



STAR RIPE™
CONTROLLED RIPENING

Be ready for ripening on the move

Go **all the way** to optimise energy
and extend the shelf life of your
bananas with our in-transit solution.



MAERSK

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The perfect shade of yellow, on the go

In banana logistics, the common practice involves transporting bananas while they are in a state known as 'green and unripened'. This technique is primarily employed to extend the fruit's shelf life, allowing for prolonged transportation spanning numerous days or even weeks.

Before they reach the end consumer, bananas need to be ripened to a yellow colour stage, mostly to the degree of ripeness 3-4 (ref the Maersk StarRipe™ Scale). Traditionally, this transformation unfolds upon reaching the destination, within stationary chambers tailored for ripening. This conventional approach entails a waiting period of 3 to 5 days, causing delays before the final delivery. Moreover, the deployment of ripening chambers can potentially emerge as a bottleneck within the supply chain during periods of increased demand. The StarRipe™ solution is revolutionising the cold chain as our customers can now effortlessly attain their preferred banana colour and ripeness stage en route.



Maersk StarRipe™ Scale Colour Stage - Degree of Ripeness



2

95-85%
green

3

85-50%
green

4

50-10%
green

5

10-0%
green with green
tips and necks

6

100%
yellow

7

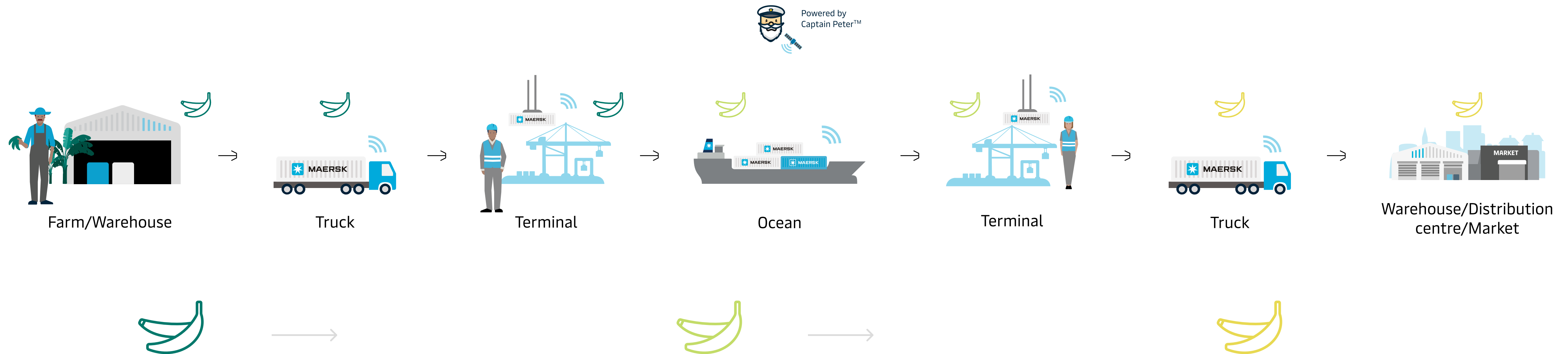
100%
yellow with
brown spots

We speak the language of the fruit

StarRipe™ CR (Controlled Ripening) is an innovative container type in our reefer fleet that enhances the capabilities of our StarCare™ CA (Controlled Atmosphere) containers by incorporating ripening as a functionality. With StarRipe™, we transform the banana cold chain by empowering customers to achieve their desired fruit colour and ripeness directly within the container during transit. This will save time and support the banana trade with additional ripening capacity.

Our RCM (Remote Container Management) system enables real-time monitoring and measurement of cargo behaviour throughout the journey. This dynamic monitoring allows us to proactively address the fruit's requirements throughout the ripening process. Captain Peter™ further ensures customers get end-to-end visibility as their fruit matures comfortably en route to its destination.

