

# CFB box wrapping: a new shrink wrapping technology for extension of storage life of colour capsicum (cv. Bachata)

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## Abstract

Capsicums lose water very rapidly after harvest and the moisture loss causes severe shriveling making them unmarketable within 2–3 days. The moisture loss occurs even under low temperature conditions, though at lesser rates. Bell peppers packed in corrugated fiber board boxes (CFB) tend to lose moisture continuously as these boxes are permeable to both water vapour and respiratory gases even if they are non-ventilated. To reduce the moisture loss and maintain freshness, yellow colour capsicum (cv. Bachata) were packed in CFB boxes and over wrapped with different semi-permeable films using shrink wrapping technology. This box shrink wrapping significantly lowered the weight loss and maintained firmness of capsicum at ambient (25.7–33.2 °C and 25–63% RH) and low temperature (8 °C ± 0.5 and 80 ± 5% RH) conditions. Yellow colour capsicums packed in this way could be stored for 11 days at ambient temperature with a weight loss of < 6% as compared to about 20% weight loss in non-wrapped fruits. The storage life could be extended to 5 weeks by storing these shrink wrapped boxes at 8 °C without any shriveling and with a weight loss of < 5%. In addition to maintaining high humidity, the lower O<sub>2</sub> and higher CO<sub>2</sub> levels maintained surrounding the produce in the wrapped boxes helped to avoid shriveling and to retain the quality in terms of surface colour, firmness and other quality traits. The absorption of excessive relative humidity by CFB itself in the over wrapped boxes helped in avoiding condensation of water droplets. This in turn avoided the development of fungal growth and thus the risk of fruit decay.