



Catalogue

smartPac
ACTIVE PACKAGING



smartPac

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What is SmartPac?

SmartPac is an **active packaging** system based on polyethylene sheets and bags, into which sodium metabisulfite ($\text{Na}_2\text{S}_2\text{O}_5$) particles have been incorporated. When these particles come into contact with the natural moisture of the fruit, they generate a controlled release of **sulfur dioxide (SO_2)** within the package.

This **SO_2** acts as an antifungal agent, inhibiting the development of pathogens such as *Botrytis cinerea*, the main cause of post-harvest decay.

By being integrated directly into the plastic material, **SmartPac provides uniform, continuous**, and controlled

protection throughout storage, transportation, and distribution.

This helps keep the fruit fresh, healthy, and with better visual quality for longer, reducing losses and improving logistical efficiency.



Key SmartPac Features



HIGH RELATIVE HUMIDITY

PRESERVES FIRMNESS

FUNGAL CONTROL

VERSATILE AND ADAPTABLE
TO DIFFERENT CONDITIONS

SMARTPAC IS THE MOST EFFICIENT, EFFECTIVE, AND USER-FRIENDLY WAY TO PACKAGE YOUR FRUIT.

BENEFITS OF SMARTPAC



EFFECTIVE FUNGAL CONTROL



EXTENDED FRESHNESS AND FIRMNESS



DESIGN ADAPTED TO YOUR COOLING TIMELINES



COMPLIES WITH REGULATIONS FOR FOOD-CONTACT PACKAGING



THE ONLY 100% RECYCLABLE SOLUTION

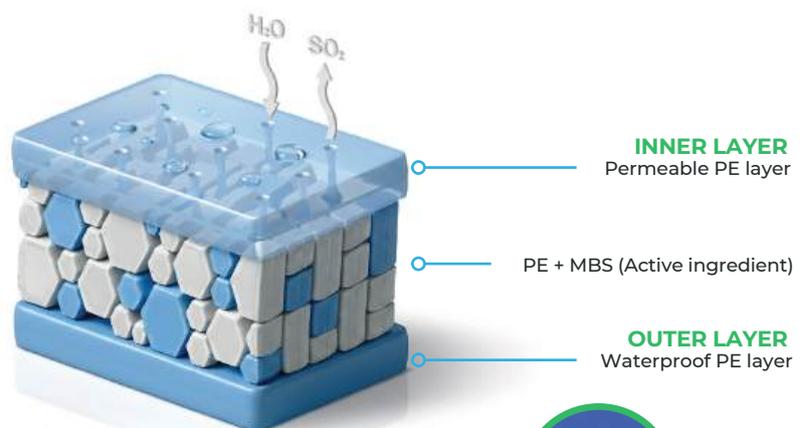


HOW DOES SMARTPAC WORK?

SmartPac technology incorporates **sodium metabisulfite**. Upon **contact** with the fruit's moisture, it generates a **homogeneous and**

constant release of sulfur dioxide (SO₂) for fungal control. It also acts as a barrier that maintains the high humidity necessary to preserve freshness.

Multilayer Technology:



