

# **PRESERFOOD™ MEAT**

## **Natural Origin Preservation for the Processed Meat Industry.**

**This document details how PRESERFOOD™ MEAT, an exclusive formulation of natural origin food additives, protects food safety in the meat and poultry industry by reducing pathogens, improving quality, texture, flavour, and extending the shelf life of processed meat products, outperforming other preservatives on the market.**



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# PRESERFOOD™ MEAT as a natural antimicrobial in the meat industry

For almost two decades, PRESERFOOD™ MEAT has played a fundamental role in the food safety of the meat and poultry industries. This formula, based on natural components, has been consolidated as an essential tool to protect public health through the effective reduction of human pathogens present throughout the food value chain.

Our product, **PRESERFOOD™ MEAT**, represents the evolution of this accumulated knowledge. As a natural antimicrobial, it offers a versatile solution that responds to the growing market demands in terms of food safety and natural preservation.

This preservative can be incorporated into meat products using various methods, adapting to different production processes:

- Direct injection into whole cuts
- Massaging to improve penetration
- Spraying or misting onto the surface
- Incorporation into processed product formulations



Its application is particularly effective against pathogens such as:

- *Escherichia coli*
- *Salmonella* spp.
- *Campylobacter* spp.
- *Shigella* spp.

1

## Pathogen Reduction

Effectively eliminates microorganisms harmful to human health present in fresh and processed meats.

2

## Quality Enhancement

Boosts the organoleptic characteristics of the final product, maintaining its optimal texture and juiciness.

3

## Extended Shelf Life

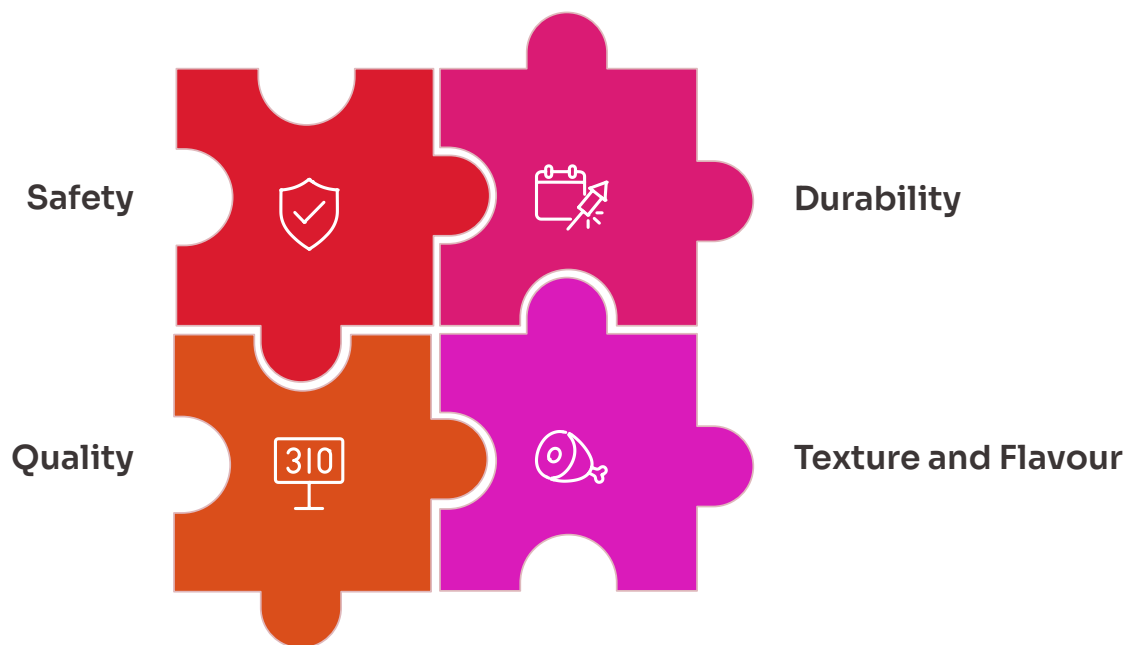
Allows for a significant extension of preservation time without compromising product quality.

4

## Natural Origin

Complies with the demand for clean labels and products free from artificial preservatives.

