RYPEN® Leaf

A paper-backed insert ideal for adding to bulk cases or liners, sized to suit crop-specific ethylene levels during storage & transport.

Pack smart.
Protect more.
Waste less.

About RYPEN®

RYPEN Technology captures ethylene, without the need to block receptors or to oxidise the molecule through chemical reactions. The effects of ethylene are gently moderated, allowing continued natural ripening development at a slower rate.

With RYPEN, fresh produce can be stored, or shipped, with less deterioration in condition. This reduces deductions and wastage, leading to improved financial returns.

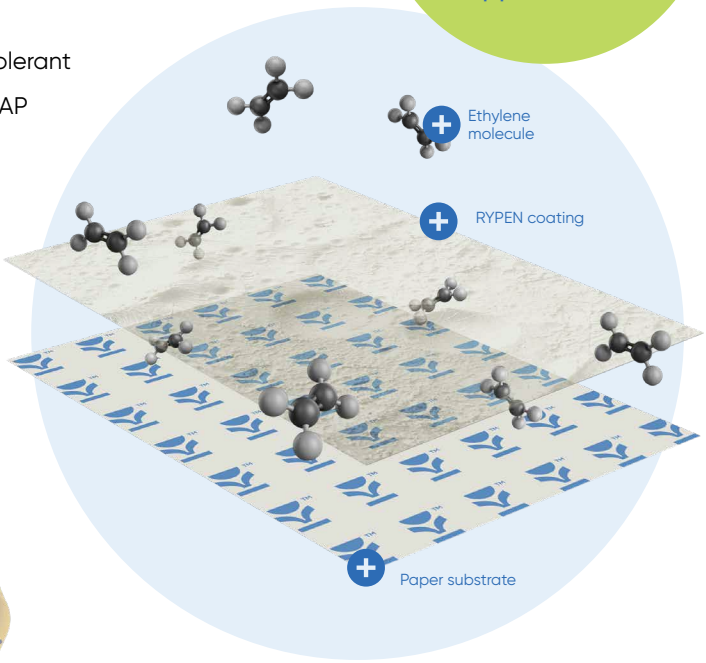
The RYPEN® Leaf

A smart, drop-in insert designed to safeguard fresh produce from over-exposure to ethylene.

Available in two sizes and can be easily scaled up or down depending on requirements.

- Add to any case or bag
- Selective ethylene capture
- High capacity
- Moisture & sulphur tolerant
- Suitable for use in MAP

Paper substrate with **RYPEN®** Technology coated on one side, for extended storage or transit applications.



Protect condition & deliver a better consumer eating experience with RYPEN®

Ethylene's role in the entire produce & plant life cycle

Sugar & acids development

Anthocyanins & carotenoid production (colour development)