MICROSCOPIC CROSS-SECTION

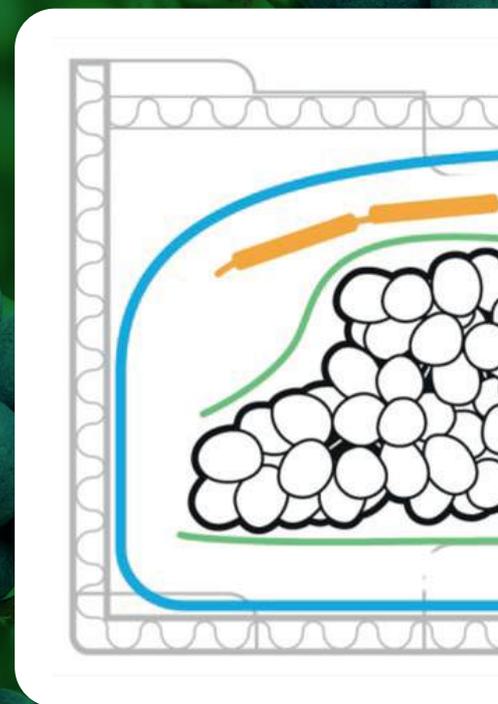


An alternative to traditional packaging

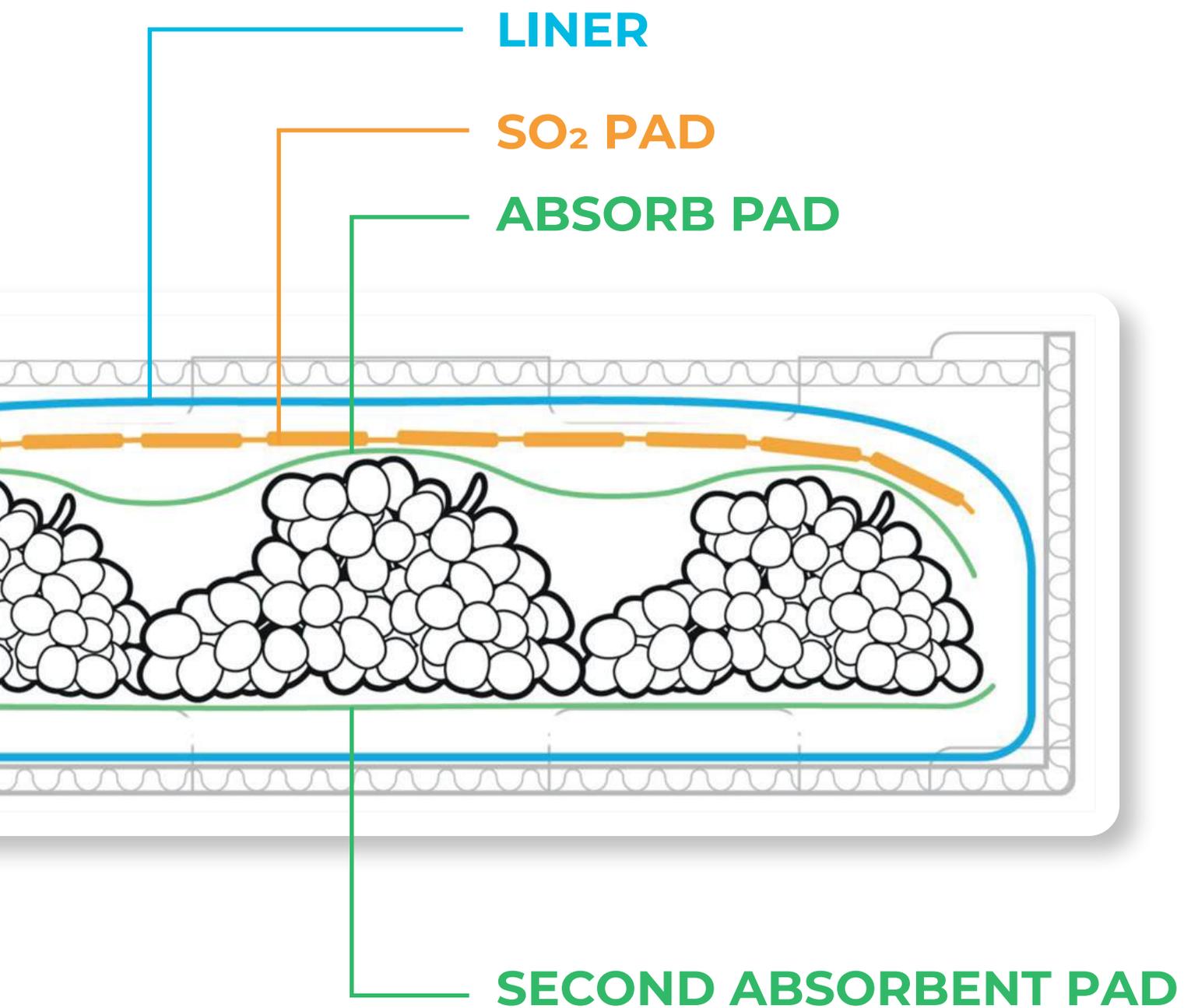
Traditional systems often rely on various devices and layers to protect the fruit, **delaying the packing process**, cooling, and Sulfur Dioxide diffusion, while increasing labor, cooling, and storage **costs**.

Furthermore, it **requires higher SO₂ concentrations** to penetrate these layers and achieve fungal control.

SmartPac offers effective protection from a single element, streamlining the operational process and cooling, while optimizing SO₂ availability in the fruit.



Traditional system



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QUIMAS
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OUR **PRODUCT LINE**

BLUEBERRIES

Perforated Bag

SmartPac is available as a perforated bag with **SO₂ release**, allowing for rapid handling of the **packing process**, reduced **precooling** times, lower dehydration, and efficient **fungal control**.

Additionally, the bag can be **heat-sealed** to meet commercial requirements.

