



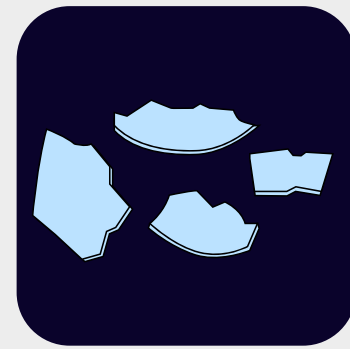
Freezing **PROTON**

Pioneers in Madrid in freezing with the latest
Japanese technology

LAYMAR
MAYORISTAS



What is proton magnetic freezing?



Crystals

The determining factor in the organoleptic quality of the frozen product is the size of the crystals



Current freeze

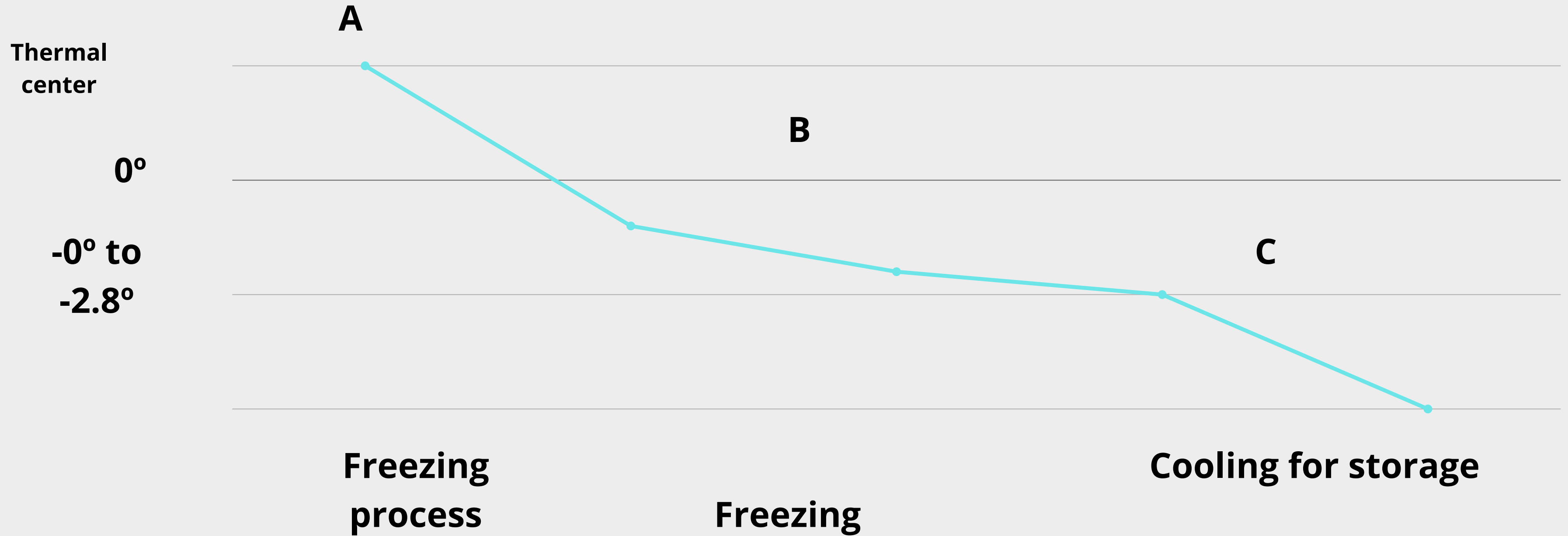
With none of the current types of freezers can we influence or alter the most important factor, the control over the size of the ice crystals formed.



Molecular process

Ice crystals that form during the freezing process, especially if they are large, severely damage the frozen raw material by breaking down its cellular and muscular structure.

FREEZING CURVE



= CRITICAL PHASE of crystal formation

The passage through this phase should be as quick as possible

SLOW PACE = few large crystals

= more damage to food

TECHNICAL FOUNDATIONS OF PROTON TECHNOLOGY

1 


DIFFERENCE

Our technological difference lies in the introduction and effects produced by electromagnetic fields during freezing.

