



## PURAQ® AROME

Clean Label Conference  
Technical Spotlight  
5/22/2023

# Breakdown of business units and operational focus



HEADQUARTERS:  
Amsterdam, NL



## SUSTAINABLE FOOD SOLUTIONS

- Preservation
- Functional systems
- Single ingredients



## LACTIC ACID & SPECIALTIES

- Lactic acid
- Lactic acid derivatives
- Biopolymers

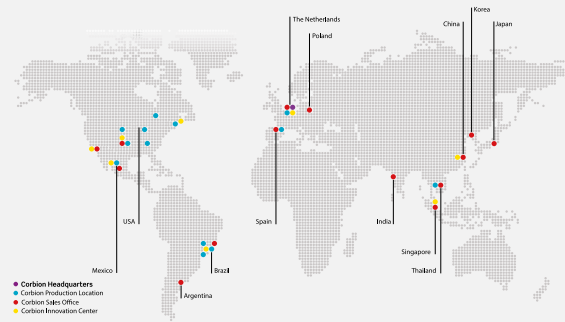


## ALGAE INGREDIENTS

- Omega-3 (DHA)

## GLOBAL OPERATIONS

13 manufacturing facilities



- Largest global producer of lactic acid
- Over a century of expertise in fermentation

- As the food industry evolves, so does the Corbion portfolio to ensure our customers have the necessary solutions.

## INDUSTRY NEEDS



## • PuraQ® Arome product overview



### FERMENTED

Fermentation of carbohydrate selected to deliver fit for purpose ingredients



### NATURAL

Labeled as natural flavor



### CROSS CATEGORY

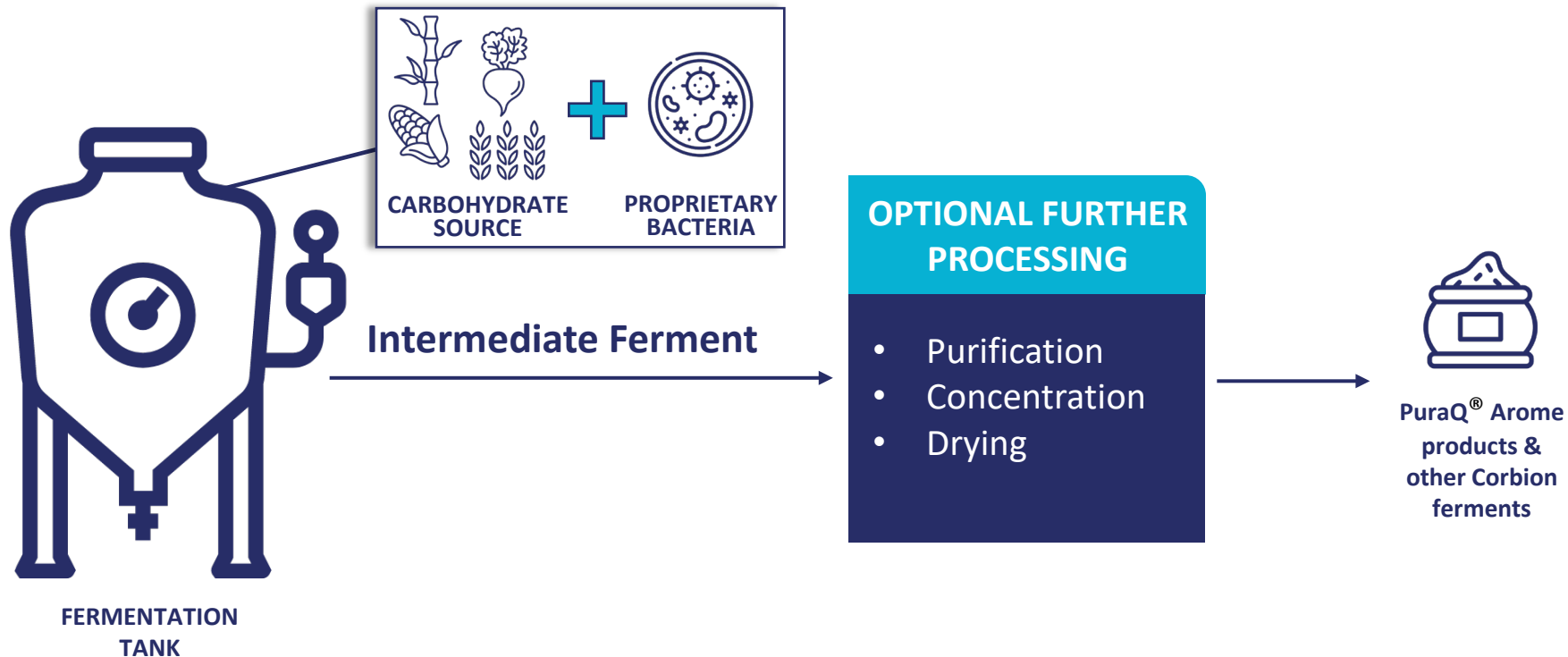
Refrigerated foods  
Sauces & Dressings  
Bakery



