

**DEVELOPMENT OF SURFACE STERILIZATION PROTOCOL  
FOR NODAL EXPLANTS COLLECTED FROM FIELD PLANTS OF  
POMEGRANATE (*Punica granatum*)**



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**2023**

## ABSTRACT

Pomegranate is an economically important fruit crop of the tropical and subtropical regions of the world. Hard wood cuttings is the traditional method for pomegranate propagation. However, there are a number of drawbacks to the conventional propagation approach, including poor success rates, delayed propagation and the inability to guarantee healthy, disease-free plants. The use of micropropagation technology as an alternative to traditional vegetative propagation method is growing in popularity nowadays. Hence, this study aimed to develop a protocol for surface sterilization method to produce planting materials of the Kalipitiya hybrid variety. Initially nodal explants were washed with running tap water for 45 min then they were washed with liquid vim (teepol) solution for 15 min and followed by dipping in 0.06% fungicide for 45 min. Finally, streptomycin solution (100 mg/L) treatment was also given to explants for 20 min. After these steps, nodal segments were subjected to the following twelve treatments which included three different concentrations (5%, 10%, and 15%) of sodium hypochlorite without or with 05 % (w/v) concentration of silver nitrate ( $\text{AgNO}_3$ ) in the different exposure times (10 and 15 min). The results revealed that fungus bacteria contamination, browning, survival and bud formation. The survival rate of 73.3% was recorded after two weeks with 15% NaOCl with 0.05%  $\text{AgNO}_3$  for 15 min which was the best sterilant observed for.

Key words: Micropropagation, Pomegranate, Kalpitiya Hybrid verity, Nodal explant

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