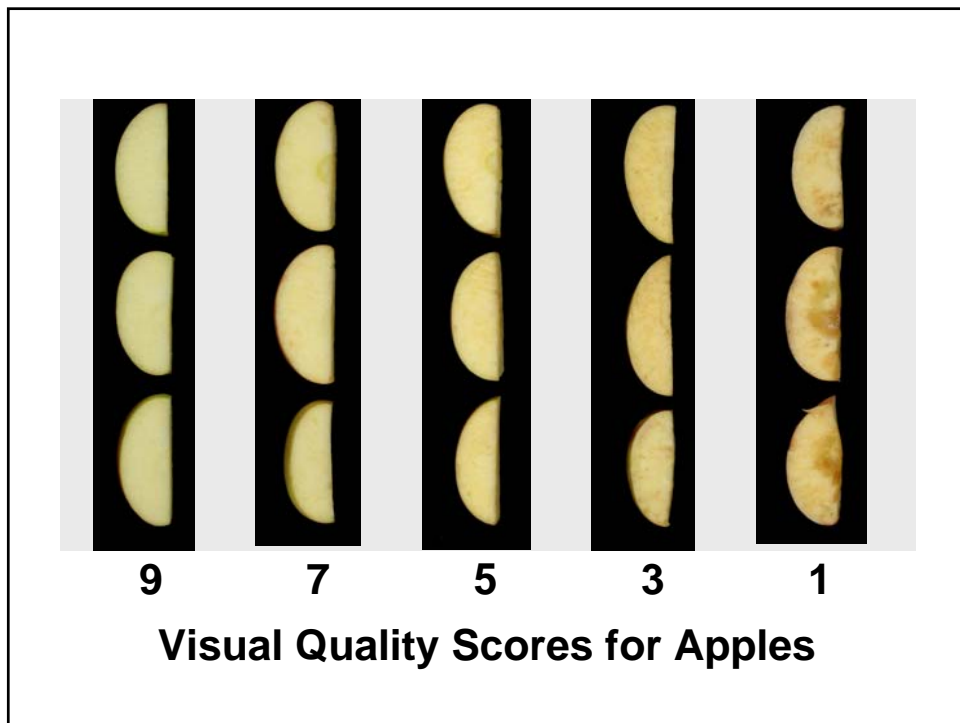
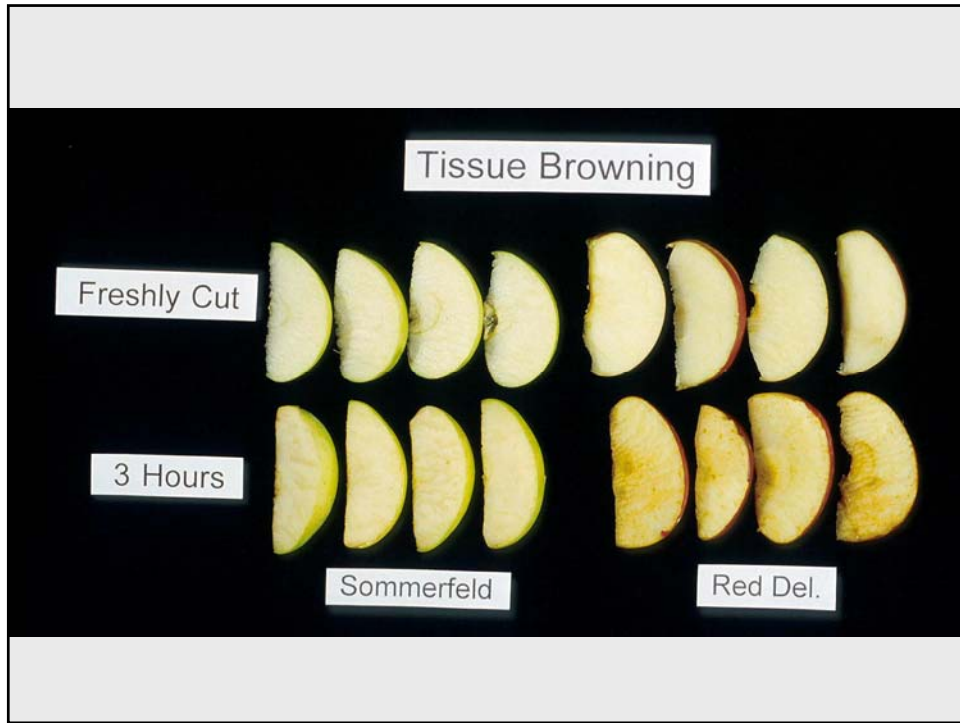


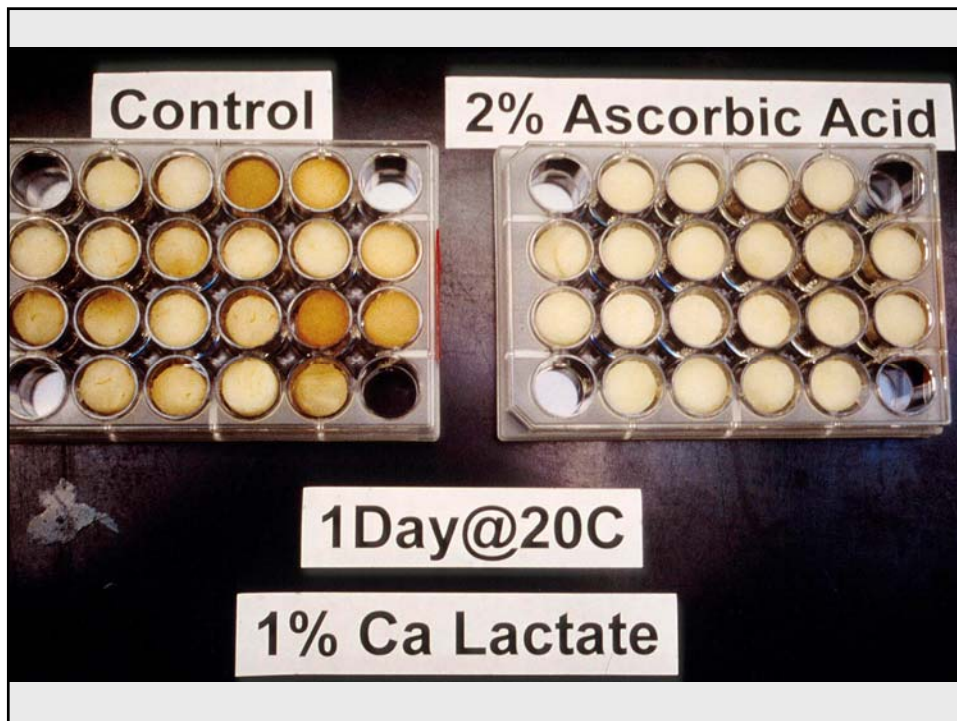
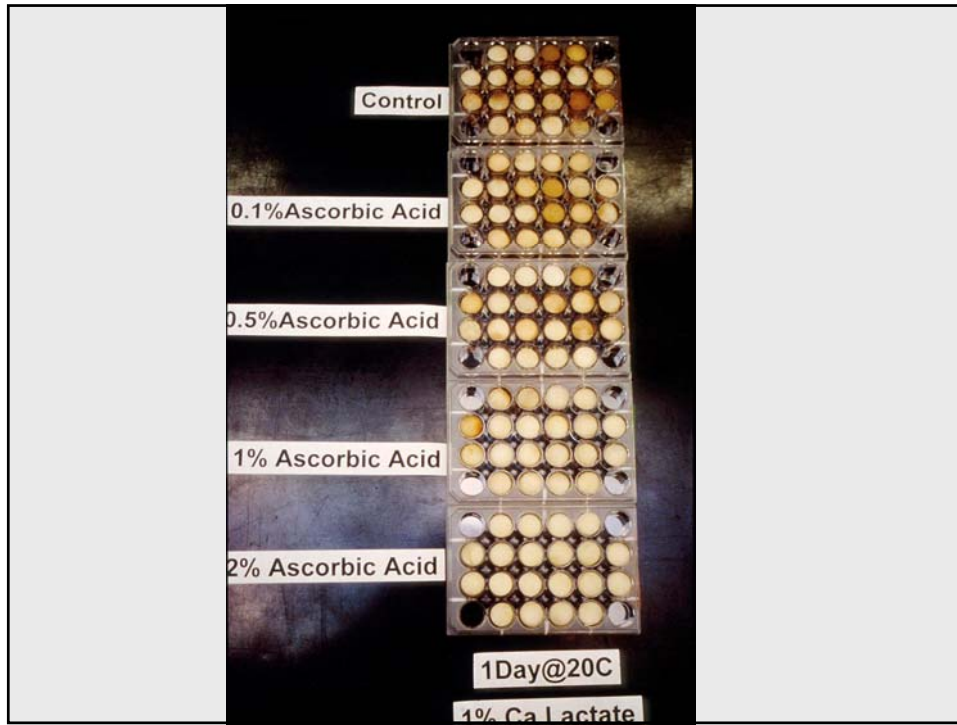
Product Considerations: Apple, Pear, Peach & Nectarine

