

# Fresh Inset with its brand Vidre+

Protection for fruits and vegetables.

## What is Vidre+™? Fresh Inset's Technology explained.

Tim Malefyt · Wednesday, May 31st, 2023

Food waste is a massive global problem related to human suffering, economic inefficiency and environmental issues. From an environmental perspective, food waste is globally considered to be the 3rd largest greenhouse gas emitter. In Fresh Inset, we are driven by the purpose of battling this issue. That is why we have developed effective and easy-to-use Vidre+™ technology which optimizes the freshness and quality of produce for retailers and final customers. Our estimates indicate that Vidre+™ could save up to 9,46 mln tonnes of fruits and vegetables annually.

Today I would like to walk you through a short breakdown of key terms associated with Vidre+™ delivery system and explain why we believe that it is a breakthrough technology.

### What is Vidre+™?

It is a simple-to-use sticker format for produce freshness protection. It works on raspberries, pears, apples, avocados, blueberries, mushrooms, tomatoes, and many more crops. Even freshly cut flowers can easily be treated. Simple stickers are placed on the packaging or the produce itself and protect it from the negative effects of ethylene all through the supply chain by **timed and gradual** release (inside the packaging) of the protectant called **1-MCP**. Usage of Vidre+™ is as simple as possible – it does not require any change to the existing packaging and shipping process.

### What is ethylene?

It's a gas and natural plant hormone that plays an important role in starting the ripening process in fruits and vegetables. After harvesting its presence in stored or packaged produce accelerates several degradative processes which lead to quality loss and ultimately to produce that is unfit for the market. That's why we need **1-MCP** to slow down this process.

### So what is 1-MCP?

**1-Methylcyclopropene (1-MCP)** is a synthetic compound used in agriculture to delay the ripening process of fruits and vegetables. It works by blocking the effects of **ethylene**. 1-MCP has been used worldwide for about 20 years and is Generally Regarded As Safe (GRAS) by the U.S. Food and Drug Administration. **However Vidre+™ delivery system provides a next-generation application of 1-MCP, which is a game-changing technology.**

## **Next generation 1-MCP usage. Timed, gradual, and accessible.**

1-MCP is a gas, just like ethylene. Older generation products utilizing 1-MCP are applied in powder form which turns into gas upon contact with water. These older-generation products have to be used in sealed sites or containers for 24 hours. This generates a number of challenges, for example:

- **Immediate release** so that the gas escapes to the atmosphere resulting in exposure time that may be too short for accurate treatment time.
- **Dosing flexibility**, each species or variety of produce requires a different dose of 1-MCP.
- **Packing Limitation**, 1-MCP powder requires sealed rooms, bags or boxes – most shipping and retail containers have ventilation holes or micro-perforations.
- **Application Leftovers**, protection leftovers must be disposed of; strict safety disposal rules may apply.

1-MCP application in Vidre+™ on stickers, which is next-gen. technology overcomes the above challenges. **Gradual & timed release** mechanism provides a measured release of 1-MCP for up to 30 hours. Release over time provides adequate time to adequately bind to receptor sites to provide protection of the produce during the supply chain process. In addition, Vidre+™ technology is convenient, affordable, and easily used without the need to change post-harvest and logistics processes.

**The bottom line is:** you can easily change a box, carton, clamshell, etc. from just a package into a smart freshness system – and you do not need sealed environment infrastructure or qualified application staff. After 48 hours there is no residue of 1-MCP. As a result, the product is delivered

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to customers with higher quality and greatest freshness.

To sum up. By embracing Vidre+™ technology we increase our chances of revolutionizing the fight against food waste while delivering unparalleled freshness and quality of fruits and vegetables for the good of the planet, food industry and final consumers.

If you are eager to expand your knowledge about Vidre+™ technology, follow us on [LinkedIn](#) or get in touch with [krzysztof.czaplicki\[at\]freshinset.com](mailto:krzysztof.czaplicki@freshinset.com).