

Techniques for the in vitro propagation of *Rhodophiala* species[©]

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Rhodophiala species are close relatives of *Hippeastrum* (amaryllis) in the Amari- lidaceae and endogenous geophytes from Chile and Argentina. They have attractive flower colors of red, orange, or yellow. Their novel yellow colors and easy growth habit make them a potential new ornamental that can be used as a cut flower or potted plant. Traditional propagation techniques that have been used for other bulbous plants were attempted under in vitro conditions to increase the number of bulbs. The mechanical treatments that were applied to the basal plate were scoop- ing, scoring with only one basal incision, scoring with two incisions, sectioning into two pieces, sectioning into four pieces, and a control with no mechanical interven- tion. Initial plant material was collected in Chile and placed in vitro. The cultured bulbs that were used for these experiments weighed an average of 200 mg each. Basal Murashige and Skoog medium plus vitamins was used for all experiments. The cultures were grown under constant light at an average temperature of 23°C. The bulbs were transferred to fresh medium every 4 weeks. The evaluations at each subculture included total and bulb fresh weight, number of bulblets produced, and production of shoots and roots. After 12 weeks of culture, the production of bulbs that were propagated by scoring with one incision and those sectioned into four pieces was ten times greater than the control bulbs. However, the bulbs that were produced by these two treatments were 30% smaller than the control bulbs. The scooping treatment did not produce any adventitious growth or bulbs and the plants eventually died. Control plants maintained normal growth during the cul- ture period, but they did not produce any adventitious bulblets.