

Title Quality curves for green bell pepper (*Capsicum annuum* L.) stored at low and recommended relative humidity levels

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Abstract

‘Revolution’ green bell peppers were harvested, held for 14 to 22 days at 15°C and five relative humidity (RH) levels and evaluated for quality attributes. The objectives of this work were to obtain quality curves at low and recommended RH levels and identify for each RH which quality attributes limit green bell pepper marketability. Results from this study showed that RH had a significant effect on the shelf life and overall quality of green bell peppers. Peppers stored at RHs lower than 90% were less green, softer, more shriveled, and had higher weight loss, lower acidity, lower soluble solids and lower ascorbic acid contents than those stored at higher RH. Overall, changes in the color of the fruit, softening, shriveling, and loss of aroma were the first quality attributes to reach the limit of acceptability and therefore limiting the shelf life of ‘Revolution’ green bell peppers. At 90 and 95% RH, pepper acceptability was limited primarily by color changes followed by loss of aroma; at 80% acceptability was reduced due to changes in color, shriveling and loss of aroma. Shelf life of peppers stored at 40 and 60% RH was reduced to approximately 6 and 7 days, respectively, due to changes in coloration, softening, severe shriveling and loss of aroma. Maximum shelf life and best quality was obtained when green bell pepper were stored at 90 or 95% RH. The quality curves obtained from quality evaluations for each RH level showed that a single quality attribute cannot be used to express quality loss of green bell pepper stored over a range of humidity levels.