additional native and exotic plants is essential to increase diversity of plant resources for greenery projects. Therefore, an effort was made to evaluate further native plants for their suitability for greenery applications. In the present study, various treatments were used to mass multiply selected plants using seeds to secure maximum germination. Seeds were subjected to nine treatments, and each treatment was replicated five times with ten seeds per treatment unit. After the treatment, the seeds of Zygophyllum qatarense were incubated at 30 °C, three lights for 12 h, at 40% humidity; whereas the seeds of Haloxylon salicornicum were incubated at 22 °C with continuous light, at 40% humidity. Soaking in 250-ppm GA3 resulted in highest germination percentage of 20% in Zygophyllum qatarense and, Soaking in 500-ppm GA3 resulted in 6% germination in Haloxylon salicornicum. Germination of the viable seeds is influenced by various external and internal factors, seed must not be in a state of dormancy and the environmental requirements for germination of that seed must be met, before germination can occur.

Keywords: landscape, native plants, revegetation, seed germination

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