2 

TRAINING

The determining factor is the transition of water, which is contained in food, from liquid to solid form, at which point ice crystals form.

3 

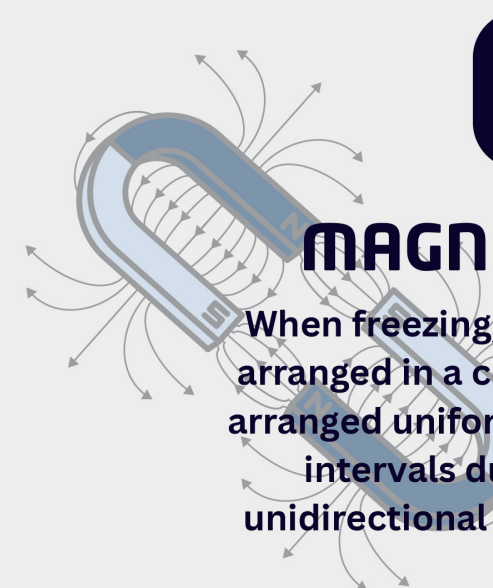
WATER MOLECULES

The foundation of our technology is based on the arrangement of water molecules in food during the freezing process.

4 


CREATION OF NANO CRYSTALS

Using this technology, the product is frozen, forming nanocrystals, avoiding cell rupture and therefore without changes in organoleptic properties (color, texture, flavor).

5 

MAGNETIC FIELD

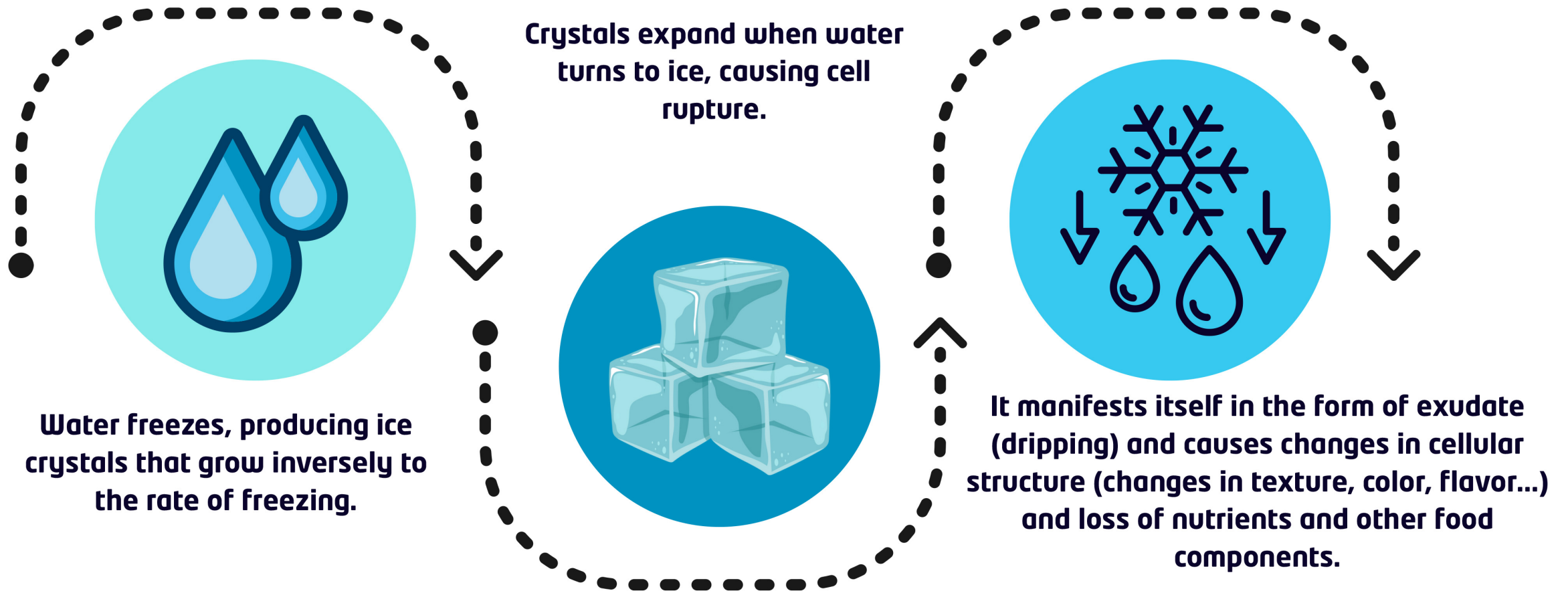
When freezing, water molecules are arranged in a constant direction and arranged uniformly at predetermined intervals due to the uniform, unidirectional static magnetic field.