Perforated Bag	Box size	Bag size	Target Market	Ventilation
PTBAG042	24x32	59,5x38	Europa	0,10%
PTBAG043	25x40	72x44,5	Europa	0,10%
PTBAG052	40x60	102x57	Europa	0,10%
PTBAG034	25x40	72x44,5	EEUU	0,30%

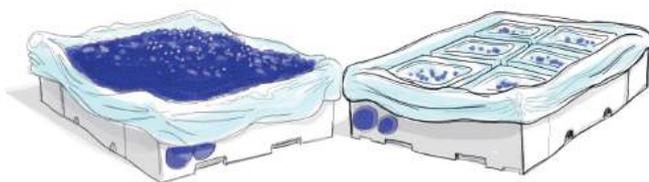
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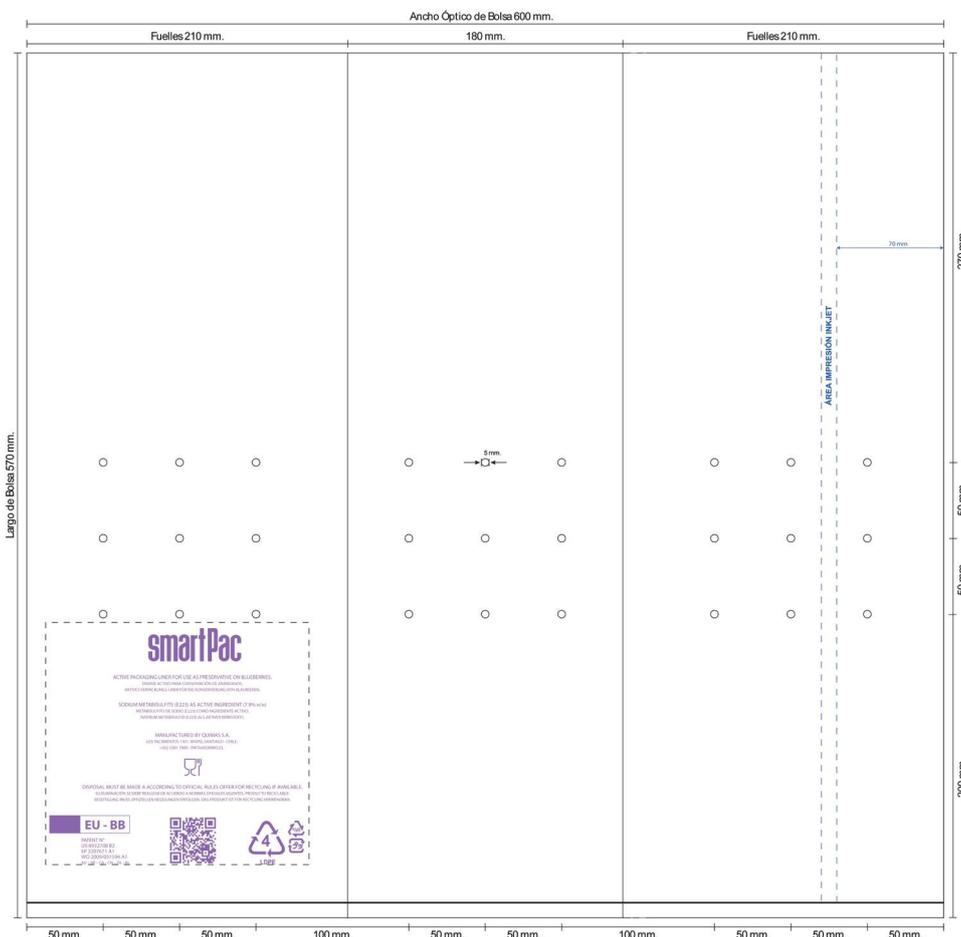
Direct Fumigation

USDA-approved vented design that allows for **Methyl Bromide** fumigation without opening or **handling** the box.

Cooling tunnel efficiency

Its vented design allows **forced airflow** to pass through the packaging system (box and bag), coming into direct contact with the fruit.

This guarantees efficient **heat removal**, achieving a rapid and **homogeneous** temperature reduction.



PTBAG052
Pantone 265C
Version 2 08/2023

Modified atmosphere bag

Passive Modified **Atmosphere technology**, generating a high-humidity environment with controlled gases (Oxygen and Carbon Dioxide).

This environment, combined with the SO₂ generated by the bag, minimizes weight loss and controls decay, ensuring your fruit remains firm, hydrated, and protected for longer.

Bag AM	Box size	Bag size	Target Market
PTBAG089	25x40	72x49,5	Europa
PTBAG032	24x32	59,5x43	Europa

