

**Title** New innovations in the packaging of fresh-cut produce  
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### **Abstract**

Innovations in packaging for fresh-cut fruits and vegetables can increase market life, ensure safety, add convenience, and enhance value. Many types of packaging can be used depending on requirements of the produce and the target market. These include polymer film bags, trays with ridged or sealed film lids, over-wrapped trays, and clamshells. Many ridged trays and clamshells provide protection from physical damage during handling. Sealed packaging also can minimize the risk of the product being contaminated by microorganisms or foreign materials prior to reaching the consumer. Modified atmosphere packaging (MAP) can maintain product quality by minimizing water loss which can reduce wilting, shrivel, and senescence. When packages are properly designed, modification of oxygen and carbon dioxide may also result in improved market life. However, maintaining optimum concentrations of these respiratory gases in passive MAP is rarely possible throughout distribution and marketing due to fluctuation in temperature and variability of product respiration rates. Therefore, product tolerance to reduced concentrations of oxygen and elevated concentrations of carbon dioxide must be considered in MAP design. The permeation properties of the packaging materials, addition of adsorbent sachets, respiration rates of the product, and the maximum temperature the product will experience must be considered. The chemical composition of the package and its interaction with flavour volatiles emitted from the product must be understood to minimize flavour loss during marketing. Functionality and convenience of the package can also add value. Packages can function as serving trays, allow in-package cooking, or contain combinations of products for ready-to-eat meals. Incorporation of innovative and intelligent labelling can promote name brands or serve as indicators of quality or shelf life. Innovations in packaging and their proper application provide opportunities to add value to fresh-cut products.