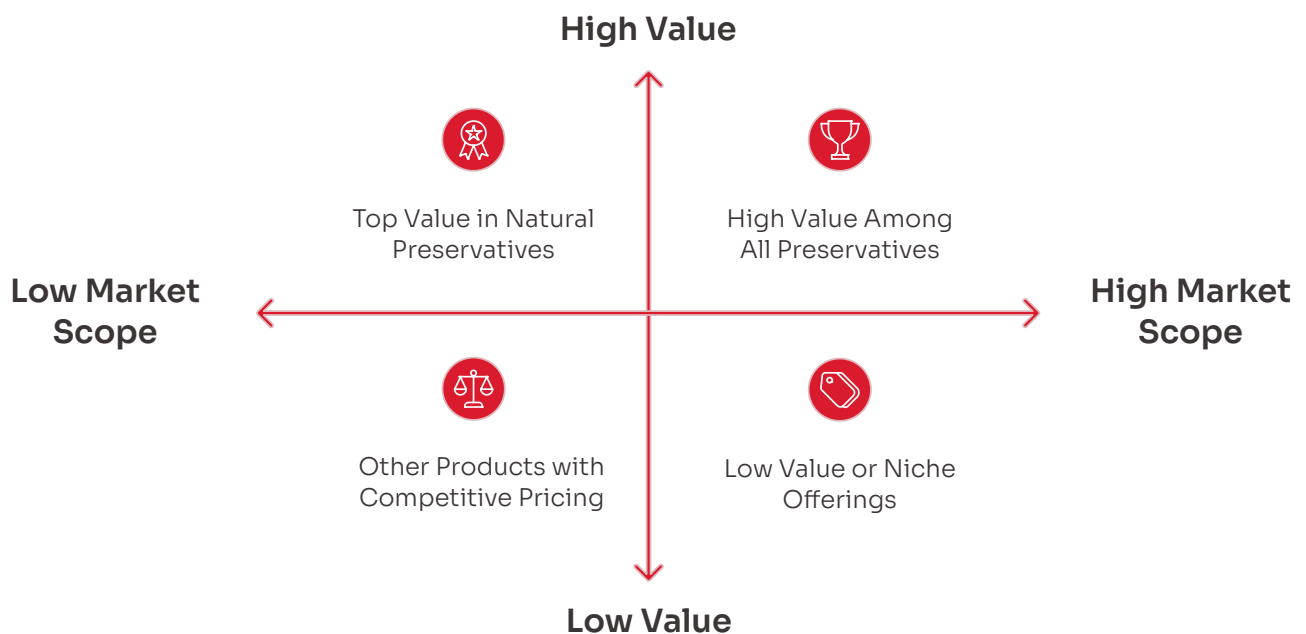
The efficacy of **PRESERFOOD™** **MEAT** not only results in safer products but also in processed meat products that stand out in the market due to their superior quality, better texture, exceptional flavour, and unparalleled durability compared to other natural or chemical-synthetic preservatives currently available.



The endorsement from the **Meat Technology Institute** represents the highest level of external validation, providing manufacturers with the necessary confidence to implement **PRESERFOOD™** **MEAT** in their production processes, secure in the knowledge that they are using the solution most highly valued by independent experts.

# Recognition and Validation within the Sector

**"PRESERFOOD TM® MEAT was ranked the 1st best-valued product among Natural Origin Meat Preservatives and the 2nd best-valued product among general meat preservatives (natural and synthetic)"**



This recognition is not merely a commercial claim, but the result of a rigorous scientific study carried out by a prestigious institution in the field of food technology. The Instituto Tecnológico de La Carne, an organisation dependent on the Fundación Público-Privada de la Xunta de Galicia, located in the Parque Tecnológico de San Cibrao das Viñas (TECNOPOLE) in Ourense, conducted a comprehensive comparative evaluation of meat preservatives available on the market in 2016.

This distinction positions **PRESERFOOD TM® MEAT** as the preferred solution for manufacturers seeking:



## Process Optimisation

Reduction of spoilage and returns thanks to greater microbiological stability throughout the distribution chain.



## Commercial Differentiation

Opportunity to stand out from the competition with higher quality and more durable products, whilst maintaining a clean label.



## Scientific Guarantee

Backed by independent studies that validate the product's superior efficacy compared to available alternatives on the market.

# Mechanisms of Action and Technical Benefits

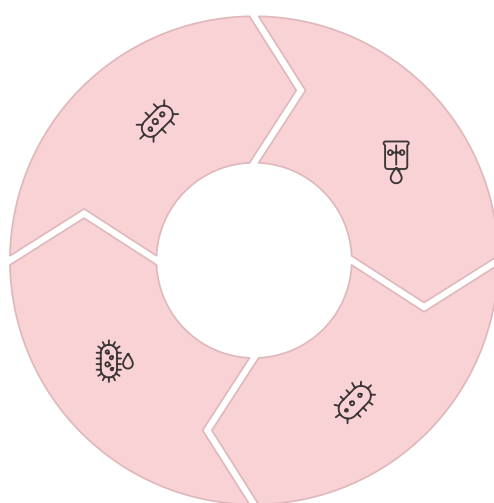
The different presentations of our **PRESERFOOD™ MEAT** range have been meticulously formulated and designed to optimise the quality and safety of meat products. Their application can achieve a shelf-life extension of up to 100% compared to untreated products, representing a significant competitive advantage in a market where freshness and durability are highly valued attributes.