The StarRipe™ banana journey



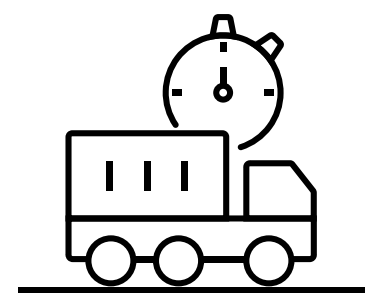
- When booking a StarRipe™ Controlled Ripening (CR) container, the new specific parameters 'Colour Stage' and 'Ripening Completion Date Local' are defined in addition to 'Temperature', 'Oxygen' and 'Carbon Dioxide'.
- Banana packaging suited for ripening in a StarRipe™ container is used, enabling horizontal and vertical air flow through the cargo load.
- Green bananas are loaded in a StarRipe™ container with best stuffing practice and transported to the terminal.
- Temperature pull-down and Controlled Atmosphere (CA) build-up are established.

- Ripening in a StarRipe™ container takes 6-8 days. It can be engaged at any time: while the container is still on the ocean leg or after arrival (i.e., at the terminal or during an on-carriage) and before opening of the container.
- Our customer can plan supply chain and stock control by choosing the desired degree of ripeness.
- Ripening is activated automatically and remotely based on arrival/opening.
- RCM (Remote Container Management)/Captain Peter™ enables total visibility and control of the ripening process during operation.

- Booked 'Colour Stage' is reached on defined 'Ripening Completion Date Local'.
- Ripening is finished either directly after arrival at the terminal or any chosen place (power supply provided) and time.
- Ripened bananas can go to warehouse, distribution centre or directly to the market.
- A combination of ripening in StarRipe™ and finalising the process in a ripening chamber is also possible.
- Customer feedback will be collected by Captain Peter™.

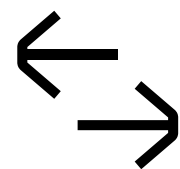
The StarRipe™ advantage

StarRipe™ is a comprehensive solution that not only extends the overall shelf life of bananas in stores and with end consumers, but also helps our customers save energy and reduce waste.



FASTER TIME TO MARKET

Ripening during the trip means bananas can arrive faster in the shops.



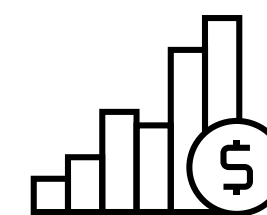
HIGHER FLEXIBILITY

Choice to ripen to the desired stage of ripeness during the trip; no local space issues.



REDUCED RIPENING COSTS

Expected savings of up to 30%.



LESS INVENTORY CAPITAL

Save on cost of furnishing a ripening chamber.



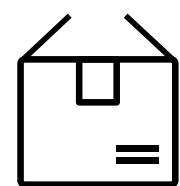
LESS ENERGY CONSUMPTION

At least 50% energy savings as no need to power ripening rooms (reefer operates in any case during transit*) and reduced trucking.



LOWERED GREENHOUSE GAS EMISSIONS

At least 50% reduction in GHG emissions compared to 4 days of ripening in a state-of-the-art stationary chamber**.



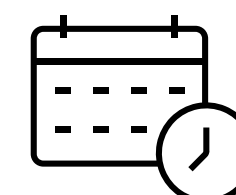
REDUCED PACKAGING

Polypak instead of Banavac (less materials and costs) & possibility of using reusable crates (e.g., IFCO).



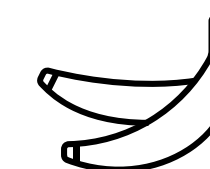
LESS FOOD WASTE

Reduce quality impact & wasted fruit by reducing time to market & handling points.



LONGER SHELF LIFE

Fruit is gently ripened and younger when arriving at point of sale.



BETTER TASTE

Ripening conditions can promote sweetness of bananas.

*Ripening of 20 pallets of bananas in a StarRipe™ container takes 114 kWh vs 288 kWh in a state-of-the-art ripening chamber (150 W/pallet, ripening for 4 days).

**Trials confirm that ripening of 20 pallets of bananas for 7 days in a StarRipe™ container emits 35 kgCO₂e. Reaching same ripening in a stationary chamber emits 85 kgCO₂e. Calculation based on TTW and an EU average level of 295.8 gCO₂e/kWh.

Start your StarRipe™ journey with us



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