



Conceptual food products at Gulfood Manufacturing 2023

- bridging the gap from idea to implementation



CONTENT

Fava frozen dessert

High protein ambient yoghurt w. postbiotics

Protein tea with postbiotics

Flower power chocolate drink - *Sunflower choco beverage*

Omega-3 sunflower oat beverage

Fruit boost drink - *Juice with milk and postbiotics*

Exotic energy drink with postbiotics

Oat iced espresso



Fava Frozen Dessert

- sustainable, tasty, indulgent, generous



Let's partner to change

Its all about taste

To make ice cream is easy. To make a plant-based frozen desserts is challenging. Overcoming extensive challenges by extruding, making it formstable and continuously performing needs knowledge and the right equipment. Making it taste good? Then you need fava beans.

When we ask consumers like flexitarians or consumers considering to change to more vegan plant-based options then first focus is taste – then appearance and mouthfeel. All this the fava frozen dessert checks off.

We have the solution, you have the market

The concept is validated by several trials at our Product Development Center in Aarhus, Denmark. This we do to assure the taste, quality and production performance and make it a plug and play solution.

You know your market and capabilities.

So, what are you waiting for?





So, what are we tasting at Gulfood 2023?

“Fava frozen dessert”

Nutrition Facts	100 ml
Calories	167
Total Fat	8.0g
Saturated Fat	6.9g
Trans Fat	0.1g
Cholesterol	0mg
Sodium	40mg
Total Carbohydrate	21.9g
Dietary Fibers	0.4g
Total Sugars	16.2g
Includes added sugar	16.2g
Protein	2.2g

Ingredients list

Water, sucrose, glucose, coconut oil, fava bean protein, E471, E410, salt, E412, E407

Processing parameters

- Heat water to 80°C
- Hydrate the fava blend at 80°C/10 min
- Add in all other ingredients
- Hydrate for 10 minutes
- Homogenize at 65°C at 220 bar (200/20)
- Pasteurize at 87°C/15 seconds
- Cool to <5°C
- Age for 20 hours
- Run to the freezer with a flow of 180 l/h
- Overrun set to 100
- Viscosity set to 50
- Dasher speed set to 70
- Compressor 50%
- Add in vegan caramel as swirl





High protein ambient yoghurt w. postbiotics

- flexibility and premiumization



The best from two worlds

High protein

High protein is a mega trend but is not given to be easy. This demands expertise in processing and new ingredients to accomplish a product which is tasty, smooth and delightful.

Making traditional high protein yoghurt is not an issue. But what if you want to heat-treat it, fill it aseptic and store it ambient? Then you are in a whole different ball game of ingredients. We have done the work and partnered with world class dairy ingredient producers and developed a yoghurt concept which is high in protein and can be stored ambient.

Aseptic, yes. But as yoghurt?

A traditional yoghurt has approx. 20-25 days of shelf-life and must be stored cold. This challenges the supply chain and risks that the product will be spoiled over time. Therefore we have a best practice line to overcome this. We secure the right product quality and product characteristics every time.

This extends your distribution range and allows you to enter new geographical markets!





So, what are we tasting at Gulfood 2023?

“ High protein ambient yoghurt ”

Nutrition Facts	100 ml
Calories	100
Total Fat	3.4g
Saturated Fat	2.0g
Trans Fat	0.1g
Cholesterol	17mg
Sodium	33mg
Total Carbohydrate	11.4g
Dietary Fibers	0.0g
Total Sugars	10.5g
Includes added sugar	7.0g
Protein	6.1g

Ingredients list

Milk, cream, sucrose, whey protein, modified starch, E440, bacteria culture, vanilla aroma, E418, vitamin E, Postbiotic Lactobacillus plantarum L-137

Processing parameters

Transfer liquid milk 5°C
 Add all powder ingredients 5°C/10 min
 Hydrate 1 hour with slow agitation, 5°C
 Preheat mix to 65°C
 Two stage homogenization 200/50 bars
 Pasteurize for 95°C/5 min
 Ferment at 43°C until pH reaches ~4.3
 Final heat treatment 75°C/25 sec
 10°C smoothing, homogenizer 150 bar
 Aseptic filling and ambient storage





Protein tea with postbiotics

- differentiate your traditional hydration drinks with clear proteins and immune supporting yeast



Tea, protein and postbiotics

Protein source matters

If you want to add whey proteins to tea? Then you would get a cloudy product with a taste of milk. But what if you add a super hydrolyzed and functionalized whey protein isolate? Then you will get a protein enriched tea 100% clear with no effect on taste and proteins that contribute to the growth of muscle mass.