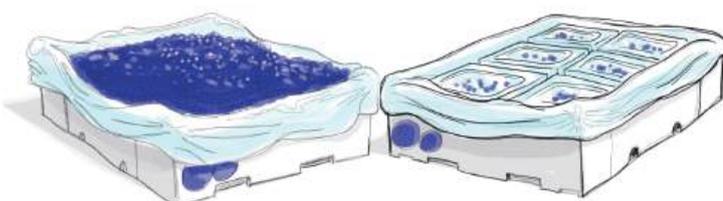
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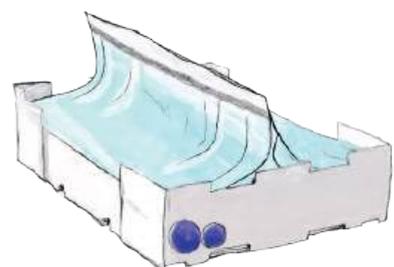
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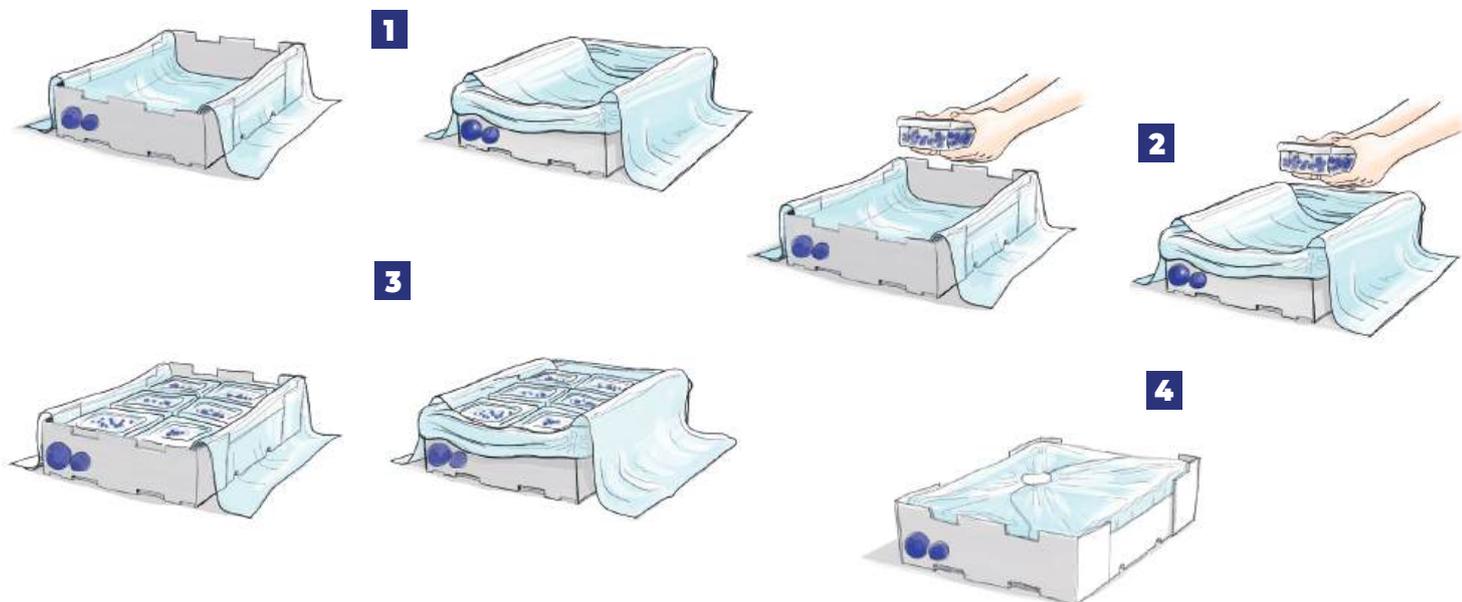


Wrap

It is a sheet that allows wrapping the fruit or its primary packaging, punnets or clamshells, creating a **physical barrier** that protects the fruit while releasing **sulfur dioxide** across its entire surface. A **high-efficiency** solution for packing and the cooling process.

To facilitate the metabisulfite reaction and control fruit dehydration, **it is recommended for use in combination with a box liner or pallet bag.**

wrap	Box size	Wrap size	Target Market	Ventilation
PTLAM015	25x40	37x75	EEUU	0,90%
PTLAM023	25x40	24x109	EEUU	0,90%
PTLAM018	30x50	45x74	EEUU	0,90%
PTLAM604	24x32	30x64	Europa	No tiene