## Electro-Cell Membrane Disruption

Unique system that alters the cell membranes of microorganisms, preventing their reproduction and development.

## Control of Spoilage Bacteria

Specifically inhibits microorganisms such as *Pseudomonas* and *Enterobacter*, primarily responsible for meat spoilage.

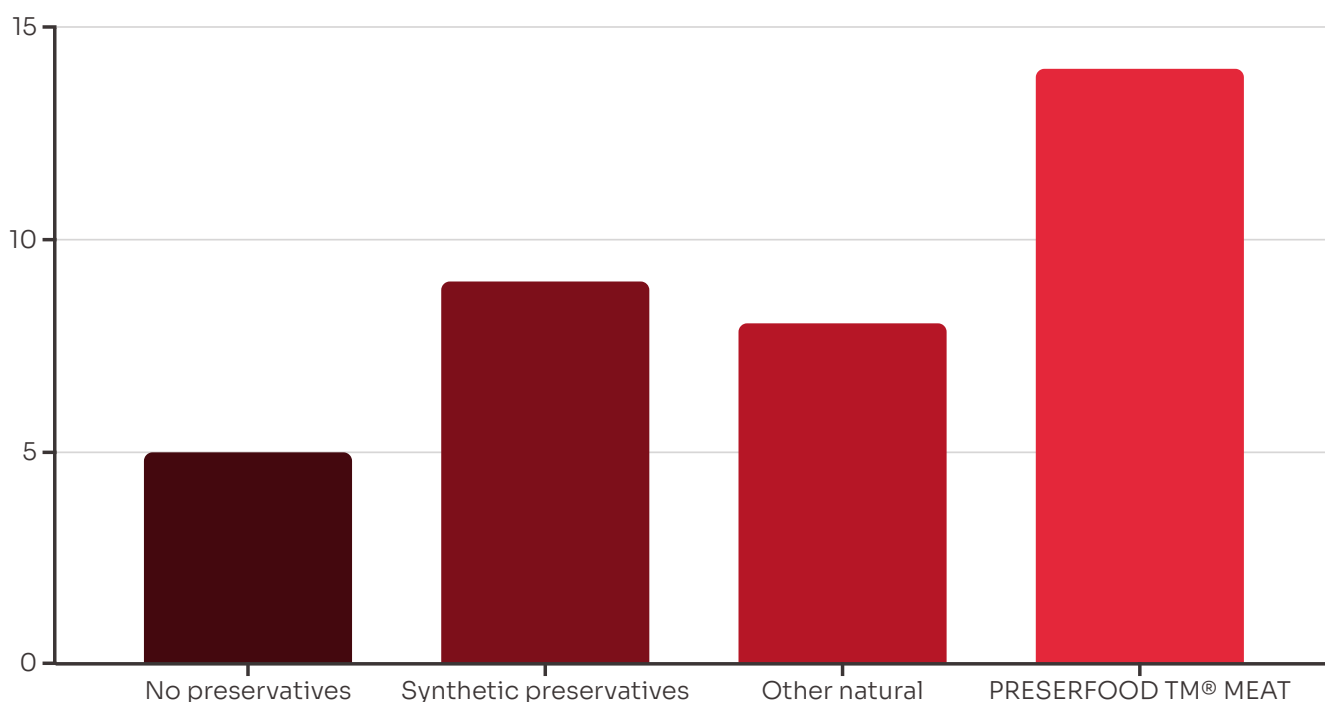


## Reduction of Water Activity

Decreases the water available for microbial growth, creating an unfavourable environment for their development.

## Alteration of Bacterial Metabolism

Interferes with the metabolic processes essential for the survival and proliferation of pathogenic bacteria.



