

### **Abstract**

Greenhouse-grown sweet peppers (*Capsicum annuum L.*) are normally harvested fully colored in commercial greenhouse production. They are highly perishable, and long term storage is not a common practice. Field-grown sweet pepper, are harvested at the mature green stage, and storage for 2-3 weeks at 7.5°C or above is recommended to minimize the risk of chilling injury. Greenhouse-grown sweet peppers are harvested at later maturity, and may be able to tolerate storage temperatures lower than 7.5°C. This study was conducted to examine whether greenhouse sweet peppers can be stored at low temperatures for four weeks. Greenhouse sweet peppers of two cvs., Forever (red) and Striker (yellow), were stored at 1°C, 2.5°C, 5°C, 7.5°C, 10°C, and 12.5°C for four weeks, followed by a 3-day shelf life evaluation at 20°C. Each fruit was visually evaluated every 3 to 4 days with a score of 0 (no sign of decay) to 5 (severe decay). The fruit from three commercial and four experimental harvests were tested. With commercial harvests, red peppers had a low decay index at 5°C, 7.5°C, and 10°C, while yellow peppers had low decay at 10°C or 12.5°C. A rapid increase in decay index (more than 2.5) upon return to room temperature after 4 weeks of storage was observed when stored at 1°C and 2.5°C., indicating possible chilling injury. With experimental harvests, red sweet peppers were more tolerant to temperatures of 5°C or 7.5°C than yellow. In general, the sweet peppers harvested from an experimental greenhouse had less decay than those from a commercial greenhouse. This study indicated that fully colored sweet peppers can be stored as low as 5°C for four weeks without indication of chilling injury.