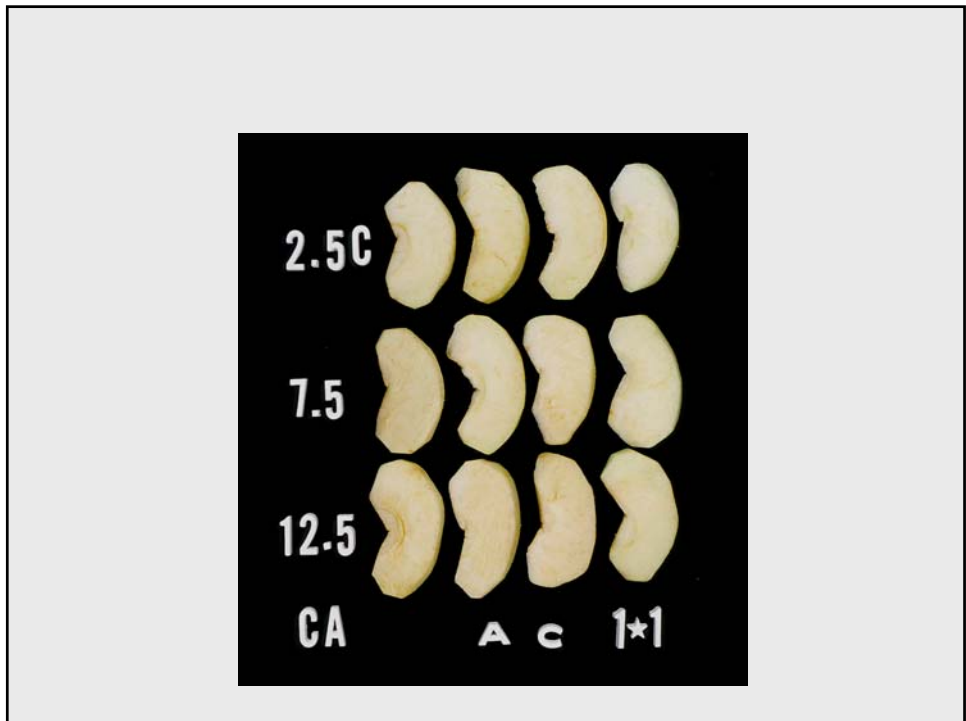
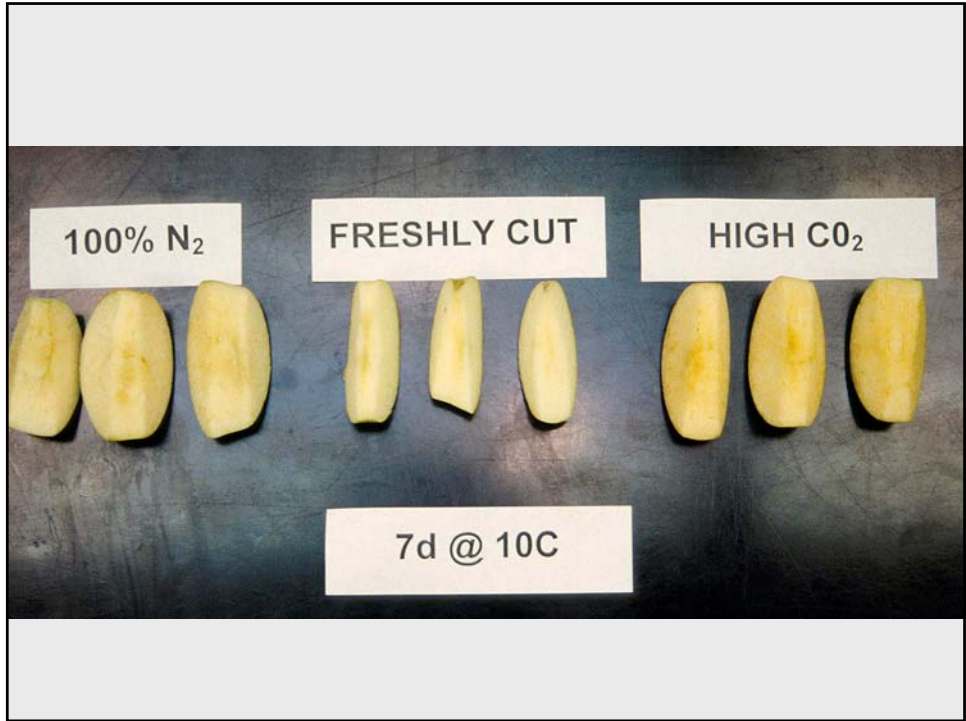
***Adel Kader
UCDavis***

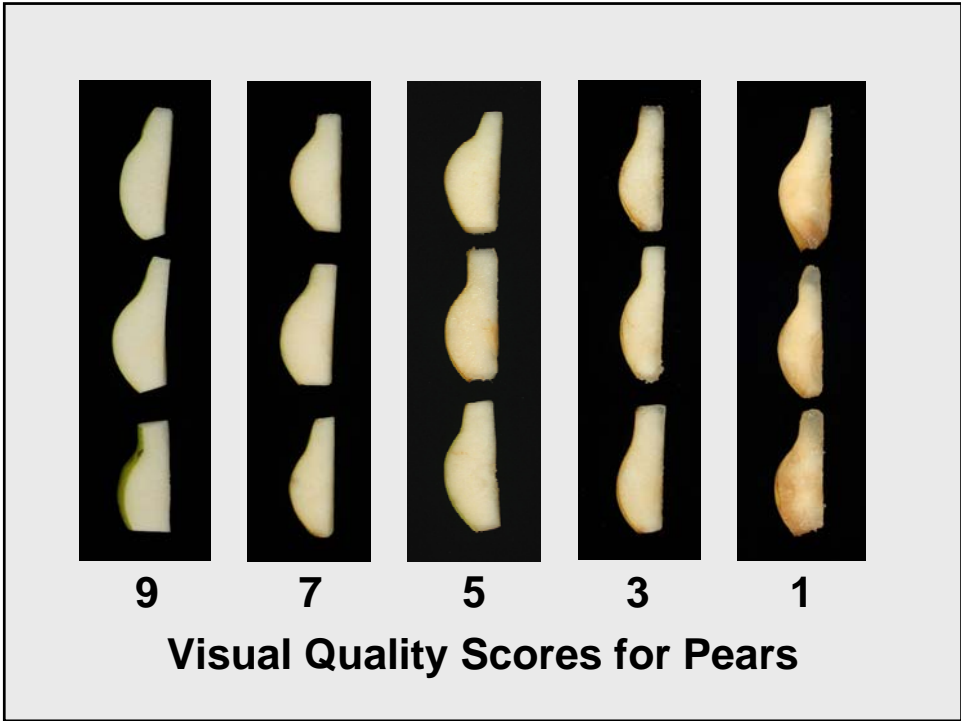
APPLES

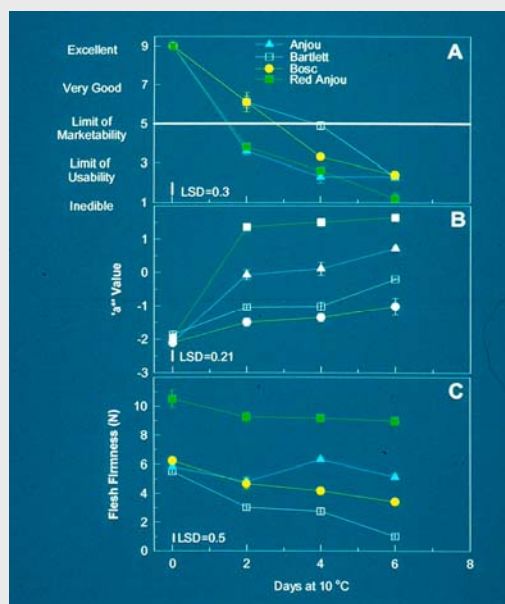
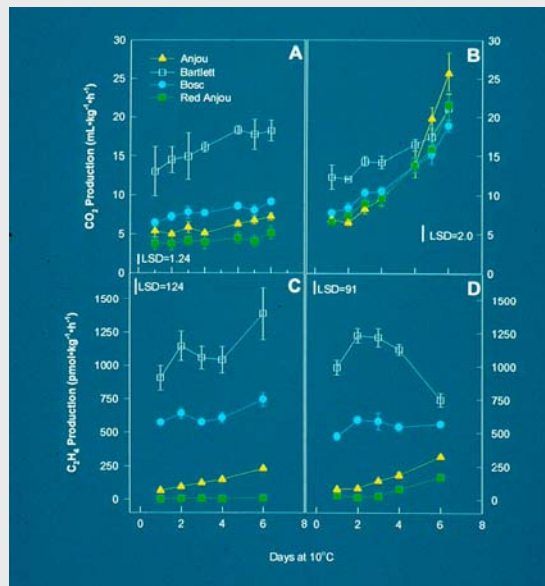


