

Effects of Bulblet Induction Medium on Bulb Size and Weight of Endemic Fritillaria Aurea L. After Treatment with Putrescine (Tetramethylenediamine) for Different Durations of Time

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Abstract : *Fritillaria aurea* L. is an important crop plant that is endemic to Central and South-eastern Anatolia region of Turkey. The plant has high potential for ornamental plant industry. This study reports an in vitro experiment aimed; to increase bulb mass under in vitro conditions. The micro bulblets used in this study were obtained from callus induced on half-sliced bulblets cultured on MS medium containing 0.05 and 0.10 mg/l TDZ. Thereafter, the micro bulblets were treated with 50 mg/l putrescine, (tetramethylenediamine) for 3, 5 and 7 weeks. The putrescine treatment has a significant effect on the increase in diameter and weight of bulblets when compared to initial diameters, irrespective of the treatment periods and seed germination medium. When the duration of putrescine in weeks was compared, 7 weeks of treatments with putrescine were more conducive for induction in bulblet weight compared to 3 and 5-week treatment periods. Maximum seed weight of 0.52 grams was noted on 7 weeks putrescine treated bulblets regenerated on 0.1 mg/l TDZ. The results showed that putrescine was very effective in the rapid weight gain of *F. aurea* bulblets. The strategy to increase bulb weight and diameter reported in this research could be positively used for conservation and multiplication of this beautiful flowering endemic plant species.

Keywords : bulblet, *fritillaria aurea*, micropropagation, polyamine

Conference Title : ICAB 2025 : International Conference on Agriculture and Biotechnology

Conference Location : Zurich, Switzerland

Conference Dates : July 29-30, 2025