Sheet

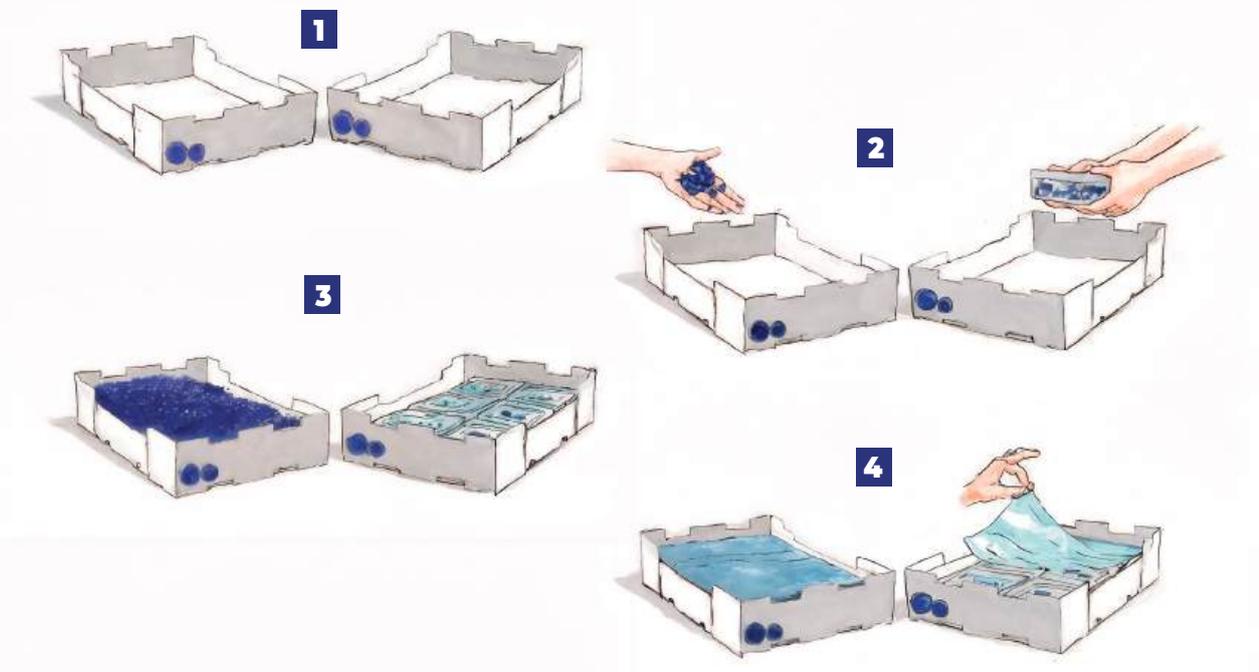
It is the **simplest** solution in our range. It consists of a plastic sheet that releases **SO₂ across its entire surface**; it is symmetrical, so it can be used on **both sides**.

It is **extremely fast to install** and **does not interfere with airflow**, so it **does not affect cooling time**,

providing constant and efficient protection during post-harvest.

For dehydration control, it must be used in conjunction with a box liner or pallet bag. It can also be combined with **conventional modified atmosphere bags**.

Sheet	Box size	Sheet size (cm)	Target Market
PTLAM641	24x32	21x300	Europa
PTLAM600	40x60	39x59	Europa
PTLAM019	25x40	24x37	EEUU
PTLAM602	40x60	39x59	EEUU
PTLAM020	25x40	24x37	EEUU



Smartpac Pallet System

Configuration designed to provide **complete protection** through the simultaneous action of **active and passive** elements. By complementing pathogen control with moisture retention, it protects

your fruit's quality against the main causes of decay, maintaining the **speed and efficiency** of the packing line intact.



Pallet Sheet

Its wrapping design ensures **superior SO₂ distribution** within the pallet, **controlling decay** and helping to **reduce dehydration**. Thanks to its structure that facilitates airflow in forced air cooling systems, it

protects your fruit's health **without affecting cooling speed**. It is used as a complement to the **SmartPac Pallet Cover**.

Pallet Sheet	Sheet size	Target Market	Ventilation
PTLAM016	100x120	240x285	0,10%
PTLAM003	100x120	240x285	0,30%



Pallet Cover

External complement designed in two ventilation formats: **0.1% and 0.3%**, to maximize your fruit's conservation. This **physical barrier** mitigates dehydration and preserves

firmness, without affecting cooling times. It is the ideal **complement to the SmartPac Pallet Sheet**, providing a comprehensive and cost-effective solution.

Pallet cover	Pallet size	Pallet Cover Size	Ventilation
PTBAG0827	100x120	240x285	0,10%
PTBAG0828	100x120	240x285	0,30%





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OUR PRODUCT LINE

TABLE GRAPES

Macro-perforated Bag

The **SmartPac** bag is the most complete and efficient packaging solution. It significantly **accelerates processing speed** and, thanks to its optimized **ventilation** (0.1-0.9%), protects the fruit from dehydration and decay.

It improves presentation without generating waste, and its **multilayer technology** allows for a **homogeneous release** of sulfur dioxide, avoiding peaks that damage the fruit.