6 

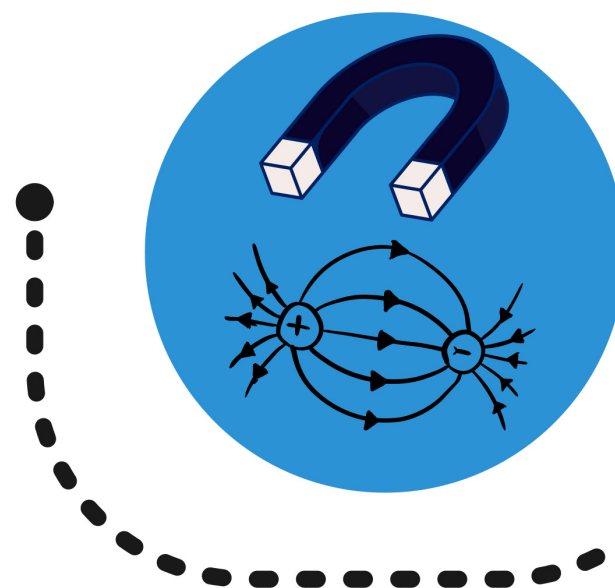
ELECTRIC WAVE

The molecules, through constant fluctuation thanks to the electrical wave, organize themselves so that crystallization is uniform throughout the product, aligning the water molecules and preventing the expansion of ice crystals. This prevents changes in moisture content, such as cell destruction during thawing, and eliminates drip losses.

TRADITIONAL FREEZING

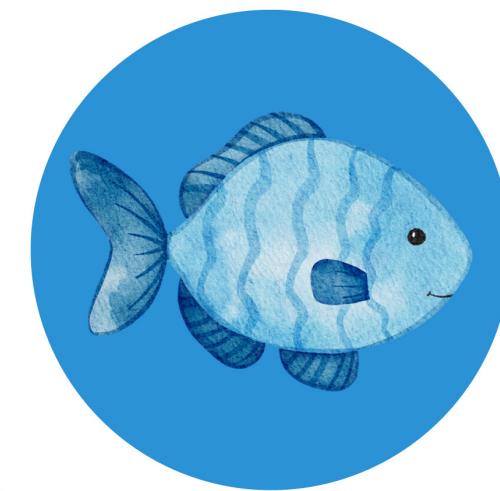


The product is frozen while a static magnetic field and an electromagnetic wave are radiated in a predetermined direction



The molecules are arranged, preventing the expansion of the volume of ice crystals when freezing (nanocrystals).

The organoleptic properties maintain the original cellular structure, remaining intact. In addition, they can be refrozen and their properties remain intact (color, texture, flavor, etc.)



TRADITIONAL FREEZING

They cannot influence
the formation of ice
crystals.

They always create ice
crystals (of different sizes
depending on their freezing
speed)

They cause cell breakage
and destruction

They cause unwanted
effects

They cause losses by
dripping (exudates)



PROTON FREEZING

No damage to the
muscle structure

Intact cellular structure

Possibility of
refreezing without
losing its properties

Electromagnetic fields
prevent crystal growth by
preventing the
redistribution of water in
the extracellular spaces.

Color, texture and
flavor intact



LAYMAR

MAYORISTAS

We adapt to you with any fish, allowing us to buy at the best price at the right time.

We offer carefully portioned fish tailored to the specific needs of your menu, always ensuring freshness and quality, avoiding waste.