

## DEVELOPMENT OF A PROTOCOL FOR FREEZE PRESERVATION OF GREEN CHILLI (*Capsicum annum L.*)

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The development of an effective freeze preservation protocol for the harvested green chilli (*Capsicum annum L.*) is required to preserve production surplus of green chilli against possible quality losses and to improve its shelf life. The investigation was aimed at determining the effects of freeze preservation treatment in combination with blanching pretreatment followed by the storage at normal freezing condition ( $-18^{\circ}\text{C} \pm 2$ ) to establish an optimum freeze preservation protocol for green chilli. Blanching and unblanching green chilli were respectively subjected to normal freeze preservation ( $-18^{\circ}\text{C} \pm 2$ ) and blast freeze preservation ( $-30^{\circ}\text{C} \pm 2$ ) and all the samples were kept in freezing conditions. Changes in colour, pH, total soluble solids (TSS) and total chlorophyll contents (TCC) were measured immediately after each treatment and at a weekly interval for a storage period of six weeks. The results of the four treatments were analyzed using two factor factorial completely randomized design. Parametric data were statistically analyzed using SAS and mean separation was done by Tukey's test. The colour, pH, TSS, total chlorophyll contents (TCC) were significantly ( $p < 0.05$ ) affected by the treatments as well as with the storage time. The pH of all treatments increased significantly after six weeks of storage period. During sixth week TSS were not significantly ( $p > 0.05$ ) different among treatments. Total soluble solids in unblanching blast frozen chilli were significantly higher throughout storage. Total chlorophyll contents were significantly higher in normal frozen chilli than in blast frozen chilli at sixth week of storage. The rating for the visual quality depicted that unblanching blast frozen chilli retained a higher acceptability throughout storage. It could be concluded that unblanching blast freezing had a potential to be utilized as a protocol to adopt in freeze preservation of green chilli

**Keywords:** Blanching, Blast freezing, Chilli, Normal freezing