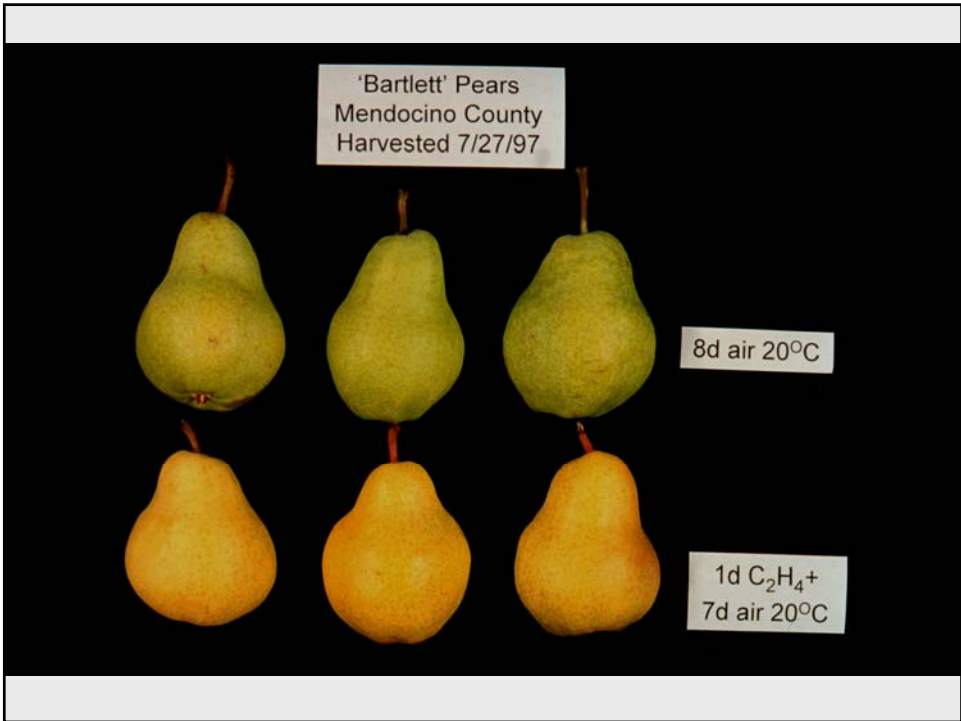
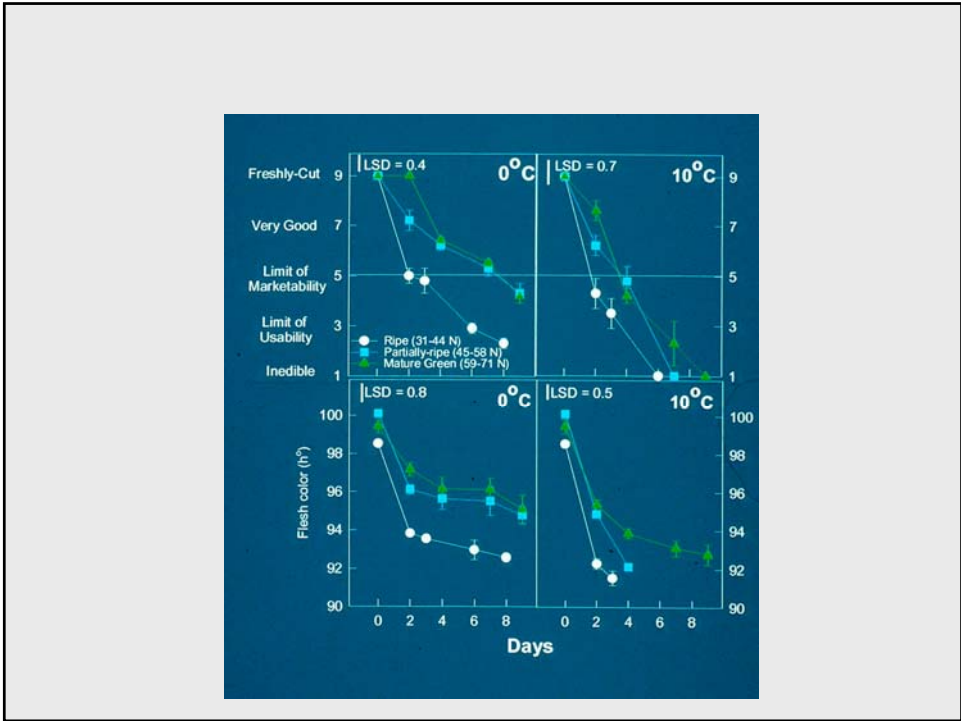


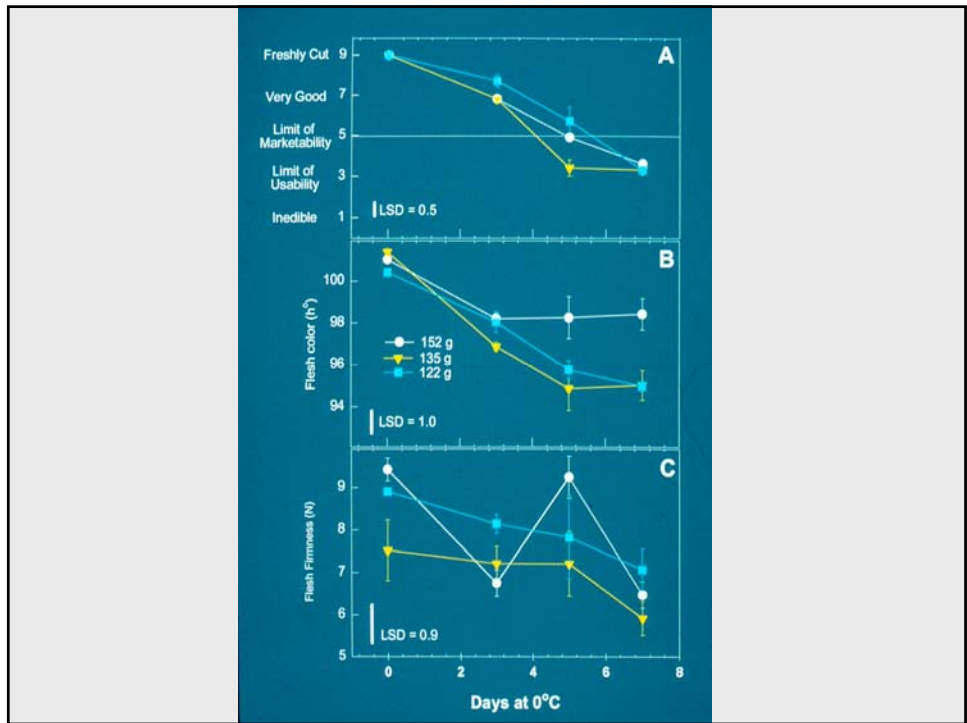
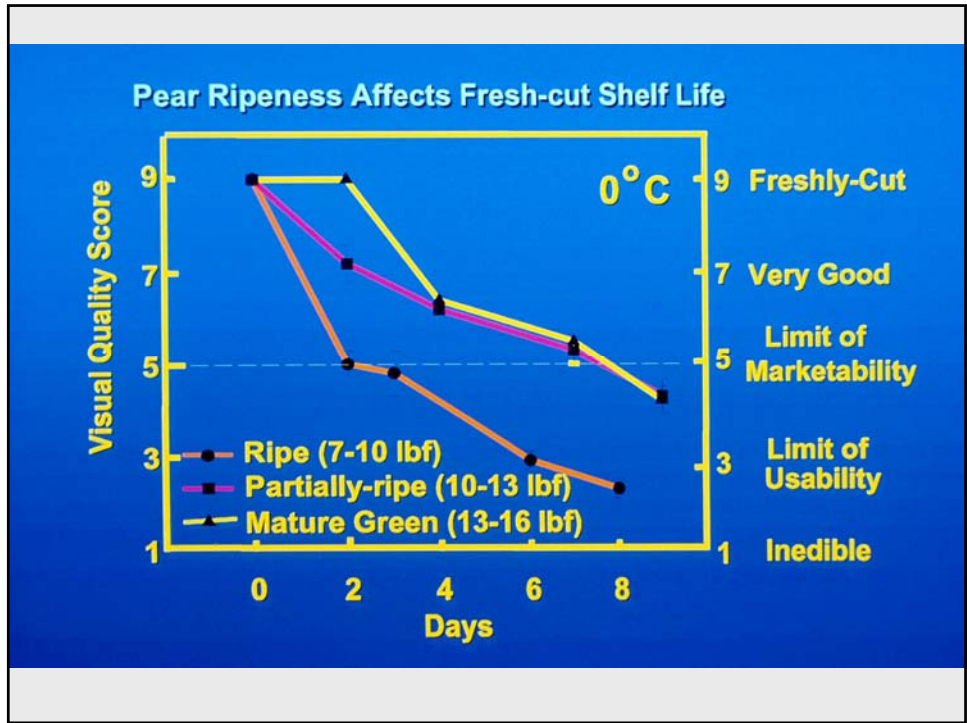


