

***In vitro* Introduction and Cultivation of Aquatic Plant *Alternanthera reineckii* Briq.**

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Aim of the study: Aquarium plant growing is a hobby that is extremely popular these days. *Alternanthera* is a wonderful decoration of the water landscape. It is a charming and immediately eye-catching plant. The plant looks great in a variety of aquascapes, as a rule, this plant is used as a focusing point. For many years, *A. reineckii* remains an excellent adornment of ornamental aquariums. Optimized techniques of *in vitro* cultivation are applied proactively for reproduction of this aquatic culture. The aim of this work is to select the optimal conditions for cultivation *in vitro* of plants *Alternanthera reineckii* Briq.

Material and Methods: To investigate the effect of sterilization, cuttings of *A. reineckii* plants were placed on the Murashige and Skoog nutrient medium after sterilization with different exposures by different sterilizing agents: 0.1% solution of mercury (II) chloride (1 min., 2 min., 3 min.), 10% solution of hydrogen peroxide (1 min., 2 min., 3 min.), 5 % solution of sodium hypochlorite (1 min., 3 min., 5 min.). After sterilization, the plants were twice washed in sterile distilled water. The resulting plants were planted into sterile culture vessels on a solid nutrient medium. Then the culture vessels with plants were taken to a light room. Plants were placed on MS nutrient media with different acidity (pH): 5, 6, 7 and 8. For the experiment we used cuttings with one node, which had about 3-4 leaves and was not higher than 1 cm. Evaluation was performed 2 months after clonal micropropagation. Organic nutrient media used to induce organogenesis, contained: 0.5 mg/l IAA; 1 mg/l BAP; 0.5 mg/l IAA + 1 mg/l BAP; 0.1 mg/l IAA + 1 mg/l BAP. Explants were leaf and stem segments.

Results: Based on the experiment data, we can conclude that a 10% solution of hydrogen peroxide must be used for sterilization of *A. reineckii* plants, giving a stable high yield of live aseptic plants at different exposures (1, 2 and 3 min.). It is possible to make a preliminary conclusion about the superiority of using nutrient media with pH 5 or 6. The greatest efficiency of regeneration was found on MS nutrient medium with addition of 0,5 mg/l IAA, but it is slightly higher than that on MC + 1mg/l BAP, but other variants of nutrient media are significantly behind in indices. Consequently, it is possible to conclude that the media MS + 0,5 mg/l IAA and MS + 1 mg/l BAP are most effective for clonal micropropagation of *A. reineckii*.

Keywords: *Alternanthera reineckii*, *in vitro* culture, plant sterilization, aquatic plant, aquascaping, clonal micropropagation, medium acidity