

Effects of in Vitro Basal Plate Cuttage Systems on Bulblet Production of *Leucocoryne coquimbensis*[®]

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Leucocoryne coquimbensis of the Alliaceae is an endogenous geophyte from Chile, and a new bulbous crop that can be used as a cut flower. Different mechanical treatments were used in vitro to determine the optimum method to increase bulb production rates. *Leucocoryne coquimbensis* bulbs were collected in Chile in Oct. 2000 and were placed in vitro. The bulbs were cultured on basal Murashige and Skoog medium supplemented with vitamins. Growing conditions for the cultures were constant fluorescent lighting at an average temperature of 23°C. Bulbs were transferred onto fresh medium every 4 weeks. Basal plates were subjected to treatments of scooping, scoring with one incision, scoring with two incisions, sectioning into two pieces, sectioning into four pieces, and a control with no mechanical incision. Data that were collected included total and bulb fresh weight, number of bulblets produced, and production of shoots and roots. After 12 weeks of culture, bulbs that were treated with either scoring technique and those that were sectioned into four pieces produced four or eight times more bulblets than the control plants, respectively. Bulbs that had their basal plates scored, with either one or two incisions, increased in bulb fresh weight the most. However, the fresh weight gain of the bulbs that were sectioned into four pieces was similar to the control plants. Only a few control bulbs produced some adventitious bulblets; most of the control bulbs remained inactive with no growth of shoots or roots during the culture period. This research demonstrated the importance of basal plate cuttage on *L. coquimbensis* bulbs for increased in vitro bulb production.