

**STUDY ON PRESERVATION METHODS OF CHILLI
VARIETIES GROWN IN BATTICALOA DISTRICT**

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BY

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ABSTRACT

A research was conducted at Eastern University, Sri Lanka during the period of June to September 2007 to Study on postharvest technology of chilli (*Capsicum annum*) varieties grown Batticaloa district. In this study two experiments were carried out. Experiment one was carried out with the objectives for finding ways and means of reducing the qualitative postharvest losses and increasing the storability of chillies. The treatments included chilli pods packed two types, that was without pedicel and with pedicel in baskets and carton boxes, stored at two different temperature conditions namely room temperature (30-32 °C) and refrigerator temperature (5 °C). The pods under these treatments were assessed for colour, weight loss, total soluble solids, pH, ascorbic acid and percentage of decay, at weekly interval for a period of three weeks.

Slow rate of colour change from green to red and retention of weight of pods were found to be superior in basket packages stored in refrigerator. In room temperature storage, red colour change of pods at faster rate, percentage of physiological weight loss at higher level and higher percentage of decay were observed. Without pedicel of storage, increasing trend of percentage of physiological weight loss, lower percentage of decay and higher storability were observed. Chilli pods that were stored with pedicel showed decreasing trend of percentage of physiological weight loss and higher percentage of decay and higher rate of colour change was observed. Keeping chilli pods without pedicel in refrigerator was suitable method to extent the storability of chilli pods, because of low shrinkage and slow rate of decay. The results of quality assessments between the treatments revealed that there were significant differences and weeks of storage for ascorbic acid, total soluble solids, pH and percentage of physiological weight loss at 5% significant level.

Experiment two was carried out in order to find out the most suitable variety for whey chilli and chilli preserved by steeping preservation. Four chilli pepper varieties, namely MI-1, MI-2, KA-2 and PC-1 were used for this study. Then organoleptic assessment was carried out for both whey chillies and steeping chilli preserved by steeping preservation for taste, colour, texture, pungency, absence of off-flavour, and overall acceptance for six treatments. Nine-point hedonic scale ranking method was used to evaluate the organoleptic properties. The results revealed that for both preservation methods there were significant difference among the treatments for taste, colour, texture, pungency, absence of off-flavour and overall acceptability at 5% significant level. The finding of Experiment-11 revealed that MI-1 is most suitable chilli variety for whey chillies and chilli preserved by steeping preservation.

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