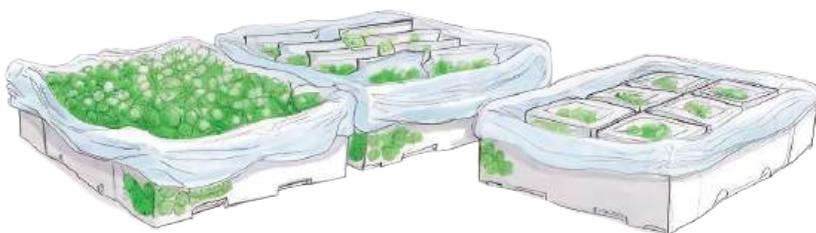
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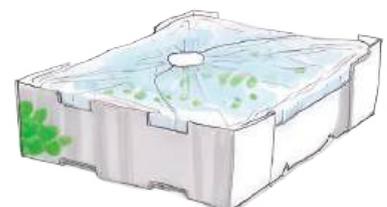
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Box Bag 30x40	Bag size	Target Market	Ventilation	MBS Grams
PTBAG701	72x49,5	Europa	0,10%	4,3
PTBAG039	72x49,5	Europa	0,20%	4,3
PTBAG004	72x44,5	Europa	0,20%	3,8
PTBAG035	72x49,5	Europa	0,20%	3,8

Box Bag 30x50	Bag size	Target Market	Ventilation	MBS Grams
PTBAG400	82x57	Europa	0,20%	3,6
PTBAG800	82x57	Europa	0,20%	5,0
PTBAG008	82x57	Europa	0,10%	5,0

Box Bag 40x50	Bag size	Target Market	Ventilation	MBS Grams
PTBAG078	92x57	EEUU	0,10%	5,6
PTBAG071	92x59,5	EEUU	0,30%	5,8
PTBAG012	92x57	Europa	0,20%	6,3
PTBAG070	92x59,5	Europa	0,20%	6,6
PTBAG067	92x59,5	EEUU	0,30%	6,6

Box Bag 40x60	Bag size	Target Market	Ventilation	MBS Grams
PTBAG083	102x57	Europa	0,30%	3,0
PTBAG203	102x59,5	Europa	0,20%	3,0
PTBAG084	102x57	EEUU	0,30%	3,0
PTBAG023	102x57	Europa	0,30%	3,7
PTBAG027	102x57	Europa	0,60%	3,7
PTBAG037	102x57	EEUU	0,60%	3,7
PTBAG056	102x61,5	Europa	0,20%	4,0
PTBAG003	102x57	Europa	0,20%	4,5
PTBAG010	102x59,5	EEUU	0,30%	4,7
PTBAG063	102x59,5	Europa	0,30%	4,7
PTBAG077	102x57	Europa	0,20%	6,2
PTBAG803	102x57	Europa	0,20%	6,2
PTBAG069	102x59,5	EEUU	0,30%	6,5
PTBAG011	102x54,5	Europa	0,20%	6,7
PTBAG068	102x59,5	Europa	0,20%	7,3
PTBAG036	102x59,5	EEUU	0,30%	7,3
PTBAG805	102x61,5	Europa	0,20%	7,6
PTBAG805 IT	102x63,5	Europa	0,10%	7,8

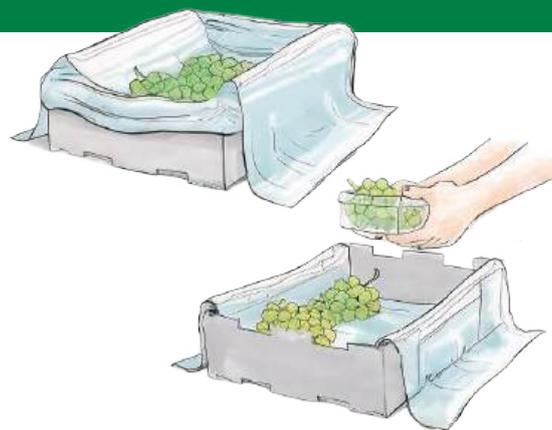
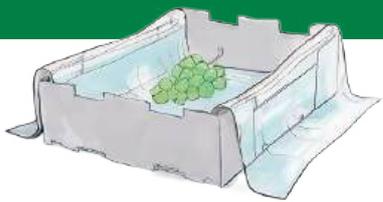
Wrap

It consists of a plastic sheet that **releases SO₂ across its entire surface**. It is used as a **complement to the conventional generator**, achieving greater homogeneity in sulfur dioxide distribution within the box. Being a plastic sheet, **it has controlled permeability for SO₂**

release and does not require the use of an absorbent pad. It is extremely fast to install and does not interfere with airflow, so **it does not affect cooling time**, providing constant and efficient protection during post-harvest.

Wrap	Box size	Wrap size	Target Market	Ventilation	MBS Grams
PTLAM008	40x60	102x49,5	Europa	Does not have	2,0

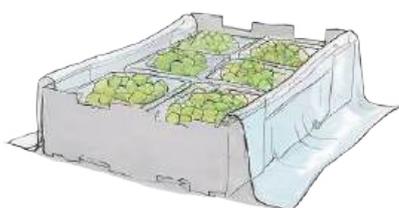
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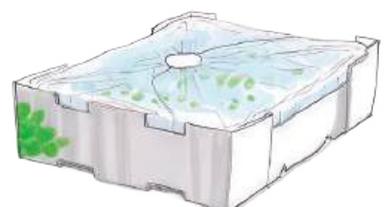
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Top and Bottom Sheet