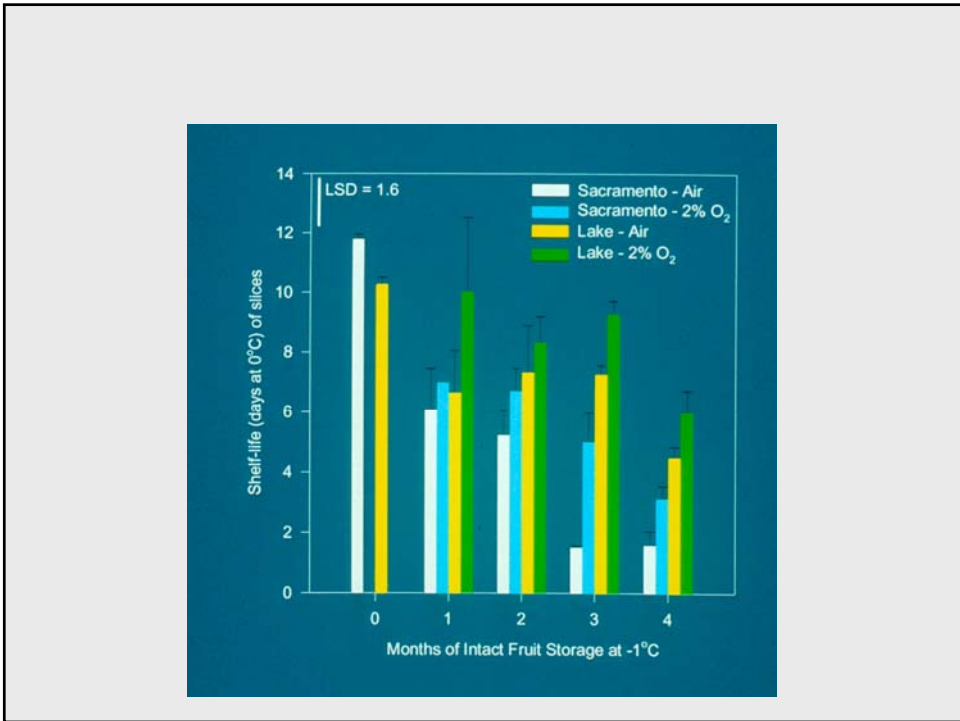








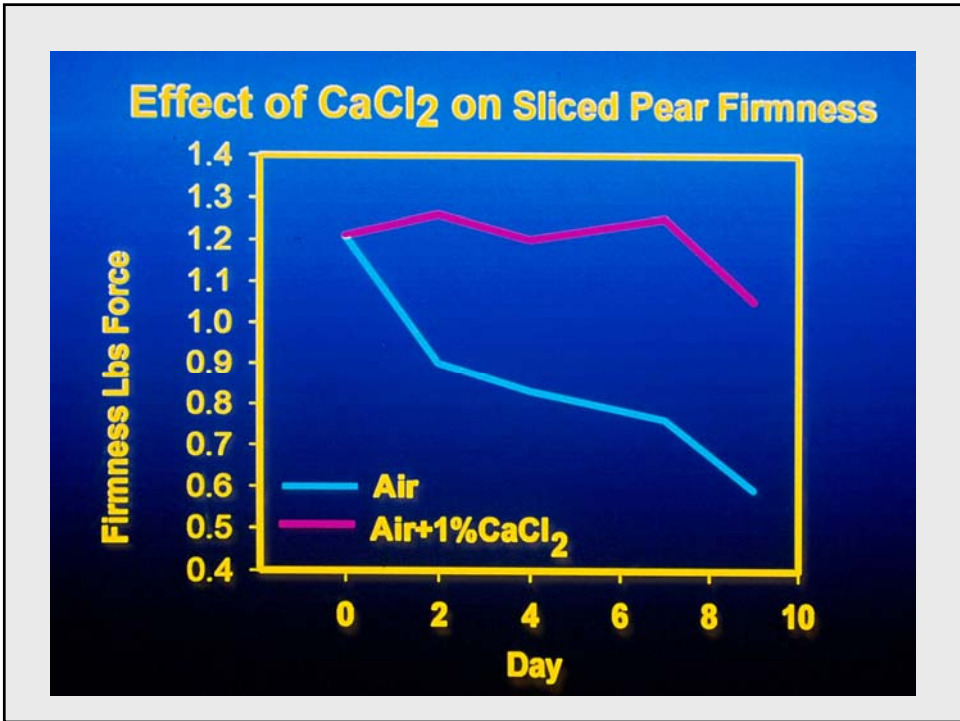
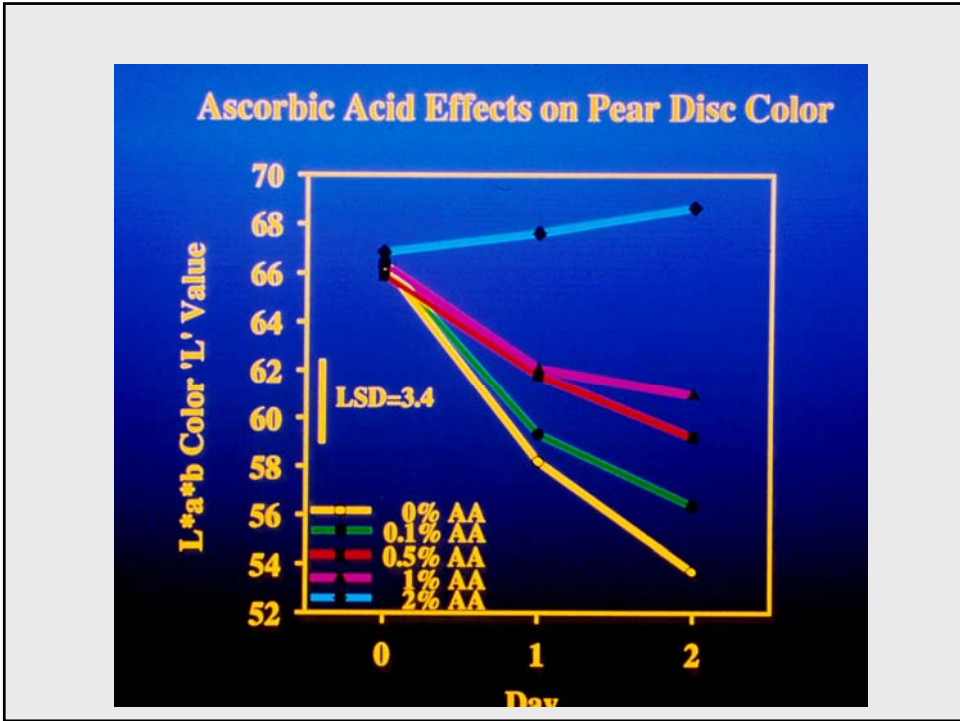