Aroma, flavour, & texture development

Chlorophyll degradation

Fruit decay & senescence

FRUIT

Seed germination

Fruit onset

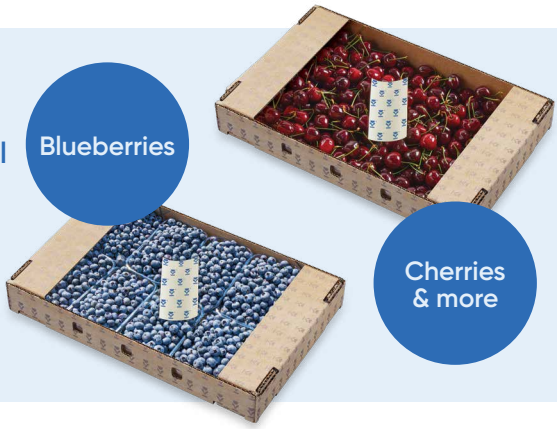
PLANT

Vegetative growth

Abscission

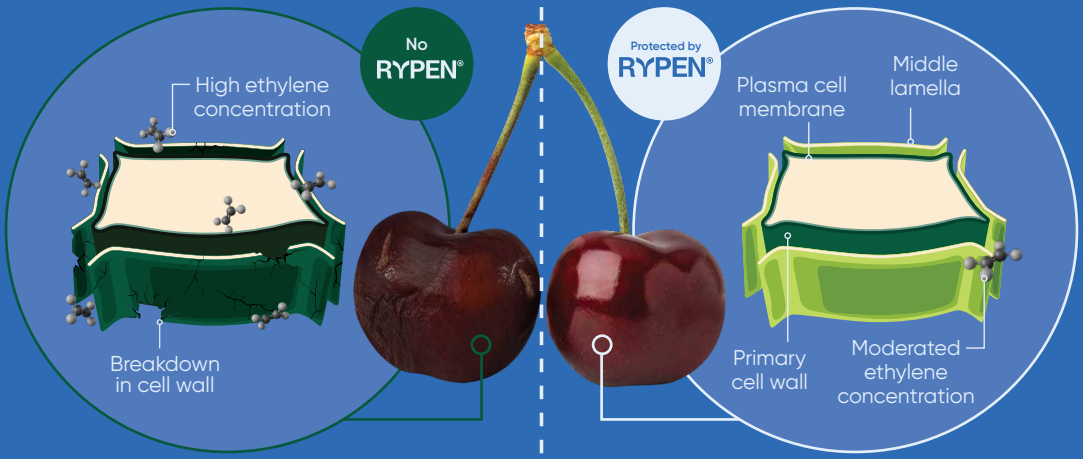
Flowering & reproductive growth

The RYPEN® Leaf is designed to integrate directly into existing retail packing operations.



Sweet cherries & ethylene

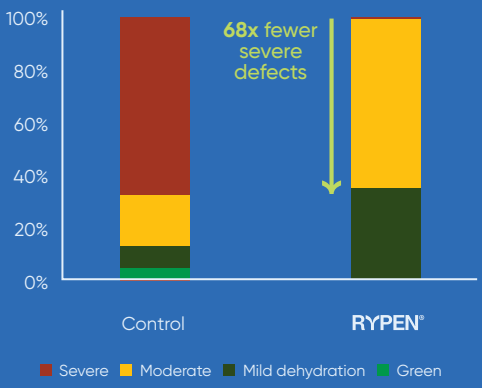
Recent research shows cherries emit ethylene, challenging previous assumptions. During prolonged storage and transit, this ethylene accumulates, with stem browning as the first visible sign—followed by increased vulnerability to defects that compromise fruit quality and shelf life.



RYPEN® protects sweet cherries from excessive ethylene build-up during extended storage & transit

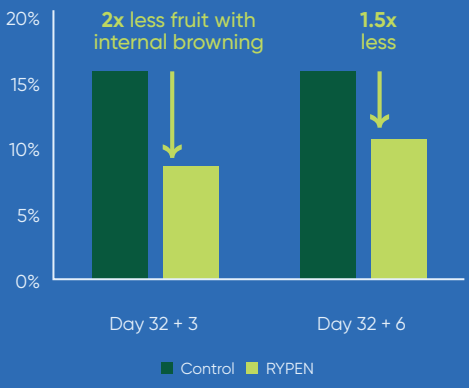
Maintain firmer pressures and reduce defects—enabling growers and exporters to maximise returns across global cherry markets.

Distribution of stem dehydration on day 39 +5



Variety: Regina | Chile to Taiwan[1]

Number of cherries with internal browning

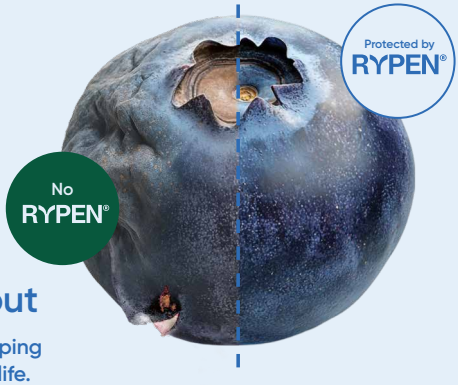


Variety: Regina | Chile to China[2]

[1] Chile - Taiwan | 2025 | 39-days (0.5 °C) +3 days & +5 days (15 °C) | Transit & shelf-life trial | RYPEN group packed in 2.5kg MAP bags, with single 80G RYPEN Leaf | Control group packing was replicated but with no ethylene control. | [2] Chile - China | 2025 | 32 days (0.5 °C) +6 days (15 °C) | Transit & shelf-life trial | RYPEN group packed in 2.5kg MAP bags, with single 80G RYPEN Leaf | Control group packing was replicated but with no ethylene control.