### BENEFITS

Flavor enhancement –  
savory and umami  
Allows for sodium  
reduction / formulation  
changes  
Optimizable pH

## • Fermentation overview



## Study: Tomato Sauce

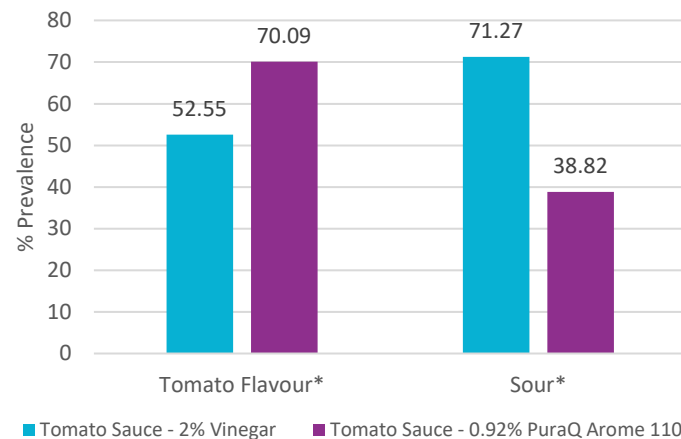
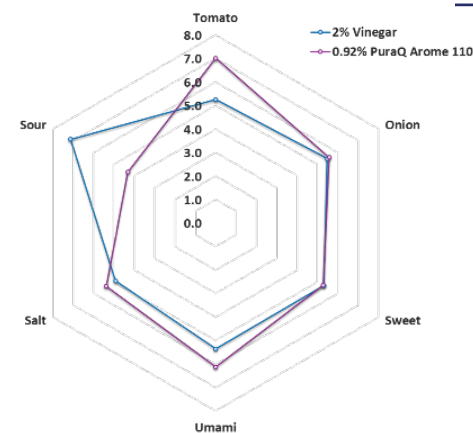
**Objective:** Utilize PuraQ<sup>®</sup> Arome 110 to optimize the flavor for reduced sourness and a more mild and balanced taste

### SET-UP

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• <i>Sample A</i> <ul style="list-style-type: none"> <li>• Distilled Vinegar (300 grain)</li> <li>• Usage – 2%</li> <li>• pH - 4</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• <i>Sample B</i> <ul style="list-style-type: none"> <li>• PuraQ<sup>®</sup> Arome 110</li> <li>• Usage – 0.92%</li> <li>• pH - 4</li> </ul> </li> </ul> |
|--|---|

### KEY TAKEAWAYS

- PuraQ<sup>®</sup> Arome 110 is enhancing the tomato flavor while reducing sourness at similar pH level as the reference sample
- PuraQ<sup>®</sup> Arome 110 can be combined with vinegar in different ratios which are matching the sensory requirements in different formulations



\* Values are statistically different;

## Study: Reduced Sodium Bolognese Sauce

**Objective:** Achieve a 25% sodium reduction using PuraQ® Arome NA4

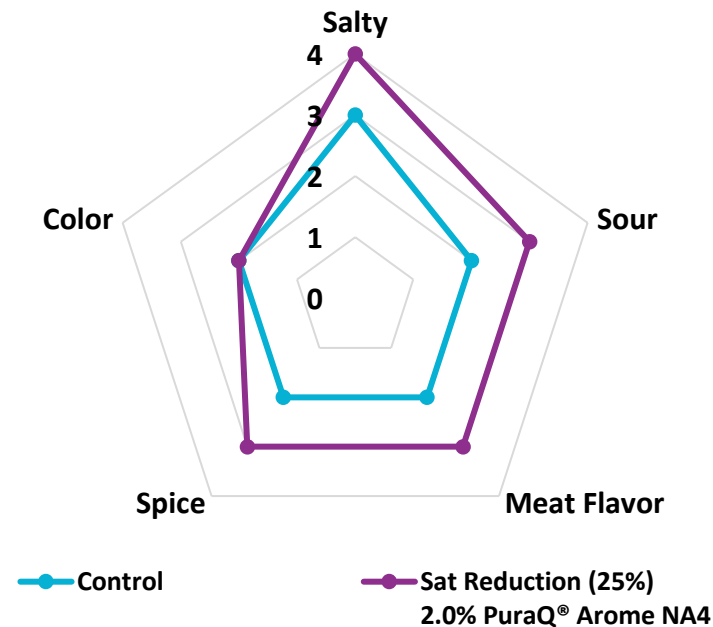
### SET-UP

- *Control*
  - Salt – 1%
- *Sodium Reduction*
  - Salt – 0.75%
  - PuraQ® Arome NA4 – 2%