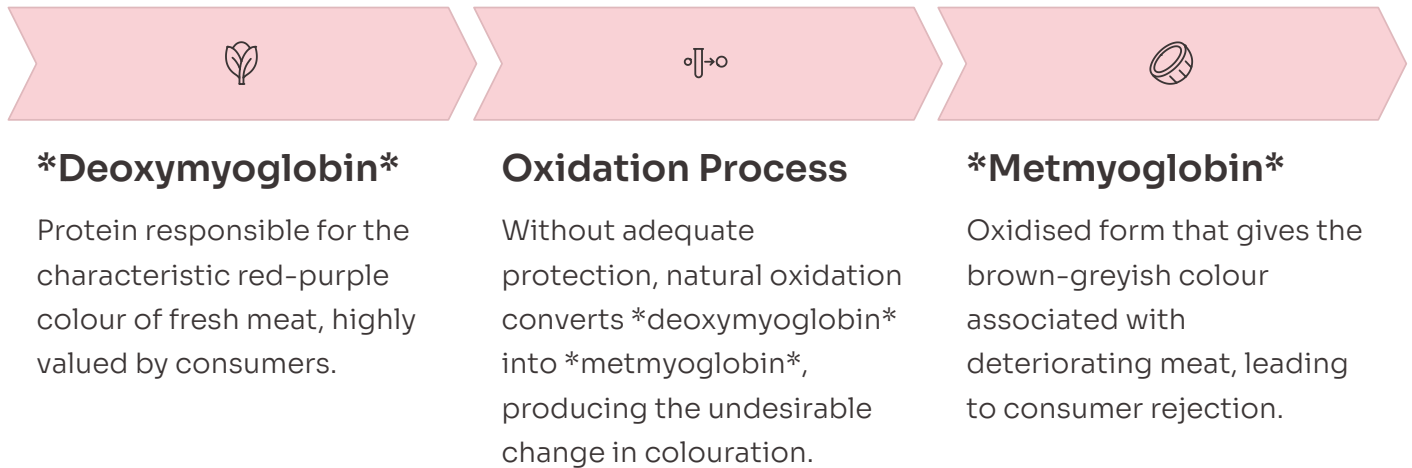
The effective action of our "Electro-Cell Membrane Disruption" system represents a significant innovation in the field of food preservation. This mechanism acts directly on the cellular structure of micro-organisms, creating alterations in their membranes that prevent their normal functioning and reproduction. Unlike other preservatives that merely delay bacterial growth, **PRESERFOOD™ MEAT** intervenes in fundamental processes for microbial viability, providing more durable and effective protection.



Comparative studies conducted on various types of processed and prepared meat products have consistently demonstrated a significant reduction in microbial counts and a considerable extension of shelf-life without negatively affecting the organoleptic properties of the final product.

# Colour Stabilisation: A Key Competitive Advantage

One of the most notable technical benefits of **PRESERFOOD™ MEAT** is its ability to preserve the attractive red colour characteristic of fresh meat for extended periods. This phenomenon is due to a specific mechanism: the lactates present in our formulation effectively delay the degradation of \*deoxymyoglobin\* into \*metmyoglobin\*, the haem components responsible for the colouration.



## Impact on Consumer Perception

Colour is one of the most important sensory attributes in the purchasing decision for meat products. Market studies have repeatedly shown that consumers use colour as the primary indicator of freshness and quality, rejecting products that show discolouration even when they are microbiologically safe for consumption.

This commercial reality turns colour stabilisation into a significant competitive advantage for manufacturers, potentially considerably reducing returns and wastage associated with colour changes negatively perceived by the end consumer.

Tests carried out under real storage and distribution conditions have shown that products treated with **PRESERFOOD™ MEAT** maintain optimal colouration up to 40% longer than untreated products or those treated with other conventional preservatives, which directly translates into better consumer acceptance and a significant reduction in wastage associated with colouration issues.

## Additional Technical Benefits

The preservation of colour by **PRESERFOOD™ MEAT** not only positively impacts the visual perception of the product, but also:

- Reduces associated lipid oxidation, preventing the development of rancid flavours
- Better maintains the general organoleptic characteristics of the product
- Allows for a more attractive commercial presentation throughout its shelf life
- Decreases economic losses due to products rejected for their appearance

# Specific Applications in Meat Preparations

The use of **PRESERFOOD™ MEAT** gains particular relevance in the processed meat segment, where preserving the attractive red colour of the product throughout its commercial life represents one of the biggest technical challenges for manufacturers. In these types of preparations, our solution has proven exceptionally effective, prolonging chromatic stability for several additional days compared to untreated products or those treated with conventional preservatives.



## Burgers

Preservation of intense red colour for up to 4-5 additional days, maintaining the "freshly minced" appearance that is crucial in purchase decisions.