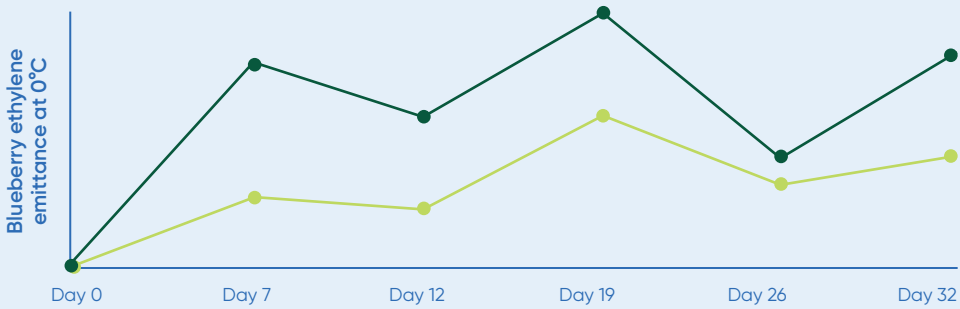
Blueberries & ethylene

Even small volumes of ethylene exposure can lead to the onset of condition-related defects in blueberries, such as a loss of firmness and an increase in shrivel.



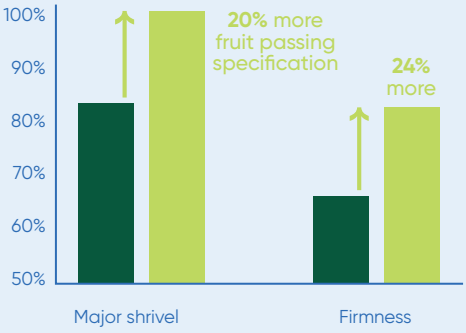
RYPEN® reduces ethylene output

This is indicative of metabolically younger fruit, helping delay condition-related defects and extend shelf-life.

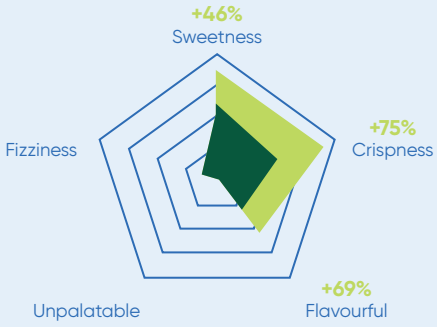


Variety: Cargo, Fall Creek® Genetics™ | Chile[3]

Number of blueberries passing specification[4]



Sensory profile of blueberries[5]



