

**Title** Alternative methods of fresh white asparagus packaging  
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### **Abstract**

A new trend in the marketing of asparagus (*Asparagus officinalis* L.) is the selling of white, freshly peeled and packed asparagus. However, peeling and preparation can induce a rapid loss of quality. Therefore, modified and controlled atmosphere packaging and related technologies are increasingly being used to extend shelf life of fresh products. The effect of different packaging materials, storage temperature and the use of passive or modified atmosphere was evaluated with respect to their suitability to prevent quality loss during shelf life. Microbiological, nutritional and sensoric parameters as well as organoleptic properties were studied using films with different CO<sub>2</sub> and O<sub>2</sub> permeability including also a high-barrier film with a gas mixture injected. Samples were stored at room temperature and in refrigeration. Asparagus spears stored at room temperature were sampled after 2 and 7 days and those stored at refrigeration conditions, were analysed after 7 days and 14 days. Spears stored at room temperature suffered an appreciable loss of quality after seven days of storage while the shelf life of asparagus stored in refrigeration was extended up to 15 days with little quality loss. With regard to the influence of film permeability, there were no significant differences between films although those with lower permeability exhibited less decay of organoleptic properties. The use of a high-barrier film with a gas mixture injected did not improve asparagus organoleptic properties although the loss of vitamin C was lower.