Bottom



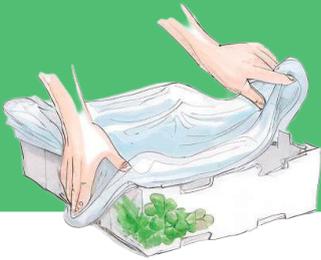
Top

Top and Bottom

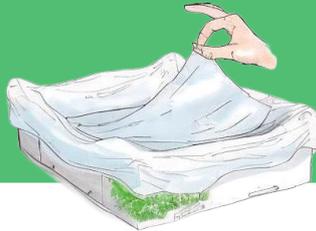
Slow-release generator (Top and Bottom) used as an **SO₂ complement** to the conventional packaging

system, providing enhanced decay control. **This device does not require the use of absorbent pads.**

1



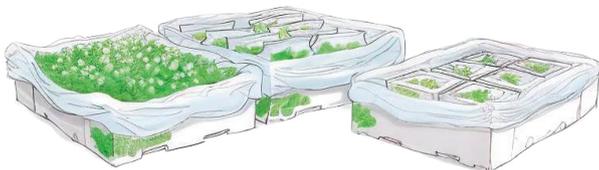
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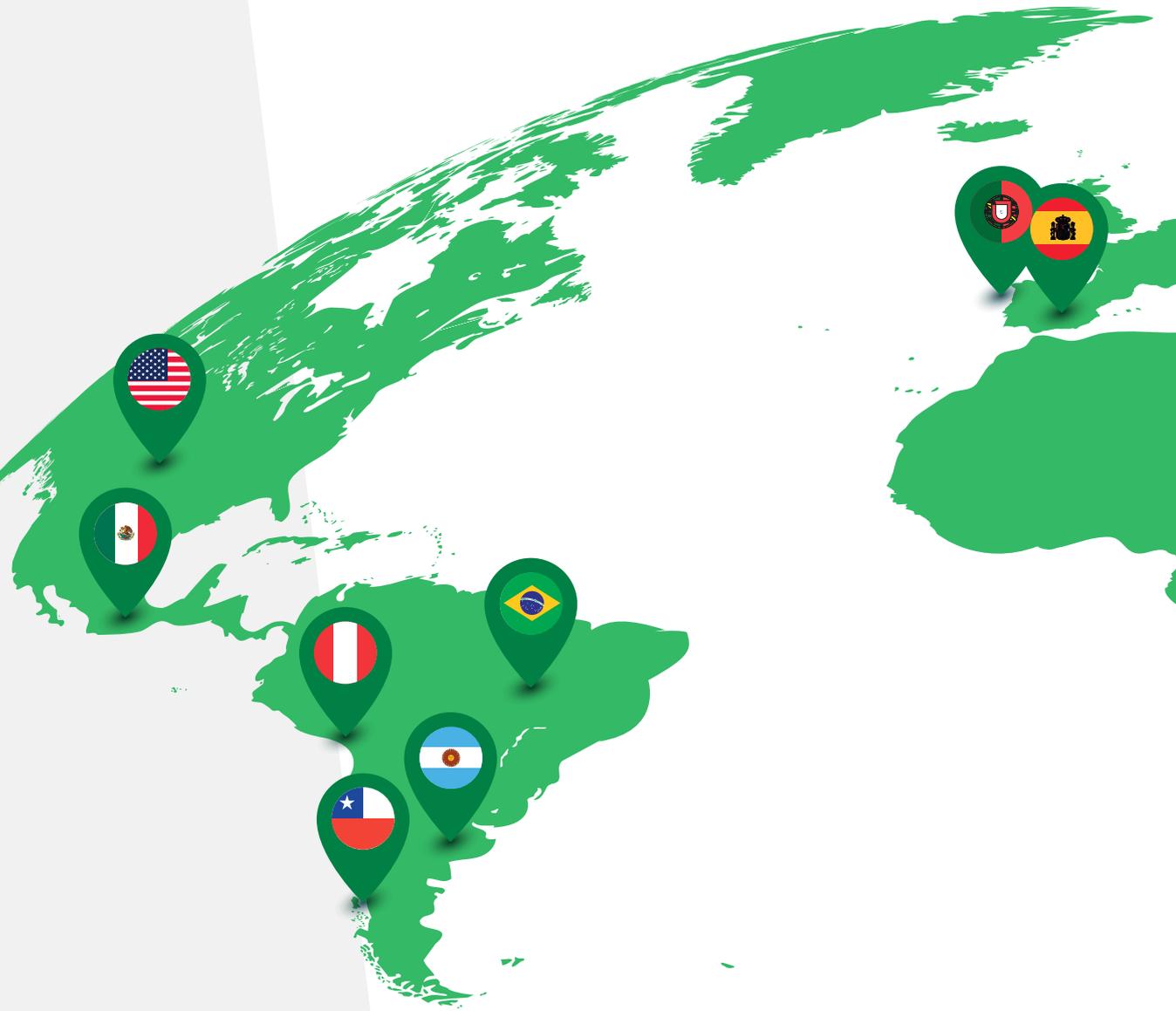