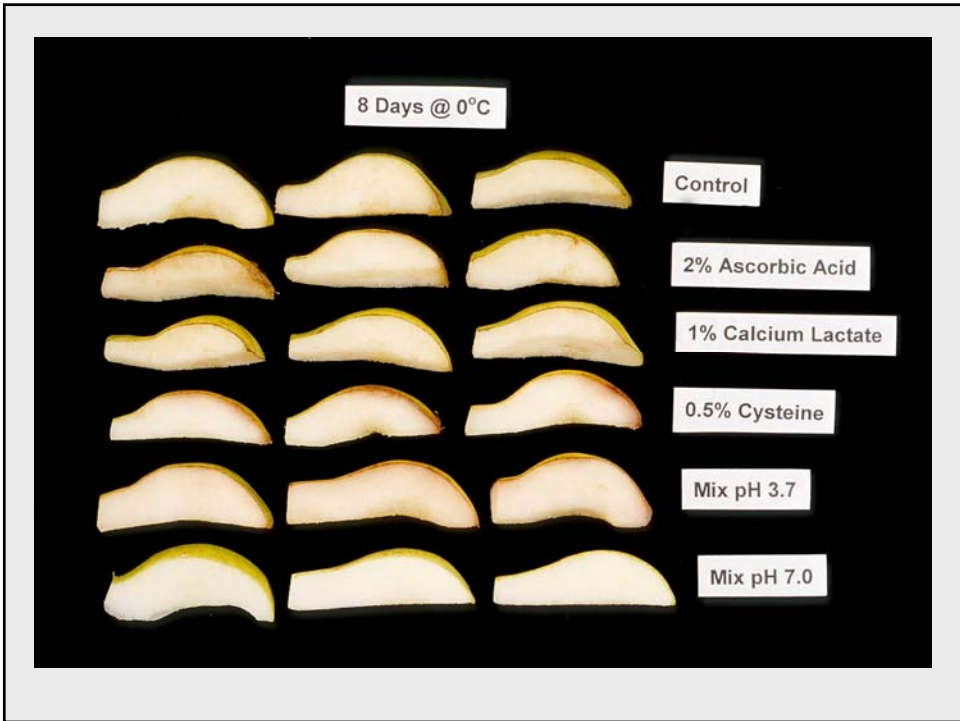
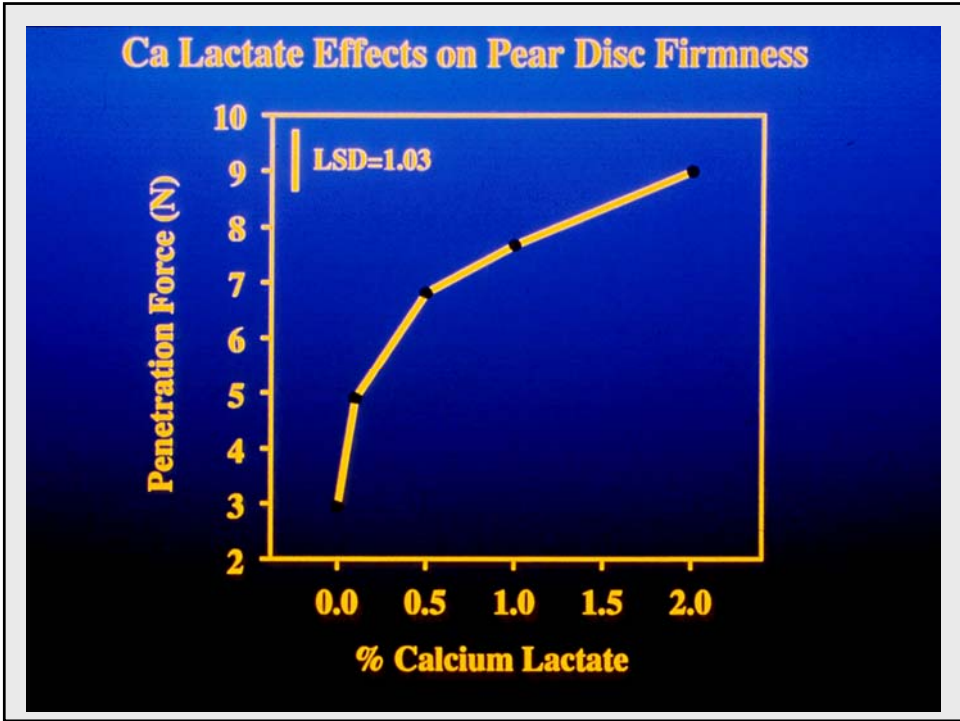


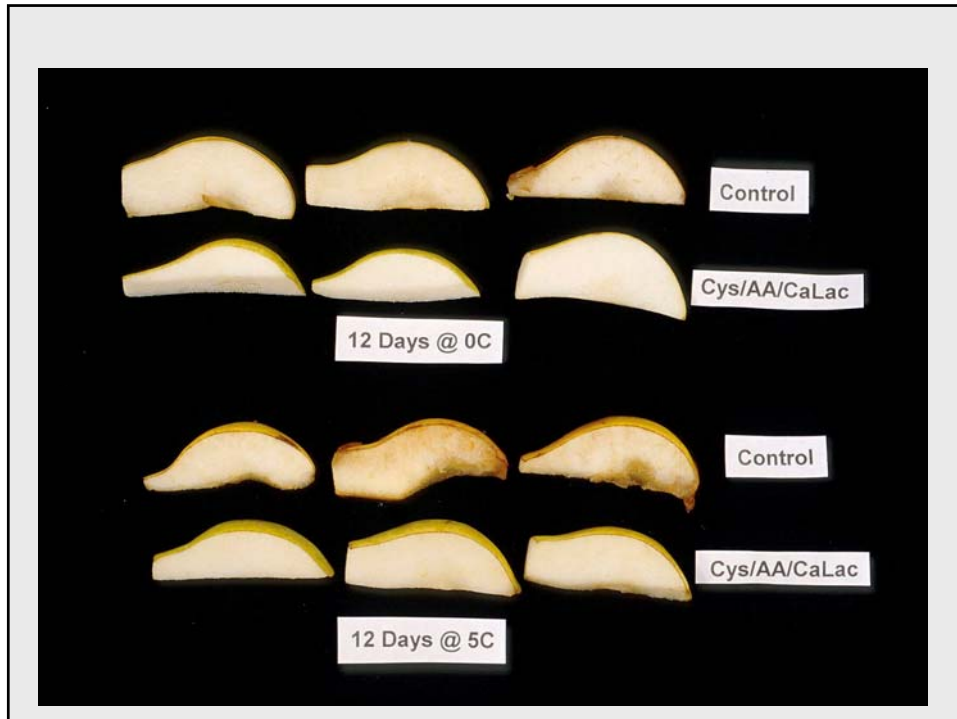


Modified Atmospheres

- *Low O₂ and/or elevated CO₂ do not significantly delay softening or cut surface discoloration*
- *>10% CO₂ will damage pear slices*
- *Elevated CO₂ may reduce microbial spoilage*







