

Title The influence of trimming intensity and pre-processing storage on the shelf life of fresh cut romaine lettuce (*Lactuca sativa* L.)

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Abstract

Maximising shelf life of fresh cut lettuce is important because it can improve eating quality and increase flexibility in the production process by allowing for storage of product in response to peaks and troughs in demand. A common practice is to store harvested lettuce heads for up to 5 days then trim outer leaves prior to processing. Two key questions arise from these practices: What is the effect of pre-processing storage on shelf life, and how much outer leaf material should be removed in trimming? Cos lettuce (cv. Cosmic) were harvested and held at 4 for 0 or 5 days prior to processing then trimmed to either 70% or 55% of initial fresh weight prior to shredding and packing into bags. The bags were then stored at 2°C for 24 h then 7°C. Holding harvested lettuce for 5 days reduced the quality score by about 40% compared to processing the same day as harvest from the first assessment through to the end of shelf life. The level of trimming significantly affected quality toward the end of shelf life and day 8, lightly trimmed heads were at 63% of initial quality whereas harder trimmed heads had retained 94% initial quality. The combined effects of pre-processing storage and trimming intensity resulted in heavily trimmed, fresh processed heads lasting 12 days after processing whereas lightly trimmed stored heads lasted for only 7 days after processing.