



# STONE FRUIT

## THE CHALLENGES OF TRANSPORTING STONE FRUIT

Stone fruit is a very valuable and sensitive commodity that is subject to gray mold (*Botrytis*), Rhizopus rot, and internal breakdown from the moment it is harvested. Estimates for post-harvest losses run as high as 10%–30% annually.



To maintain fruit quality during transport, gas-injection controlled atmosphere (CA) technologies and fungicide treatments have been employed. Traditional CA methods slow respiration, but they do little to prevent decay. Alternatively, fungicides can be effective in combating molds, but they leave residues on the fruit that are undesirable to consumers, and resistance is increasing to such treatments. These shortcomings—combined with extended time to market and consumer demands for safe, chemical-free perishables—have prompted the industry to seek alternatives for maintaining fruit quality when leveraging ocean transportation.

## THE VALUE OF PURFRESH TRANSPORT

Consistently outperforming alternatives in side-by-side comparisons, Purfresh Transport™ promotes higher-quality arrivals by maintaining freshness and extending the shelf life of fresh produce during ocean transport. Purfresh delivers where traditional atmosphere management systems and antimicrobials fall short by providing the unparalleled combination of superior ripening control with 100% residue-free decay prevention and enhanced food safety. The industry’s only ozone-based, active atmosphere management solution, Purfresh Transport constantly monitors and dynamically manages the environment inside the reefer container throughout the voyage—providing the ability to ship even highly sensitive fruits and vegetables long distances. With Purfresh Transport, the value is clear:

- Prolonging shelf life increases value for the consignee as well as the retailer.
- Minimizing waste increases returns and reduces claims processing costs.
- Maintaining freshness over longer distances enables importers/exporters to reach and develop new markets.

## BENEFITS

- Maintains freshness
- Extends shelf life
- Outperforms CA and MA
- Minimizes waste and repack
- Reduces claims processing
- Helps reach and develop new markets

## FEATURES

- 100% residue-free decay control
  - Kills surface and airborne microorganisms
  - Stops nesting of decay
  - Shuts down mold sporulation
- Controls ripening by consuming and regulating ethylene
- Maintains produce pressure
- Does not impact natural characteristics of produce
- USDA and FDA approved
- Certified organic

### Importer/Exporter Value Calculator

#### Traditional MA Value

Ripening Control \$1,600

Total Value: \$1,600

#### Purfresh Transport Value

Ripening Control \$1,600  
 Reduced Waste 1,140  
 Avoided Claims Processing 300  
 Reduced Grade Degradation 1,728  
 Reduced Repack 180  
 Increased Marketability 1,600

Total Value: \$6,548

**Value = \$6,548**  
per shipment of stone fruit

Assumptions: Container value of \$30,400; 75% reduction in typical seasonal averages for waste, grade degradation, and repack; 50% reduction in claims; 20% average increase in marketability.



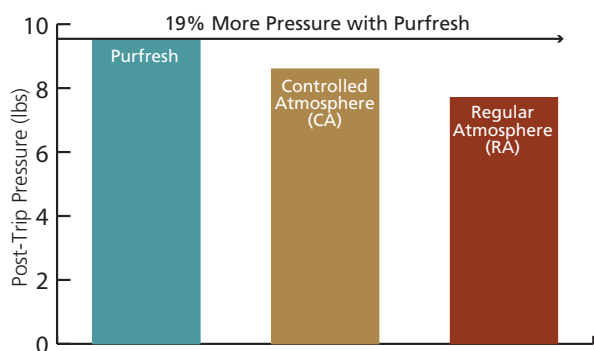
HOW DOES IT WORK?



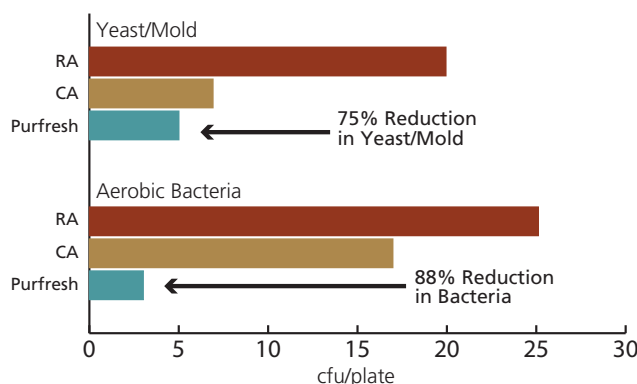
Purfresh Transport—scientifically engineered as an active atmosphere management system—is the only solution proven effective to control ripening and reduce decay without the use of chemicals. Its patented technology uses powerful ozone molecules to kill molds, yeasts, and bacteria in the air and on surfaces by up to 99%, as well as to consume and regulate ethylene levels. After doing its work, ozone immediately reverts to pure oxygen, leaving the product’s taste, texture, and smell characteristics in their natural state. To optimize the container’s atmosphere throughout the voyage, Purfresh Transport intelligently reacts to changes in the organic load of the cargo (such as microbial load, VOCs, and ethylene levels) and changes in the environmental conditions (such as temperature). Unmatched in the industry, Purfresh Transport delivers what no other solution can—a chemical-free approach to extending shelf life, minimizing waste, and maintaining the quality of fresh produce during long-range transport.



FRUIT FIRMNESS



MICROBIAL POPULATIONS IN STONE FRUIT DURING TRANSPORT



Source: Customer nectarine shipment from California to Taiwan, 2008.

PURFRESH TRANSPORT—COMPARE THE VALUE

	PURFRESH TRANSPORT	OTHER APPROACHES
REDUCES DECAY/KILLS BACTERIA, YEASTS, & MOLDS	Yes	No
CONTROLS RIPENING	Yes	Yes
KILLS MICROBIAL POPULATIONS TO ENHANCE FOOD SAFETY	Yes	No
DISINFECTS CONTAINER (MICROBES & ODOR)	Yes	No
CONTAINER AVAILABILITY	Works with new and old containers	Require leakproof containers, which have limited availability

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