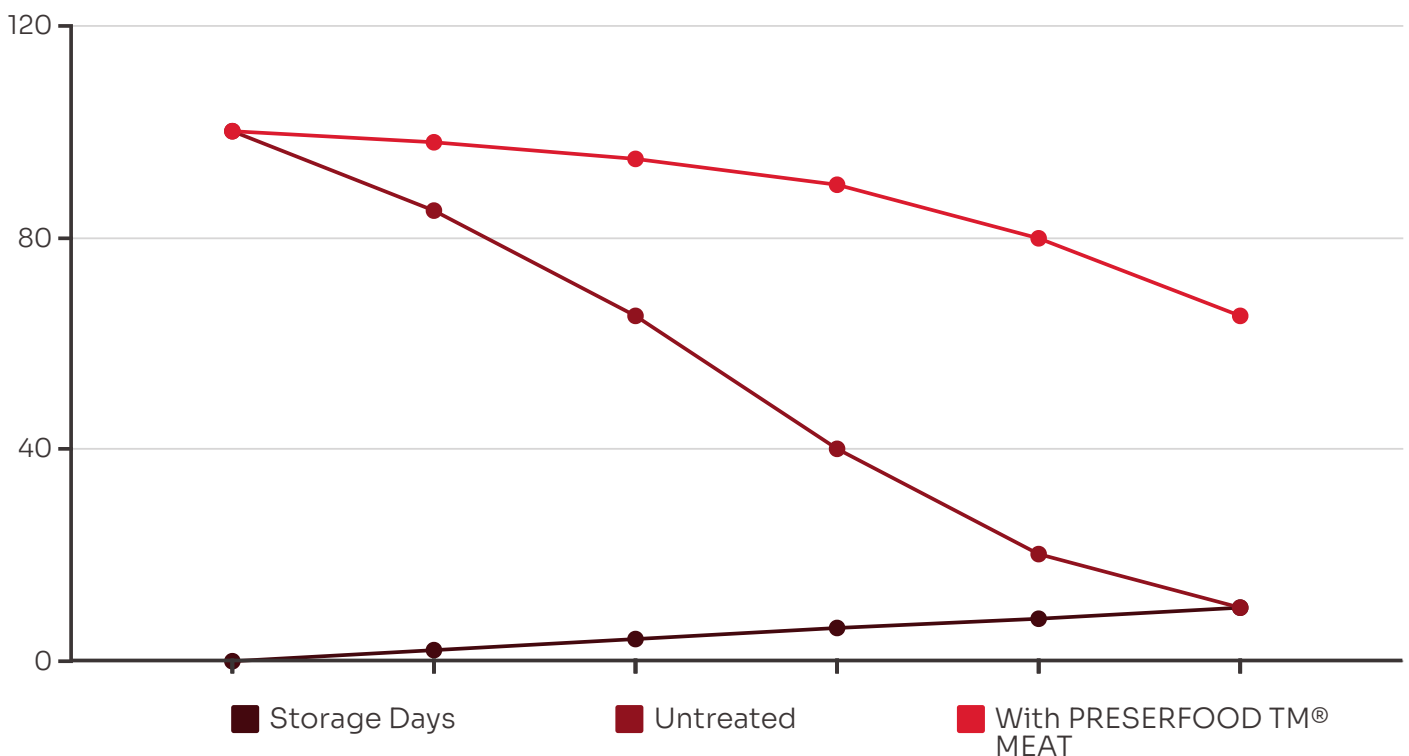
## Meatballs and Preparations

Colour stabilisation in products with a larger surface area exposed to oxidation, preventing the premature darkening typical of these preparations.



## Marinated Meats

Enhancement of the visual appearance of products with additional treatments, avoiding negative interactions with other ingredients that could accelerate discolouration.



Red Colour Retention Index in Burgers (0-100 scale)

The efficacy of **PRESERFOOD™ MEAT** in these products varies depending on several factors:

## Type of Meat

- Beef: optimal results
- Pork: very good efficacy
- Poultry: notable efficacy
- Blends: variable results depending on composition and presence of elements introducing additional microbiology.

## Applied Treatment

- Direct incorporation: maximum efficacy
- Spraying: good surface results
- Immersion/Injection: homogeneous penetration
- Dosage: proportionate to desired shelf life

## Additional Factors

- Storage temperature
- Type of packaging
- Product's fat composition
- Presence of other ingredients that may introduce microbiology, etc.

**Technical Recommendation:** To obtain optimal results in meat preparations, it is recommended to incorporate **PRESERFOOD TM® MEAT** at the beginning of the mixing process, ensuring homogeneous distribution throughout the mass. The recommended dosage varies between 1.5% and 3% depending on the product type and target shelf life.

Accelerated shelf-life studies carried out in our laboratories have demonstrated that the proper implementation of **PRESERFOOD TM® MEAT** in meat preparations can represent a decisive commercial advantage, allowing manufacturers to offer products with a fresh and appetising appearance throughout their commercial life, even under suboptimal retail display conditions in refrigerated counters.



# PreserFood TM® MEAT

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