Control RYPEN

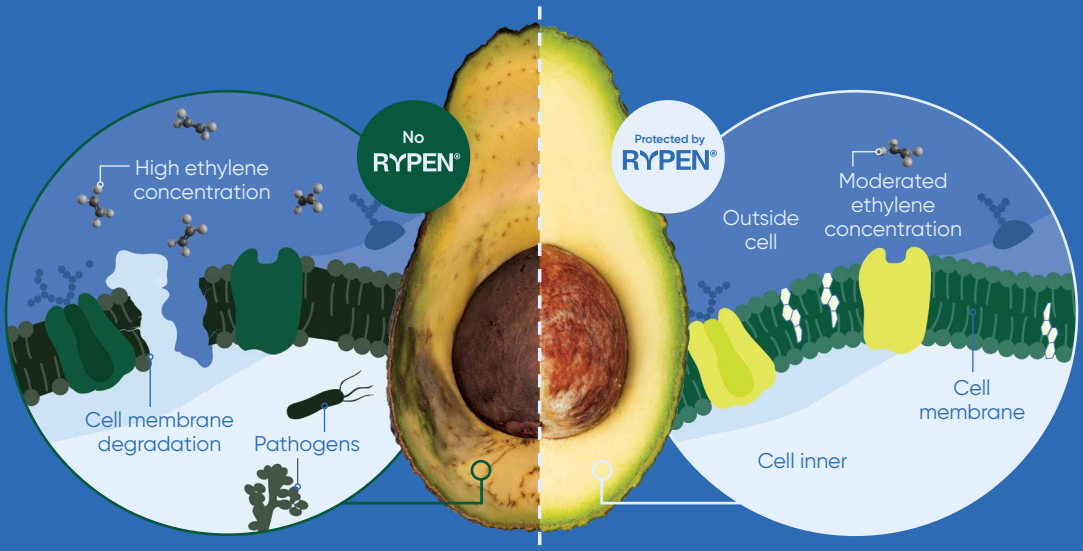
Variety: Ozblu® Julieta | South Africa | 35 days

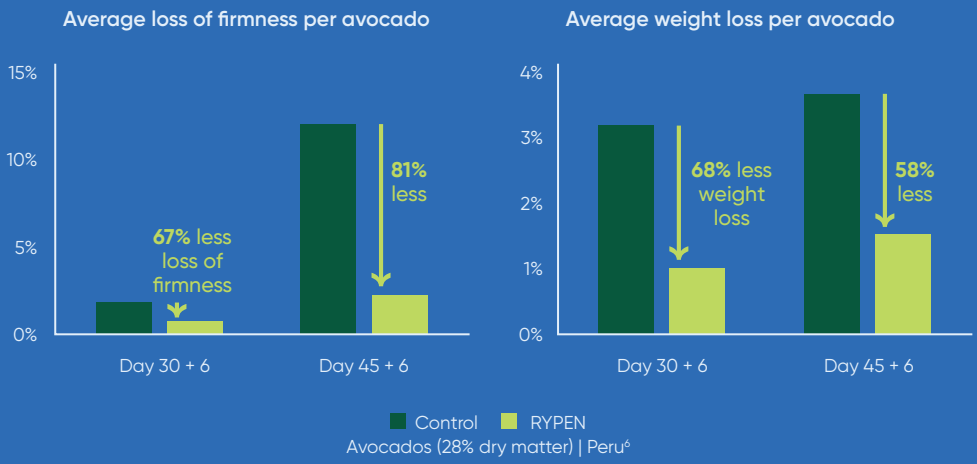
[3] Chile | 2022 | 32-days (0°C) storage trial | RYPEN group packed in 2.5kg MAP bags in cardboard boxes, with single RYPEN Leaf added to each box | Control group packing was replicated but with no ethylene control. | [4] South Africa | Independent trial conducted by Experico | 2023 | 35 days (-0.5°C) storage trial | Major shrivel result 4kg Lug | RYPEN group packed with RYPEN Leaf only | Control group packed with SO_2 Sheet only | Firmness result 3.5kg carton | RYPEN group packed with RYPEN Case liner only | Control group packed with SO_2 Sheet only. | [5] South Africa | Independent trial conducted by Experico | 2024 | 35 days (-0.5 °C) storage trial | RYPEN group packed in 5kg RYPEN Case liners, MAP & SO_2 | Control group packed with pallet shroud only.

Avocados & ethylene

High concentrations of ethylene post-harvest can lead to excessive levels of Reactive Oxygen Species (ROS), triggering oxidative stress reactions in the avocado.

This can activate lipid-degrading enzymes—like liposygenases—which compromise cell membrane integrity. As the membrane weakens, pathogens can more easily enter the cells, accelerating the onset of decay.





[6] Peru | Independent trial conducted by UNALM fruit laboratory | 2023 | Static trial | Cold-storage (6°C) 30 days & 45 days | Room temperature (5% O_2 & 5% CO_2) 6 days | RYPEN group had RYPEN Leaf added per box of avocados | Control group packed in the same way, without ethylene control technology.