Consumer demand for functional fortified drinks, flavoured waters, vitamin waters, ice teas and protein RTDs (ready-to-drink beverages) is on the rise. Functional, pleasant-tasting and with nutritional benefits.

Postbiotics -

- are the next generation of ingredients to fortify drinks with a unique way to differentiate products from the market.

Postbiotics are tyndallized microorganisms that still has active compounds on which you can claim health benefits like immunity – or – claim the strain of the microorganism like *saccharomyces boulardii* on the front of the package.





So, what are we tasting at Gulfood 2023?

“ Protein tea w. postbiotics ”

Nutrition Facts	100 ml
Calories	14
Total Fat	0.0g
Saturated Fat	0.0g
Trans Fat	0.0g
Cholesterol	0mg
Sodium	5mg
Total Carbohydrate	0.0g
Dietary Fibers	0.0g
Total Sugars	0.0g
Includes added sugar	0.0g
Protein	3.1g

Ingredients list

Water, whey protein, tropical flavour, black tea powder, tri-sodium citrate dihydrate, postbiotic saccharomyces boulardii, black tea flavour, sucralose

Processing parameters

Add all powder ingredients 5°C
 High shear mix for 10 minutes
 Hydrate 30 min w. slow agitation, 20°C
 Adjust pH to 7.00 with NaOH 10%.
 Preheating 80°C
 Direct steam injection 143°C/6 sec
 Flash cooling 80°C
 Homogenization 10 bar
 Cooling and septic filling 5°C





Flower power chocolate drink

- affordable, nutritious and sustainable
has never been easier



Sunflowers: A powerful source of protein

Nutritional value

Plant-based beverages can be lacking protein and can have as low as 0.0% protein like rice beverages. From the traditional drinks, soy has a protein level of 3.7% like milk. Fat is not the issue as plants are normally low in fat and can easily be fortified with healthy oils. Carbohydrates and sugars can be high because of hydrolyzation of starches.

Proteins has not been highly used before. With today's consumer focus, the demand is rising for more nutritional and healthier products. We are in the starting phase to see producers launching protein fortified plant-based drinks. Some even go as far as tailor-making a product to mimic milk on fat, carbohydrates and protein.

Affordability must go hand in hand with healthy

Sunflower protein are rich in vitamins, many minerals and essential amino acids. Not only is it nutritious, it also a highly upcycled product which makes it even more sustainable. But even better? Its affordable - similar or more than half the price of dairy and plant-based powders.





So, what are we tasting at Gulfood 2023?

“Sunflower choco beverage”

Nutrition Facts	100 ml
Calories	62
Total Fat	1.5g
Saturated Fat	0.9g
Trans Fat	0.0g
Cholesterol	0mg
Sodium	47mg
Total Carbohydrate	8.4g
Dietary Fibers	1.2g
Total Sugars	8.2g
Includes added sugar	8.0g
Protein	3.1g

Ingredients list

Water, sucrose, sunflower protein, cocoa powder, pea protein, rapeseed oil, salt, E460, E466, E418

Processing parameters

Add all powder ingredients 50°C

Adjust pH to 6.80

Hydrate 30 min w. slow agitation, 50°C

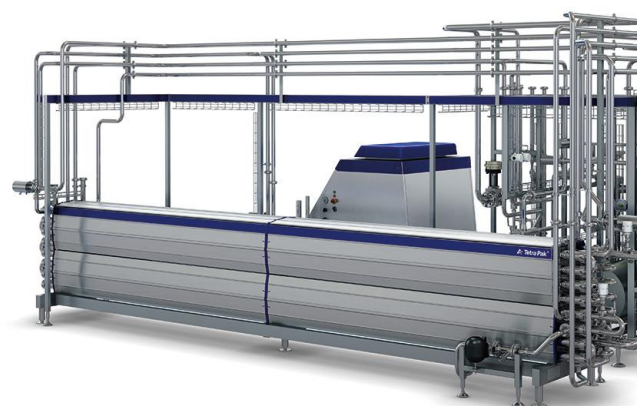
Preheating 70°C

Direct steam injection 143°C/6 sec

Flash cooling 70°C

Two stage homogenization 200/50 bars

Cooling and septic filling 20°C





Sunflower protein – the natural fortifier

- affordable, nutritious and sustainable
has never been easier



Sunflowers: A powerful source of protein

Nutritional value

Plant-based beverages can be lacking protein and can have as low as 0.0% protein like rice beverages. From the traditional drinks, soy has a protein level of 3.7% like milk. Fat is not the issue as plants are normally low in fat and can easily be fortified with healthy oils. Carbohydrates and sugars can be high because of hydrolyzation of starches.

