

Title Frozen green beans (*Phaseolus vulgaris*, L.) quality profile evaluation during home storage
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Abstract

Home storage is at the end of the frozen foods distribution chain, and not much is known how it affects frozen vegetables quality. This research presents a computational evaluation of frozen green beans (*Phaseolus vulgaris*, L.) quality profile, in terms of *ascorbic acid*, *starch content*, *chlorophylls a* and *b*, *colour* (Hunter *a* and *b* co-ordinates and total colour difference) and *flavour*, at storage temperatures of +5, -6, -12 and -18 °C, for respectively, 1, 4, 14, and 60 days. Simulations were set to access the impact of the pre-established after sale dates of the 'star dating' system.

Results demonstrate that green beans nutritional and sensory parameters are well retained at the storage temperatures of +5, -6 and -12 °C. At -18 °C, sensory parameters (e.g. colour and flavour) are well retained, but nutritional parameters, such as ascorbic acid and starch, degraded. The study concluded that the 'star dating' system is a good after sale dating system for frozen green beans for the storage temperatures of +5, -6 and -12 °C. The system fails to maintain a good balance between sensory and nutritional parameters at low storage temperatures (e.g. <-18 °C).