

Verdad® Vinegars

Buffered vinegars for meat preservation



Clear labeling



Extend shelf life



Inhibit *Listeria* growth



Liquid and powder portfolio

Simpler ingredients and shorter labels are becoming an expectation. But consumers don't want to trade cleaner labels for products with lower product quality. Products with no preservatives? Terrific. As long as you preserve the same product quality.

With Verdad products, Corbion helps you clean up labels, deliciously. Corbion can help you to clean up labels without sacrificing food safety and product quality.

About buffered vinegars

The Verdad® buffered vinegar solutions were developed for natural meat and poultry. These natural ingredients keep food safe by suppressing the growth of pathogens and a wide range of spoilage bacteria. Vinegar is produced by fermentation, a well-known 'traditional' manufacturing method with long history in many cultures. At the same time, vinegar is generally recognized as a cupboard ingredient. Corbion offers a set of liquid and powder buffered vinegars to cater your needs.

Clear labeling

The desire for more simplicity on foods labels keeps sparking demand for meat and poultry products with all natural claims. Leading deli meat manufacturers have introduced all natural ranges, which are perceived to be 'less processed.' Corbion offers buffered vinegars as part of the well-known Verdad ingredients. They allow for ingredient statements that are perceived as less processed. Buffered vinegars can be used in meat and poultry products bearing clear labeling claims.

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As consumers aspire toward healthier living, we'll see more behaviors such as reading labels and packaging messages. Transparency and recognizable ingredients are critical. Consumers want to know what's in the products they're consuming.

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Extend shelf life

Verdad Powder N6 inhibits a wide range of spoilage organisms, increasing shelf life in fresh meat. In fresh poultry, Verdad Powder N6 can double the shelf life. Pork and poultry product both have a very distinctive, light and fresh meat color. Verdad F46 also helps to maintain color and reduce grey discoloration during shelf life. Figure 1 shows the total plate count of chicken breast with Verdad F46. The data indicates that shelf life was considerably improved by the addition of Verdad F46. Figure 2 shows the yellowness of enhanced chicken thighs during storage. Color integrity is maintained for a longer period of time.

Inhibit *Listeria* growth

Vinegar is a rich source of acetic acid and a well-known inhibitor of microbes and pathogens. In ready-to-eat (RTE) meats, buffered vinegar Verdad Powder N6 can be used to enhance safety by inhibiting the growth of *Listeria* for more than 100 days. Figure 3 shows the outgrowth of *Listeria* in a cooked cured pork ham. The control product is expected to remain below 1 log outgrowth for 15 days. Addition of 0.9% Verdad Powder N6 inhibits *Listeria* growth for 120 days.

Partnering for success

At Corbion we believe customer partnerships and great products are the key to success. Corbion's formulation expertise, tools and broad portfolio of proven ingredients can help inspire innovation and optimize your formulations. Discover how Corbion can help your business achieve more.

Verdad buffered vinegar portfolio

Product	Use level	Labeling	Benefits
Verdad Powder N6	0.4-1.0%	Buffered vinegar	Low use level, easy to use powder, limited taste impact
Verdad F46	0.5-1.5%	Buffered vinegar	No sodium contribution, liquid formulation
Verdad F42	0.8-2.0%	Buffered vinegar	No sodium contribution, liquid formulation, limited taste impact



Request a Sample

Samples and detailed usage instructions, delivered right to your doorstep.
corbion.com/samples

Figure 1: Total plate count in fresh chicken breast

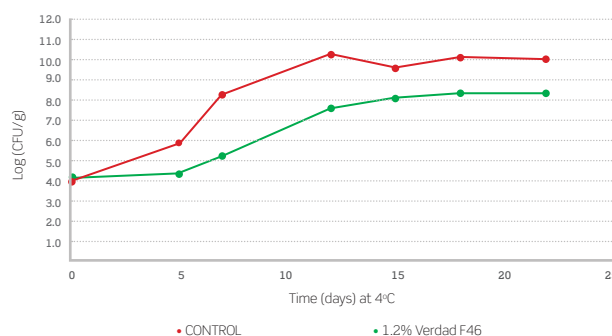


Figure 2: Color stability of enhanced chicken thighs

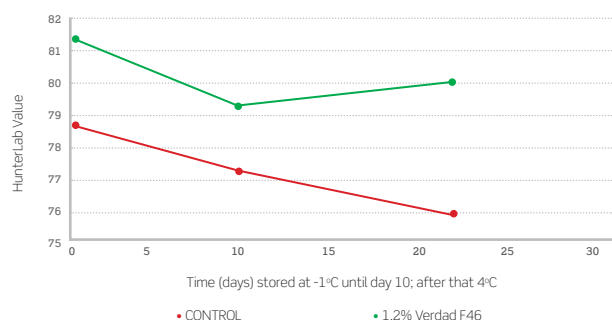
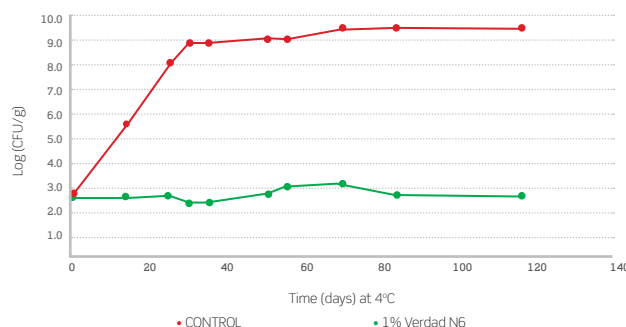


Figure 3: *Listeria monocytogenes* counts in high moisture (73%) cooked cured ham



Corbion *Listeria* Control Model

This online predictive growth modeling tool is adjustable for eight food characteristics and allows you to predict the effect of Corbion solutions on your products: corbion.com/CLCM

Interested in our solutions? [Go to corbion.com/vinegar](https://corbion.com/vinegar)

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Corbion is the global market leader in lactic acid and its derivatives, and a leading supplier of emulsifiers, functional enzyme blends, minerals, vitamins, and algae ingredients. We use our unique expertise in fermentation and other processes to deliver sustainable solutions for the preservation of food and food production, health, and our planet. For over 100 years, we have been uncompromising in our commitment to safety, quality, innovation and performance. Drawing on our deep application and product knowledge, we work side-by-side with customers to make our cutting-edge technologies work for them. Our solutions help differentiate products in markets such as food, home & personal care, animal nutrition, pharmaceuticals, medical devices, and bioplastics. In 2020, Corbion generated annual sales of € 986.5 million and had a workforce of 2,267 FTE. Corbion is listed on Euronext Amsterdam. For more information: www.corbion.com

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