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## Use of thermal hysteresis inducing chemicals for frost protection in subtropical fruit plants

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**ABSTRACT :** Frost induced freeze damage is the severest environmental stress faced by the subtropical plant species worldwide. Controlled environmental studies were conducted at Institute of Biotechnology and Environmental Science Neri for using thermal hysteresis inducing chemicals as a tool for managing this stress in highly sensitive, medium sensitive and least sensitive subtropical fruit species. Foliar mist of 5 per cent 1, 2-Propanediol was found most effective treatment in reducing the relative electrolyte leakage in the experimental plants. Ingression of this chemical into plant system through hydrogel application in the effective root zone was found to give prolonged protection against frost.

**KEY WORDS :** Mango, Papaya, Freeze initiation, Low temperature stress, Freeze restriction, Ice nucleation, Hydrogel

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