

LifeSpan[®] for Cherries



LifeSpan[®] Modified Atmosphere Packaging (MAP)

LifeSpan[®] box liners and pallet shrouds are an innovation in post-harvest packaging that extend the storage and marketing life of fresh produce. Used commercially for over 15 years, LifeSpan[®] is a global leader in MAP products and is now an important packaging component for many of the worlds leading fresh produce exporters.

LifeSpan[®] for Cherries

LifeSpan[®] is successfully used to keep many varieties of cherry in harvest fresh condition for several weeks post harvest. Proven commercial applications using LifeSpan[®] products include premium quality storage to extend the local marketing season and for export shipping or air freight.

How it works

LifeSpan[®] MAP Packaging allows the creation of a low oxygen (O₂), increased carbon dioxide (CO₂), and high humidity atmosphere inside the package.

The oxygen and carbon dioxide permeability of LifeSpan[®] cherry products is specifically designed for the respiration rate of Cherries. The modified atmosphere created will significantly reduce the fruits respiration rate, with the following benefits.

Benefits for Cherries

- Slows senescence maintaining firm glossy skins with full colour & flavour
- Reduces moisture loss or dehydration keeping cherries harvest fresh

- Retains chlorophyll for fresh green stems
- Suppresses the onset and development of some rots and moulds

LifeSpan[®] Experience with Cherries

LifeSpan[®] box liners

LifeSpan[®] box liners maintain cherries in premium condition, and are fast and simple to pack using the patented clip seal system or tape sealing. Designed for passive modification, LifeSpan[®] liners are just as effective when gas flushed and/or heat sealed.

SUNVAC box liners

SUNVAC box liners are designed to be heat sealed as demanded by some global importers. SUNVAC offers the same premium performance as regular LifeSpan[®] liners, with improved presentation of the cherries while inside the sealed liner. SUNVAC liners are ideal where active modification (gas flushing) and vacuum packing are required.

LifeSpan[®]
Modified Atmosphere Packaging



Contacts

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LifeSpan[®] Pallet Shrouds

LifeSpan[®] Pallet Shrouds are popular with some retailers, the Pallet Shroud is an MAP system for a full pallet of fruit. This offers packing and supply chain efficiencies, reduces plastic from the retail display and provides the premium storage performance expected of LifeSpan[®] MAP.

LifeSpan[®] Experience with Cherries

The achievable post harvest life of cherries is very dependent



on variety and orchard practices. However, Bing cherries from USA and South America, Rons Seedling cherries from Australia, Ferovia cherries from

Italy and Ziraat 0900 cherries from Turkey have all been successfully stored in LifeSpan[®] for 6-8 weeks.

Post Harvest responses under MAP

Pathology

MAP involves the elevation of carbon dioxide to levels typically between 5% and 15%. In our experience with cherries these levels of CO₂ will retard the growth of some rots and moulds. However, whilst the cherries maintain a sound appearance throughout their storage in MAP, upon removal to ambient conditions, the latent infection in the fruit can grow rapidly.

In practice, it is not advisable to pack cherries in MAP if the fruit is thought to contain a significant infection spore load when harvested. For successful results from packing cherries in MAP, the cherries must have received best practice chemical treatments, both pre-harvest and post-harvest.

Surface Pitting

Does MAP cause pitting? No. The primary cause of pitting is impact damage of cells below the epidermis.

These damaged cells respire rapidly, losing nutrients and collapsing. When the cells collapse, they draw the epidermis inwards and a pit develops in the skin of the cherry. We have also identified that MAP will actually delay the formation of a pit by about 1 week, presumably due to reducing the respiration in the bruised cells.

MAP does not cause pitting. To eliminate pitting, the bruising of cherries must be avoided.

Active or Passive Atmosphere Modification?

Active Modification (gas flushing) is when a filled package is closed, then gas is injected into the package. The gas creates an atmosphere that is near the final equilibrium atmosphere from the moment the package is sealed. It does involve extra costs for the gas, the gas flushing machinery, and the labour required for slow rates of gas flushing.

Passive Modification is when a filled package is sealed, and the atmosphere subsequently modifies due to the natural respiration of the cherries.

The optimum equilibrium MAP should be the same for either active or passive modification. In most cases within 12 hours the oxygen levels from both methods of modification will converge to <10%, and after 24 hours the carbon dioxide values will be within 2% of each other. They maintain the same equilibrium atmosphere of oxygen and carbon dioxide over a 6 week period.

Trials on Bing cherries have shown the slight delay in establishing the equilibrium atmosphere via passive modification has no impact on Storage Life after 4 and 6 weeks storage.

Importance of pre-cooling & cool-chain management

Good temperature management commences the moment produce is harvested. LifeSpan[®] is designed to work at a pre-determined temperature range (0-2°C / 32-36°F for Cherries), so it is important produce is cooled before packing.

Maintaining the cool-chain at the designated temperature range throughout storage and distribution is essential for maximising LifeSpan[®]'s benefits. It is important that the LifeSpan[®] liners or Pallet Shrouds are opened when the produce is removed from the cool-chain for any significant period of time.

How LifeSpan[®] can add value to your Cherries

- Increases storage time offering a longer marketing season
- Creates options for sea and land freight to replace costly airfreight
- Maintains quality and sales value throughout the distribution chain
- Enhances supplier reputation through delivery of superior quality product

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