Top sheet	Box size	Sheet size (cm)	Ventilation	MBS Grams
PTLAM021	40x50	36x45	Brasil	1,0
PTLAM022	40x60	36x55	Brasil	1,2
Bottom sheet	Box size	Sheet size (cm)	Ventilation	MBS Grams
PTLAM605	40x50	39x49	No tiene	1,2
PTLAM607	40x60	39x59	No tiene	1,4

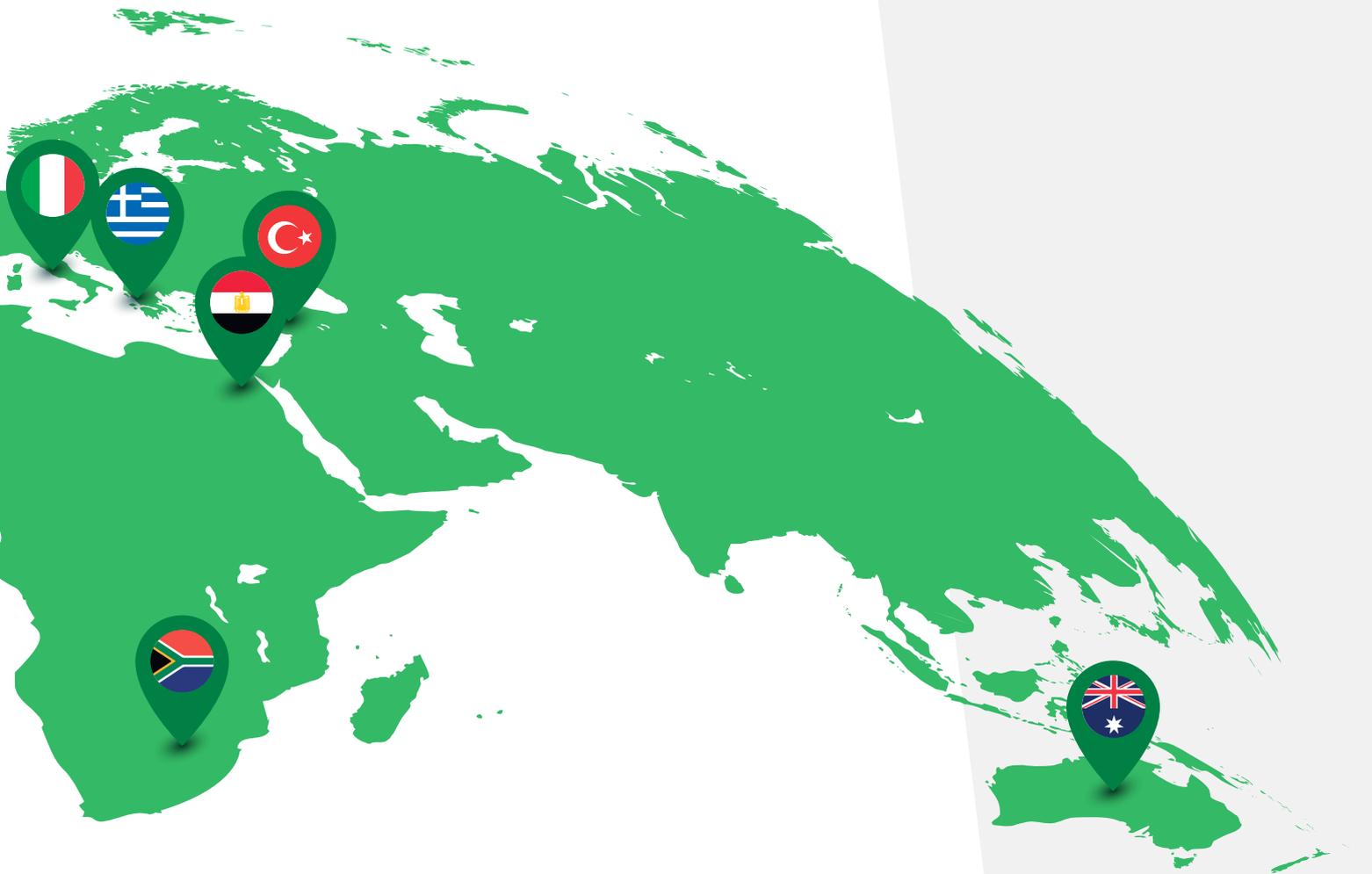
In over

10 countries across

5 continents



Borderless innovation for a **global industry**





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