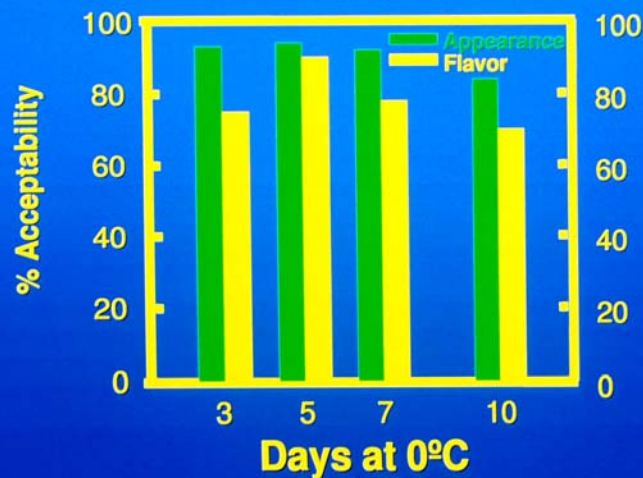
Preservative/Chemical Treatments

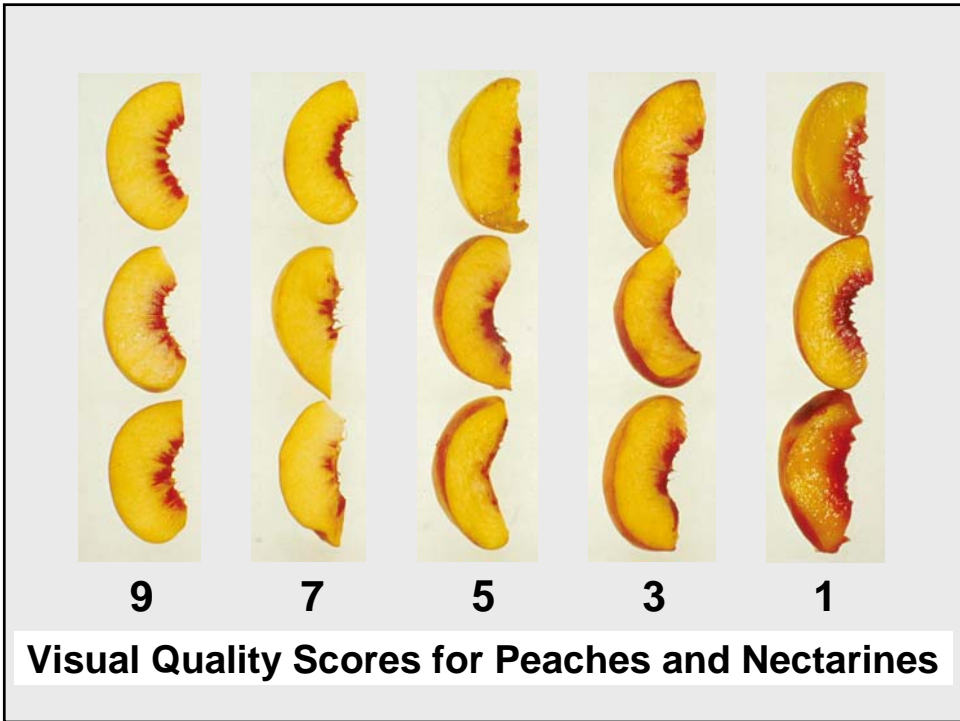
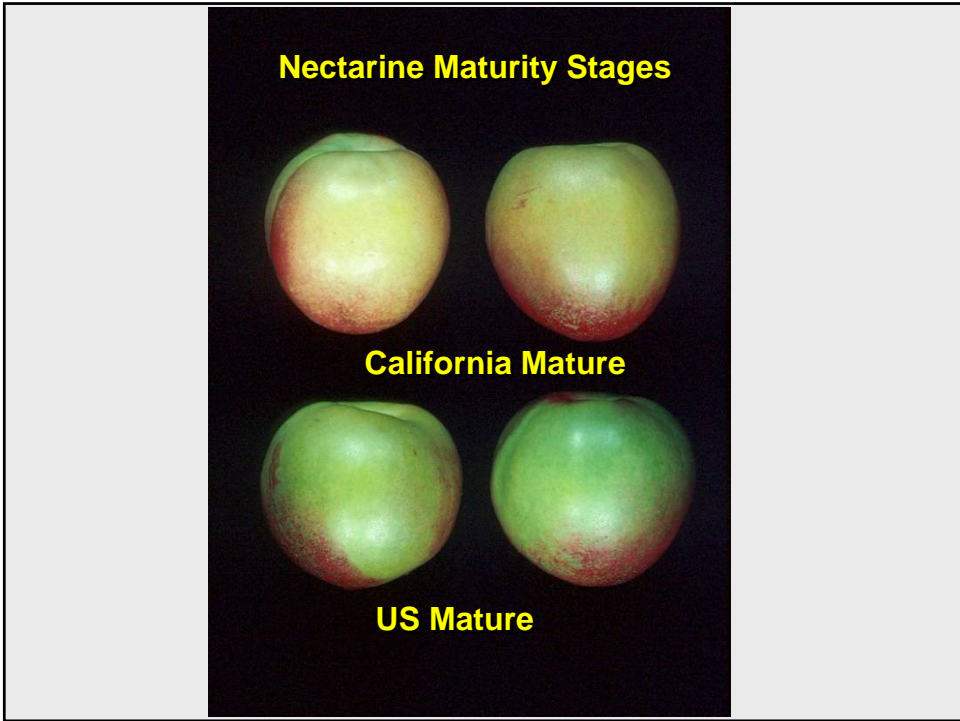
- ***2% Ascorbic Acid (vitamin C) at pH 7.0 will prevent cut surface browning***
- ***1% Calcium lactate will prevent softening***
- ***0.5% Cysteine (pH 7.0) will prevent blackening at the skin/flesh interface***

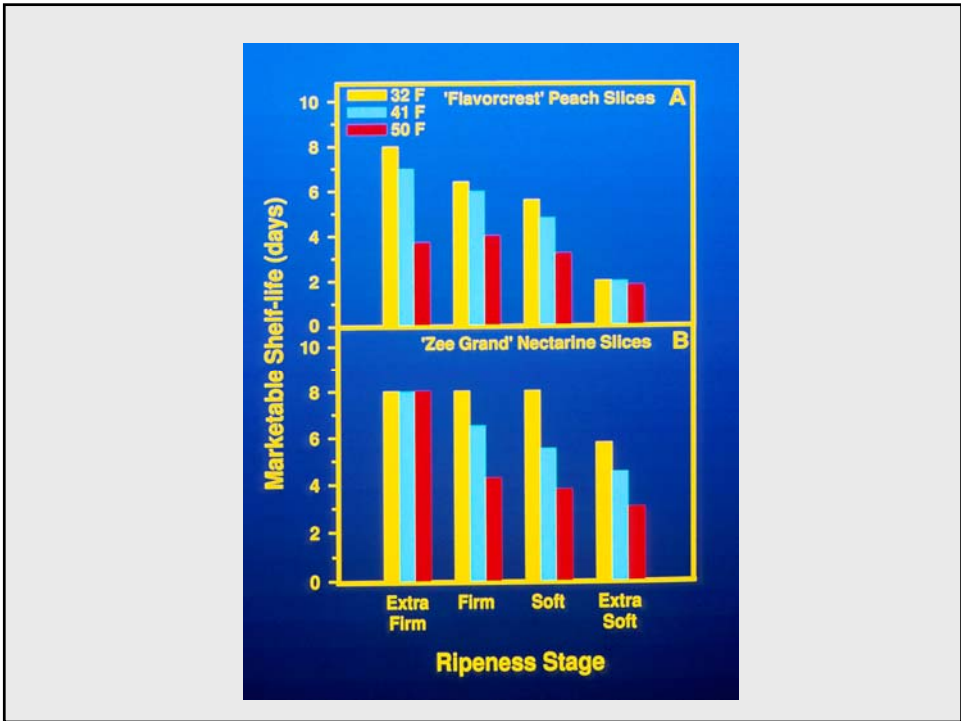
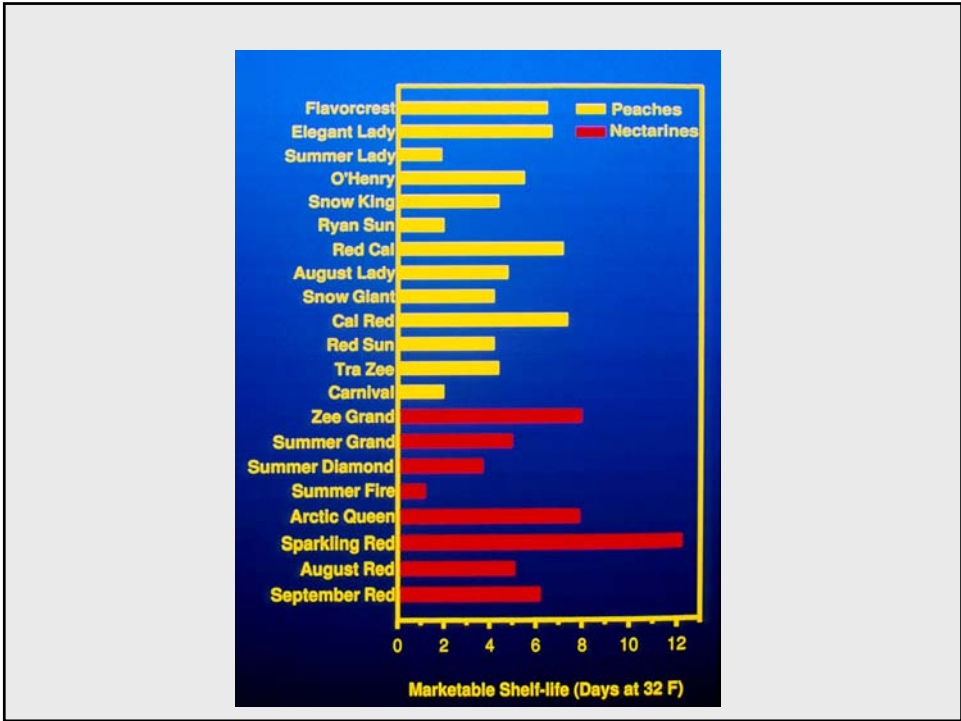
Fresh-cut Pear Process Specifications