### KEY TAKEAWAYS

- PuraQ® Arome NA4 enhanced the perceived saltiness and tomato flavor as compared to the control
- PuraQ® Arome NA4 also mitigated the sourness of the sauce

PuraQ® Arome NA4 in Reduced Sodium Bolognese Sauce



## Study: Creamy Kale and artichoke dip

**Objective:** Increased the perceived saltiness flavor while achieving a 25% total sodium reduction

### SET-UP

- Control
  - Salt – 0.3%
- 25% Sodium Reduction
  - PuraQ® Arome NA4 – 2.5%

#### Control:

Total Sodium - 0.5%

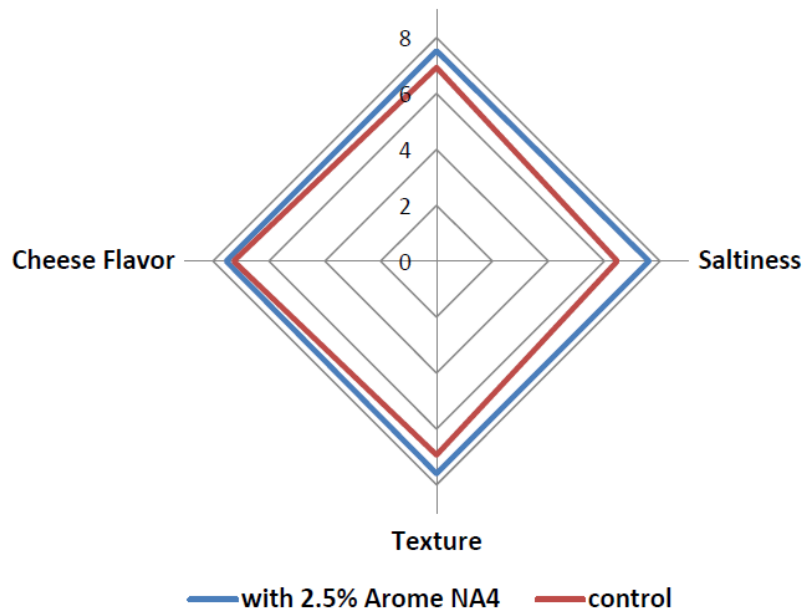
#### Test:

Total Sodium - 0.375%

### KEY TAKEAWAYS

- PuraQ® Arome NA4 enhanced the perceived saltiness and cheese flavors in the final dip
- The reduced sodium dip was preferred by sensory participants as compared to the control

Kale & Artichoke Dip Acceptance Test  
Overall Preference





# Sustainable Food Solutions

## MARKET SEGMENTS



MEAT & MEAT  
ALTERNATIVES



BAKERY



REFRIGERATED  
FOODS



CONFECTIONERY



DAIRY

## APPLICATION CATEGORIES

- **PRESERVATION**  
Used for food safety and shelf-life extension
- **FUNCTIONAL SYSTEMS**  
Pre-blends of starches, enzymes and fortification
- **EMULSIFIERS**  
Prevents separation of different phases of formulas

## SUPPORT FUNCTIONS



## FORWARD LOOKING

Our commitment to sustainability is seen in all parts of our business.



### Ecovadis Gold Sustainability Rating

Corbion is in the top 2% of all suppliers in our sector, assessed worldwide.

# Elevate and amplify your process with Corbion support

## APPLICATION DEVELOPMENT

Our applications team aid in the development process to provide formulation advice, product analysis, and sensory testing to increase customer success.



## MODELING TOOLS & CALCULATORS

Corbion's industry-leading predictive modeling tools help you get to market faster and mitigate risk.



## TECHNICAL SERVICES

Our technical service team are expert customers partners to assist in ingredient implementation and enhance product performance.



## MARKET INSIGHTS

Our highly skilled team of dedicated analysts provides market and category insights to help you navigate the changing consumer landscape.



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*Keep creating*