



# Understanding Antimicrobial Ingredients and Harvest Intervention

## What are Antimicrobial Ingredients?

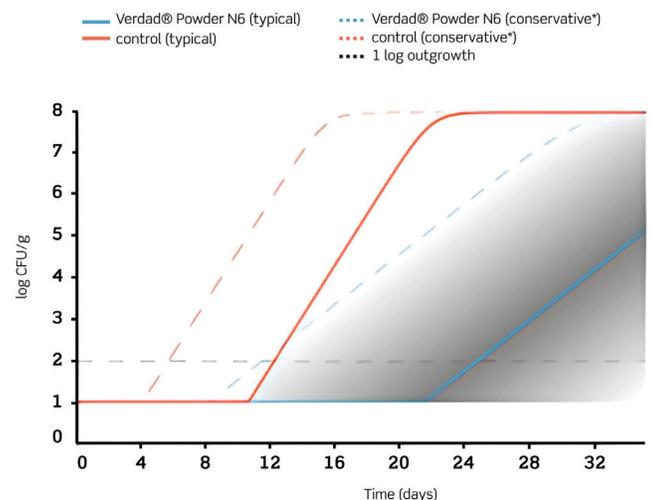
Antimicrobial ingredients are used in processed meats and other foods to control pathogens and spoilage organisms. Antimicrobial ingredients are often a key component of food safety plans that help keep consumers safe while also safeguarding against recalls. These ingredients also keep food on the shelf longer and protect product quality. There are a wide variety of products, label terms, and modes of action for these ingredients for which there are too many to list in this document.

## Common application challenges

### Controlling *Listeria monocytogenes* in Ready-to-Eat meat products

Vinegars, such as Corbion's Verdad® vinegars, are highly effective in controlling *Listeria monocytogenes* and offer the advantage of a clean label. This means consumers generally find the labeling terminology straightforward and acceptable. Additionally, vinegars can inhibit common spoilage microorganisms, helping to extend shelf life and maintain product quality.

Lactate and diacetate blends, like Corbion's Opti. Form® products, have been trusted industry standards for decades. These blends provide reliable *Listeria* control, strong resistance against lactic-acid bacteria spoilage, and offer yield and texture enhancement due to their lactate content. While often not considered as "clean label" as some alternatives, they remain a versatile and cost-effective solutions for food safety and quality.



**Figure 1.** Figure 1 shows the predicted *Listeria* growth in your food product. The results are based on an extensive data set, obtained from specifically designed and validated *Listeria* challenge studies. The growth curves represent the most probable model outcomes (typical and conservative line\*). The grey area represents the distribution of the modeled data.

## Shelf life extension in fresh sausages

Fresh sausages, such as bratwurst, often pose a shelf-life challenge due to the inclusion of non-meat ingredients like vegetables and spices, combined with natural casings that can introduce a significant microbial load. Spoilage organisms can quickly cause the sausage color to fade, develop off-odors, and compromise product quality.

A proven solution to combat fresh meat spoilage is the use of potassium or sodium lactates, such as Purasal® lactates from Corbion. These lactates have minimal flavor impact, are colorless, and effectively delay spoilage while enhancing product texture. By extending shelf life and maintaining product appeal, these solutions not only improve quality but can also offset their cost through reduced waste and improved product longevity.



## What is harvest intervention technology?

Harvest interventions involve the application of processing aids to livestock carcasses, primals, and cuts shortly after slaughter. These aids, while similar to antimicrobial ingredients, are typically exempt from labeling requirements. Unlike antimicrobial agents that primarily suppress microbial growth, harvest interventions achieve a logarithmic reduction in pathogens, actively eliminating harmful microbes such as E. coli and Salmonella from fresh meat surfaces. With diverse modes of action and chemical formulations, these solutions are often used together in a “multi-hurdle” approach, ensuring robust and effective pathogen reduction for enhanced food safety.

### Purac® FCC88 Lactic Acid for beef harvest intervention

High-quality lactic acid has been a trusted and widely used intervention in the industry for decades. Provided as a concentrate and diluted with water, it is simple to apply to carcasses and poses no risks to workers or equipment. Since lactic acid naturally occurs in meat, it has no impact on flavor and causes minimal color alteration, making it an ideal solution for maintaining the integrity and quality of fresh meat products.



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