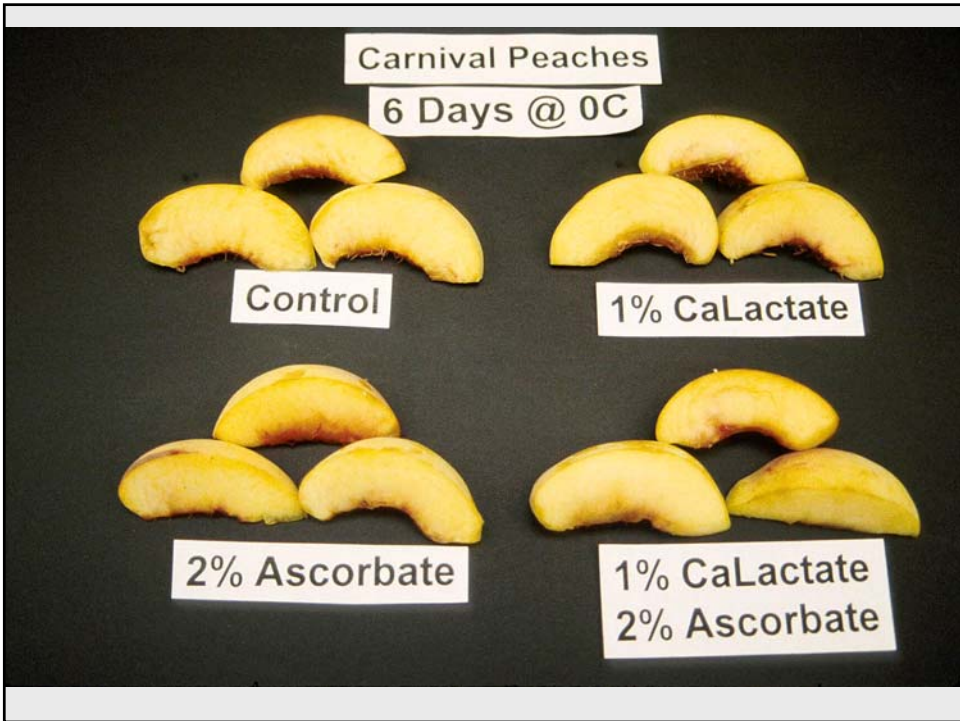
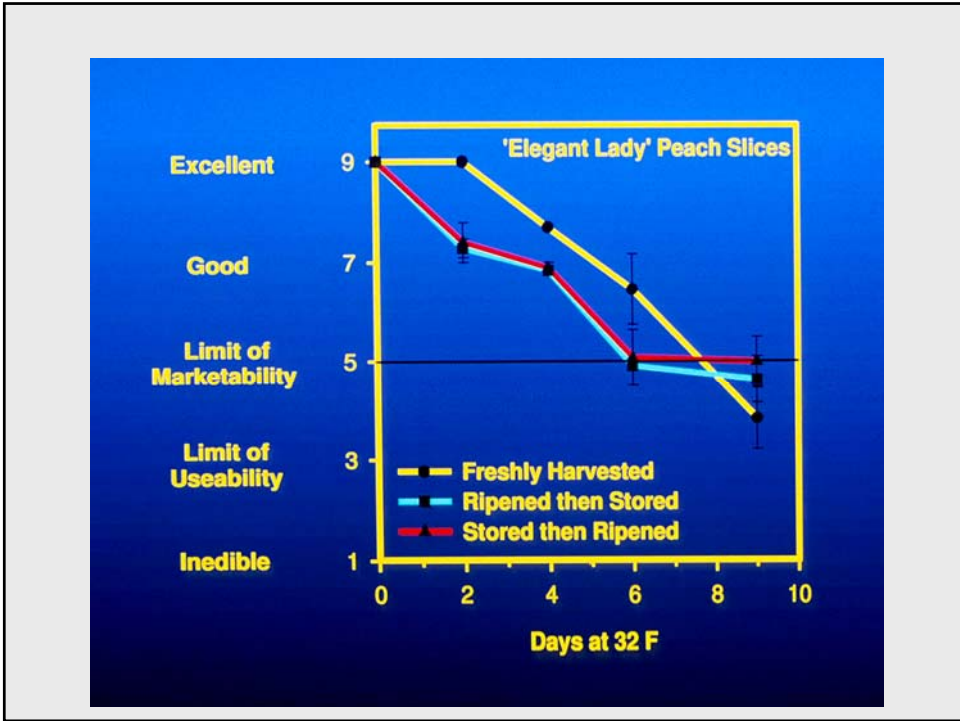
- *Use partially ripened pears (10-13 lbf firmness)*
- *Use CA (2% O₂ balance N₂) stored fruit*
- *Size: 110 – 150 Ct/box*
- *Treatment: 2% AA + 1% Ca Lactate
+ 0.5% Cysteine (pH 7.0)*
- *Packaging: Macroperforated Mylar or high OTR flexible film*
- *Store at 0°C*
- *Shelf life 7-14 days*

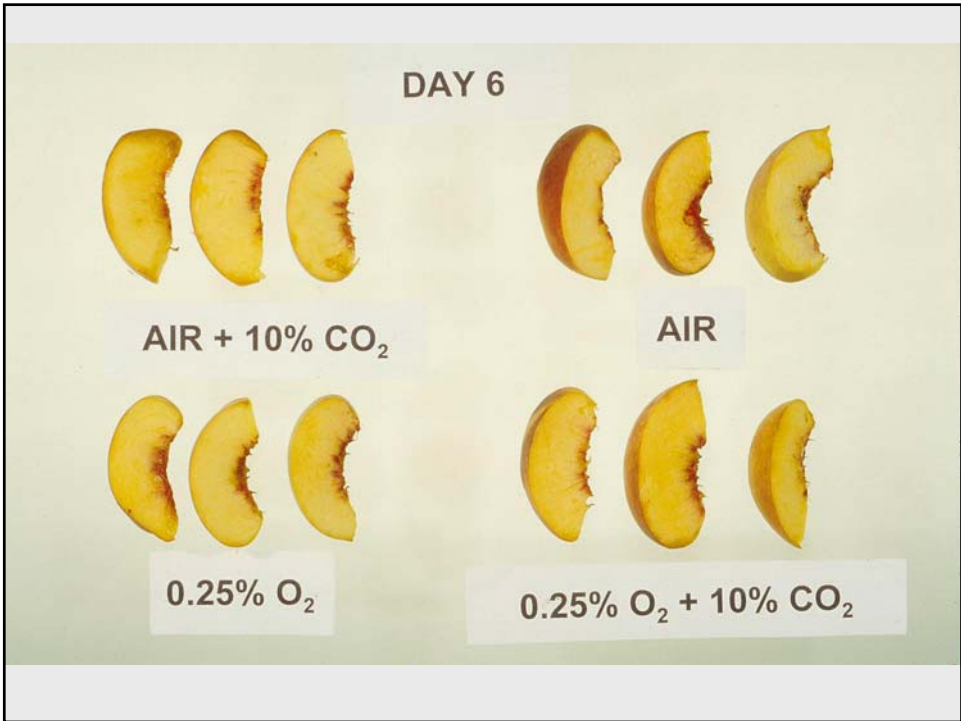
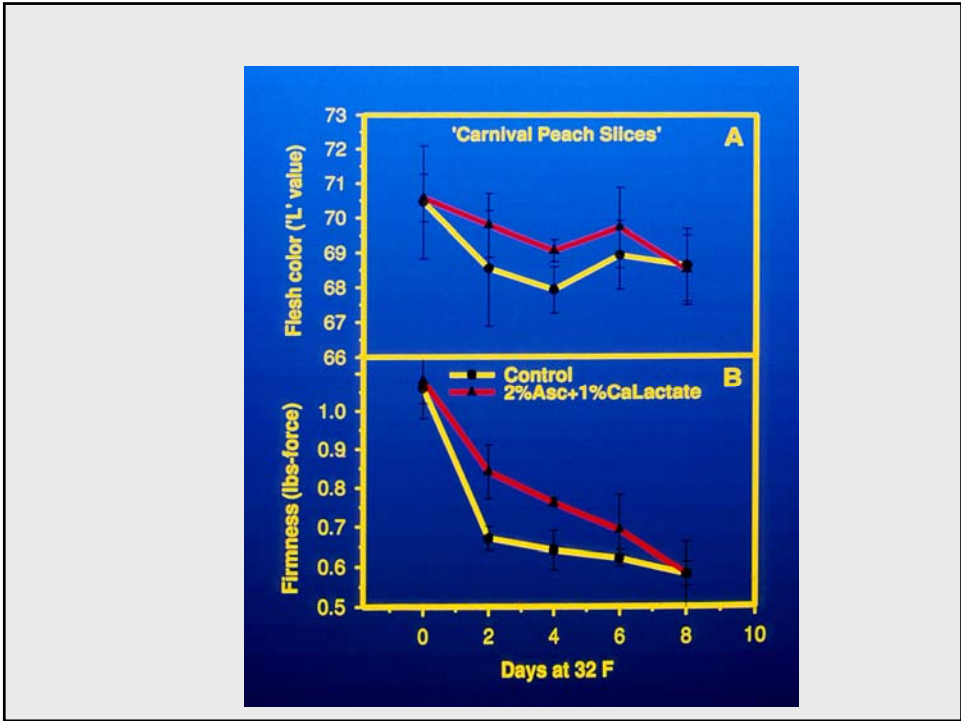
Consumer Response to Fresh-cut Pear Slices

