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In vitro Cultivation of *Staurogyne repens* Kuntze

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Aim of the study: The wide distribution of aquariums has stimulated the development of a new trend in aquarium art – thematic aquascaping, a kind of landscape design under water. In aquascaping, *Staurogyne repens* can be used to design the aquarium's middle plan or to transition the foreground to the middle one. The best way to reproduce this slowly growing plant is the clonal micropropagation. This technique allows accelerating the period of cultivation, and also allows obtaining a stable genetically homogeneous healthy plant material. The aim of this work was the morphogenetic *in vitro* characterization of *Staurogyne repens* Kuntze plants.

Material and Methods:*S. repens* plants were used. To study the effect of sterilization of cuttings, they were placed on the Murashige and Skoog nutrient medium after sterilization with different exposure by different sterilizing agents: 5% solution of sodium hypochlorite or 0.1 % solution of mercury (II) chloride (1 min., 3 min., 5 min.). After sterilization, the plants were twice washed in sterile distilled water. Then the lowest leaves and the root system were cut off. The plants were planted in sterile containers on the solid MS nutrient medium. The containers with plants were placed in a light room with regular lighting and temperature. Pre-sterilized in a 5% solution of sodium hypochlorite, the plants were placed on MS nutrient media with different acidity (pH): 5, 6, 7 and 8. To select the optimal nutrient medium for plants *S. repens* plant cuttings were placed on MS nutrient media with different mineral bases: MS, ½ MS, B5, ½ B5. To study the influence of the hormonal composition of the medium on the growth and development of *S. repens* plants, cuttings were placed on nutrient media of different hormonal composition: NAA, IAA, IBA, BAP (0.5…3 mg/l).

Results: Based on the experiment data the best sterilization mode for *S. repens* plant was a 5% solution of sodium hypochloride with an exposure of 5 minutes. The MS nutrient medium was chosen as the best variant for growing *S. repens* plants. The surviving plants had the appearance closest to *in vivo* plants. Morphometric analysis showed the advantage of nutrient media with a pH 5 or 8, and a visual assessment was in favor of pH 6 and 7. The number of shoots is significantly influenced by the addition of cytokinin BAP in concentrations of 1, 2 and 3 mg/l. The height of shoots is positively affected by the addition of auxins IBA (0.5, 2 and 3 mg/l) and IAA (1 and 2 mg/l) to the nutrient medium. The length of roots is best influenced by the addition of cytokinins in different concentrations or auxins in low concentrations (0.5...1 mg/l) to the nutrient medium.

Keywords: *Staurogyne repens*, aquatic plant, *in vitro* culture, aquascaping