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RESEARCH PAPER

# Influence of packing materials and storage conditions on juice percentage and shelf-life of passion fruit (*Passiflora edulis*)

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**SUMMARY** : The experiment was designed to investigate the influence of packing materials and storage conditions on juice percentage and shelf-life of passion fruits. Packaging material such as perforated and non-perforated polythene bags, cling film, fresh banana leaves and fresh *Phrynum* spp. leaves with two different storage conditions *viz.,* ambient storage condition and zero energy cool chamber storage were taken. Results showed that, packing of passion fruits in non-perforated polythene bags and storing it under zero energy cool chamber storage condition retained juice percentage and extended shelf-life of the fruits.

**KEY WORDS** : Passionfruit, Shelf-life, Juice percentage, ZECC, Perforated and non-perforated

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Passion fruit is a very commonly grown fruit in Nagaland. It belongs to the family Passifloraceae.Passion fruits are good source of pro-vitamin-A,ascorbic acid, riboflavin,niacin and have a high mineral content. Passion fruits stands out not only because of its exotic flavour but also because of its vitamin content. In Nagaland, it covers an area of 1,690 ha with an annual production of approximately 565 MT (Kikon,2004) But passion fruits are liable to rapid deterioration immediately after harvest and loose consumers appeal within a short span of storage period. This necessitates to develop special post-harvest treatments which can retain the quality of harvested fruits and extend their postharvest shelf-life.The major objectives of the study was: to study the effect of packing materials on the juice percentage and shelf-life of the frut during storage,to study the effect of storage conditions on the juice percentage and shelf-life of fruit during storage and to study the interaction effect between packing materials and storage conditions on the juice percentage and shelf-life of fruit during storage.

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## EXPERIMENTAL METHODS

The present investigation was carried out in the Nagaland University, Medziphema Campus.The fruit samples were collected from a private farm at Peren district of Nagaland. Each treatment was replicated 3(three) times with 50 fruits as a unit. Five fruits per treatment were used for taking various observations on every date of observation. Treatments consisted of two factors-packing materials and storage conditions. Packing materials (under first factor) consisted of $M_1$-Control (no packing) $M_2$-Perforated polythene packing, $M_3$-Non-Perforated polythene packing, $M_4$ - Cling film packing, $M_5$-Fresh banana leaf packing, $M_6$- Fresh *Phrynum* spp. leaf packing . On the other hand, storage condition consisted of two different type of storage, such as $S_1$- Ambient condition and $S_2$- Zero energy cool chamber. The experiment was designed in Completely Randomized Design (CRD) and consisted of three replications and intervals of the observation fixed at 3(three days) The major items of the observation were juice percentage and shelf-life. The juice of the fruit was squeezed out manually from the pulp after removing the rind, with the help of muslin cloth and the volume of juice was