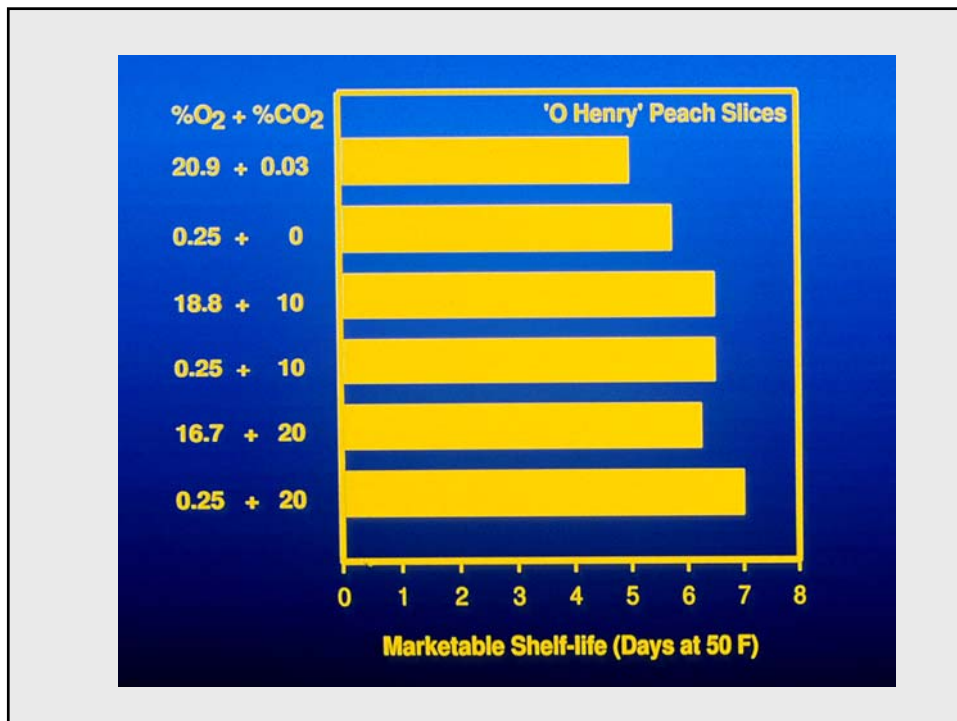
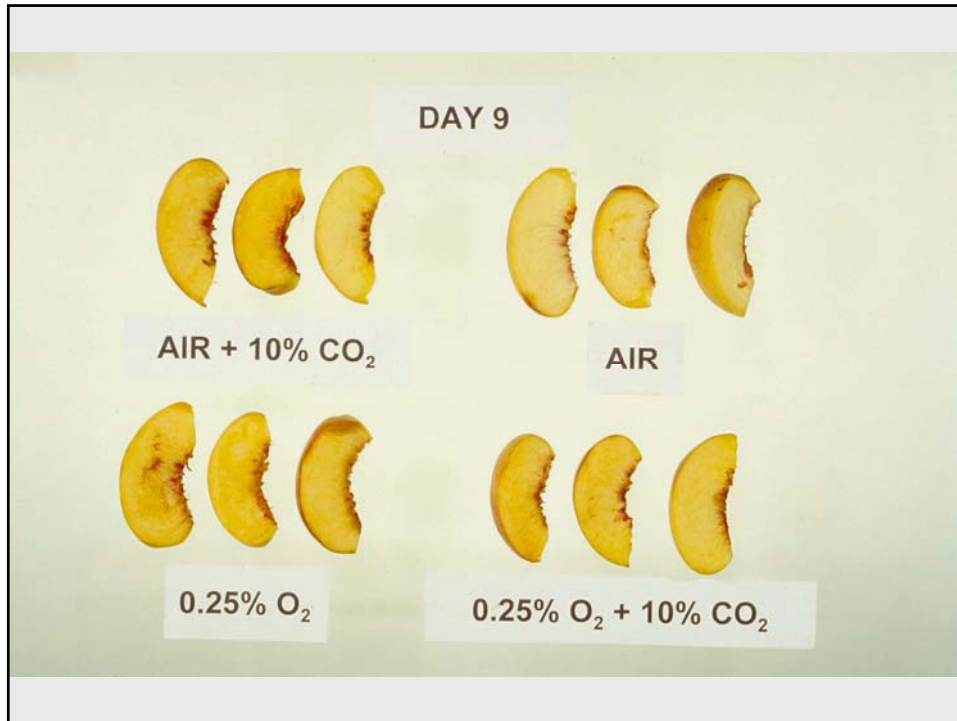


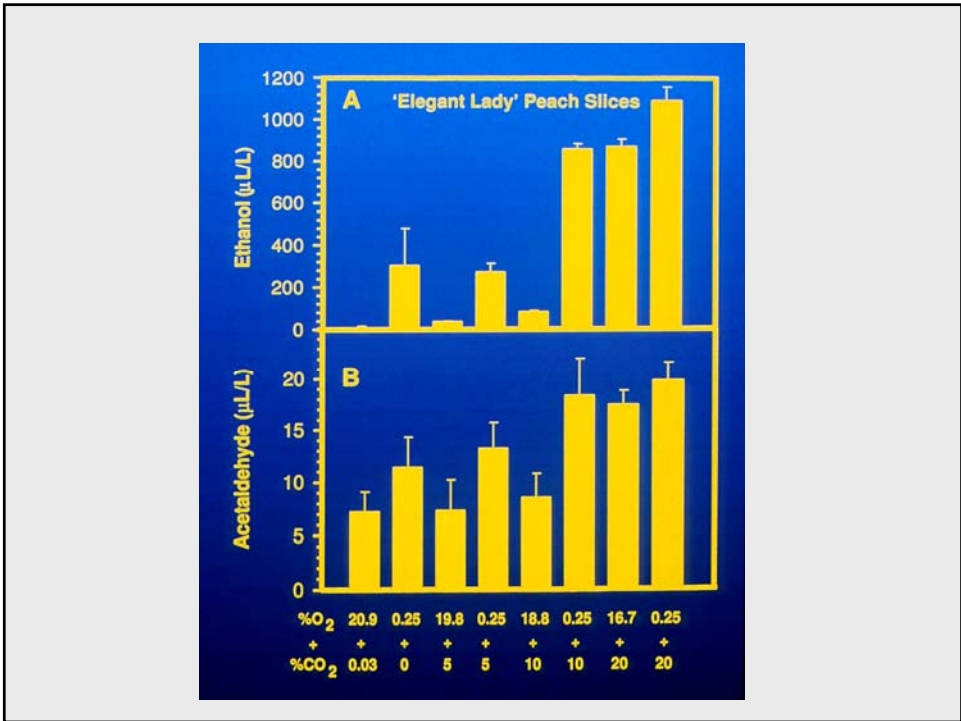
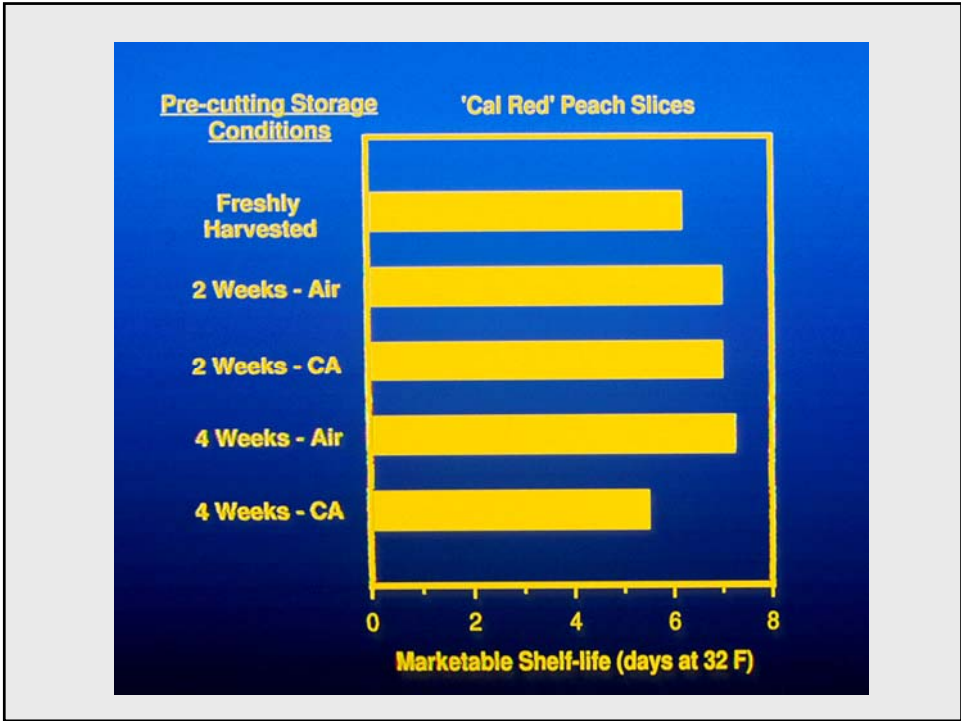












Conclusions -1

- *Optimum Ripeness: 4-7 lbs firmness*
- *Cultivars vary significantly in fresh-cut shelf-life*
- *Low O₂ and/or elevated CO₂ atmospheres do not dramatically increase fresh-cut shelf-life*
- *Chemical treatments reduce cut surface browning and firmness loss but may cause off flavors*

Conclusions -2

- *Peaches held in storage have a shorter fresh-cut shelf-life than those freshly harvested*
- *Peaches for processing should be stored ripe to reduce the incidence of internal breakdown*
- *Compared to air, CA storage of whole fruit prior to processing has no benefit*