





# Verdad® Vinegars

For all natural preservation



-  Natural labeling
-  Inhibit Listeria growth
-  Extend shelf life
-  Liquid and powder portfolio

As consumers perceive meat as a potential source of dangerous chemicals, additives, toxins and allergens, they shy away from meats which are perceived as processed. Instead, consumers increasingly look for natural meat and poultry products, made with 'traditional' production methods.

## About vinegars

Vinegar is produced by fermentation, a well-known 'traditional' manufacturing method with long history in many cultures. Vinegars are all natural, label friendly ingredients that keep food safe by suppressing the growth of pathogens and a wide range of spoilage bacteria. At the same time, vinegar is generally recognized as a cupboard ingredient. Corbion Purac offers a set of liquid and powder vinegars to cater your needs.

## Natural labeling

The desire for more simplicity on the label keeps sparking off demand for meat and poultry products with an all natural claim. Leading deli meat manufacturers have introduced all natural ranges, which are perceived to be 'less processed'. Corbion Purac offer vinegars as part of the well-known Verdad ingredients. They allow for ingredient statements which are perceived as natural and less processed. Vinegars can be used in meat and poultry products bearing natural claims.

## What do consumers look for?

**82%** of US consumers are interested in buying meats carrying an 'all natural' statement (*Mintel 2012*)

**46%** of consumers buy natural or organic meat to be sure it is 'free of substances they want to avoid' (*Power of Meat, AMI 2014*)

**58%** of US consumers state they perceive vinegar as 'Natural' (*Corbion consumer research 2013*)



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## Verdad: vinegar portfolio

| Product                  | Use level | Form   | Labeling | Benefits                                                                                      |
|--------------------------|-----------|--------|----------|-----------------------------------------------------------------------------------------------|
| <b>Verdad Powder N6*</b> | 0.4-0.9   | Powder | Vinegar  | Low use level, easy to use powder, limited taste impact<br>Complies with Canadian regulation  |
| <b>Verdad N5</b>         | 1.5-2.5   | Liquid | Vinegar  | No sodium contribution<br>Complies with Canadian regulation                                   |
| <b>Verdad N8*</b>        | 0.9-1.8   | Liquid | Vinegar  | Balanced flavor; preferred for flavor sensitive products<br>Complies with Canadian regulation |
| <b>Verdad N9*</b>        | 0.75-1.5  | Liquid | Vinegar  | Lowest use level liquid vinegar in market<br>No sodium contribution                           |

\* patent pending

### Inhibit Listeria, extend shelf life

Vinegar is a rich source of acetic acid and a well-known inhibitor of microbes and pathogens. In ready-to-eat (RTE) meats, Verdad Vinegars can be used to enhance safety by inhibiting the growth of Listeria for over 100 days.

Verdad Vinegars also inhibit a wide range of spoilage organisms, increasing shelf life in fresh meat. In fresh meat and poultry, shelf life can be doubled.

### Listeria control in an all natural ham stored at 39°F/4°C

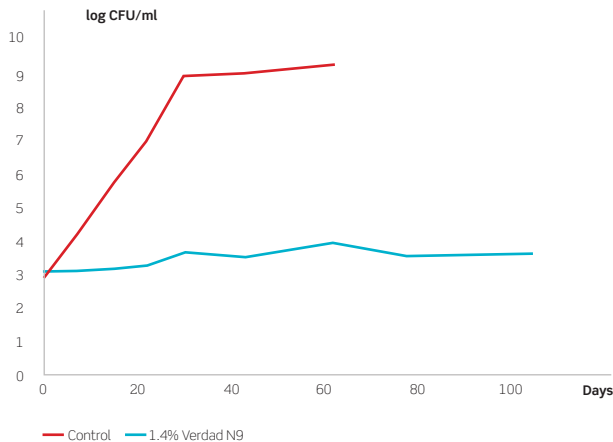


Figure 1

Figure 1 shows the growth of Listeria in all natural ham. Verdad N9 can control Listeria in cured meat and poultry for more than 100 days.

### Total plate count fresh beef and pork sausage stored at 39°F/4°C

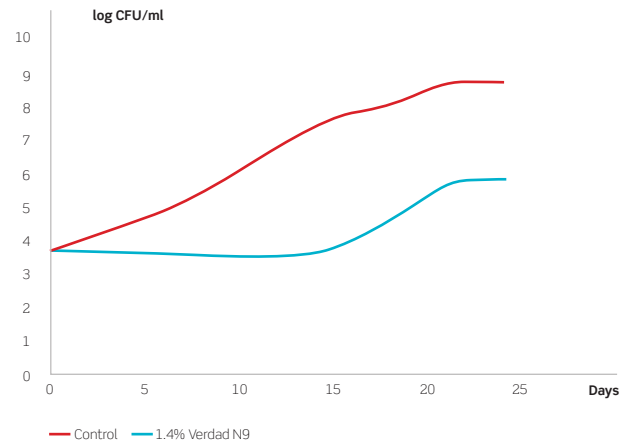


Figure 2

Figure 2 shows the effect of Verdad N9 on total plate count of beef and pork sausage overwrap packaged. The addition of Verdad N9 resulted in 24 days of shelf life compared to control of 11 days.



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With over 80 years of fermentation expertise and the use of natural raw materials to produce exceptional food and beverage ingredients, Corbion Purac has a wealth of expertise in the world of biobased food ingredients. Corbion is the global market leader in lactic acid, lactic acid derivatives and lactides, and a leading company in functional blends containing enzymes, emulsifiers, minerals and vitamins. Corbion operates 10 production plants, in the USA, the Netherlands, Spain, Brazil and Thailand, and markets its products through a worldwide network of sales offices and distributors.

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