



P 10 Performance testing of newly designed evaporative cooling chambers for preservation of perishables in tropical region

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Most of the post-harvest losses (PHL) occur on perishables due to lack of storage facilities and high field heat through the period between harvest and consumption. The control of temperature and relative humidity (RH) is the most important factors to reduce the PHL. Although refrigerated cold stores are fulfilling this requirement, they are expensive to install and run. In addition, the electric power to run refrigerators is not commonly available in the rural regions. The objective of the study was to design and develop suitable evaporative cooling chambers for the preservation of fresh fruits and vegetables for extending their shelf life. Six evaporative cooling chambers (ECC) were constructed with 0.288m³ storage capacity using raw bricks and burnt bricks separately. Sponge, saw dust and sand were used as filling materials of the wall. Temperature and RH were observed daily during 1 hr interval using temperature - humidity meter. The raw bricks with sponge filling material chamber has shown better performance. The inside temperatures were about 2 - 4°C less than the ambient temperature and inside RH was about 10% - 20% higher. The shelf life of banana inside the ECC was extended by two to five days relative to ambient storage conditions.

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