Proteins has not been highly used before. With today's consumer focus, the demand is rising for more nutritional and healthier products. We are in the starting phase to see producers launching protein fortified plant-based drinks. Some even go as far as tailor-making a product to mimic milk on fat, carbohydrates and protein.

Affordability must go hand in hand with healthy

Sunflower protein are rich in vitamins, many minerals and essential amino acids. Not only is it nutritious, it also a highly upcycled product which makes it even more sustainable. But even better? Its affordable - similar or more than half the price of dairy and plant-based powders.





So, what are we tasting at Gulfood 2023?

“Omega-3 sunflower oat beverage”

Nutrition Facts	100 ml
Calories	49
Total Fat	1.4g
Saturated Fat	0.1g
Trans Fat	0.0g
Cholesterol	0mg
Sodium	45mg
Total Carbohydrate	6.3g
Dietary Fibers	1.3g
Total Sugars	4.2g
Includes added sugar	0.0g
Protein	2.0g

Ingredients list

Water, oat, sunflower protein, omega-3 fatty acid, alpha-linolenic acid, salt, E460, E466, E418

Processing parameters

Add all powder ingredients 50°C

Adjust pH to 6.80

Hydrate 30 min w. slow agitation, 50°C

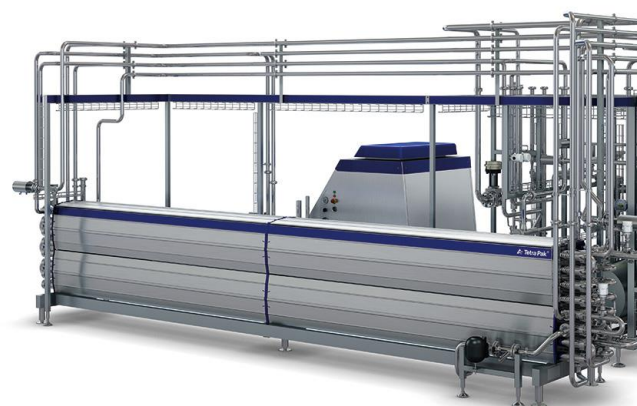
Preheating 70°C

Indirect steam injection 141°C/6 sec

Cooling 70°C

Two stage homogenization 400/50 bars

Cooling and septic filling 20°C





Fruit boost drink

- juice with milk and postbiotics



Get the advantage of the best

Juice, milk and postbiotics

If you have a juice line this product could not suit you better. With no or minimal CAPEX needed you can take this concept and implement it directly to you line developing your portfolio. The concept is just based on:

Juice

Milk

Postbiotics

Pectin

You get an immune boosting juice fortified with postbiotics and milk. It is nutritious full of good stuff.

As simple as that!

So, what are you waiting for?





So, what are we tasting at Gulfood 2023?

“ Juice with milk and postbiotics ”

Nutrition Facts	100 ml
Calories	41
Total Fat	0.1g
Saturated Fat	0.0g
Trans Fat	0.0g
Cholesterol	0mg
Sodium	15mg
Total Carbohydrate	8.9g
Dietary Fibers	0.0g
Total Sugars	8.7g
Includes added sugar	0.0g
Protein	0.8g

Ingredients list

Water, fruit content: 10%(mango, peach, pineapple, passion fruit), skimmed milk powder, E440, postbiotic saccharomyces boulardii

Processing parameters

Add all powders and liquids at 10°C

Adjust pH to 3.90

Hydrate 10 min w. slow agitation, 10°C

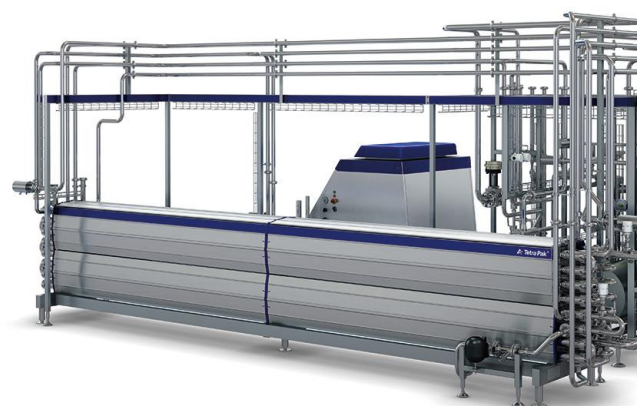
Preheating 65°C

Pasteurisation at 95°C/6 sec

Flash cooling 65°C

Two stage homogenization 150/30 bars

Cooling and septic filling 20°C





Exotic energy drink with postbiotics

- not all energy drinks need to be carbonated



Energy BOOST and GUT health

Simple but premium product

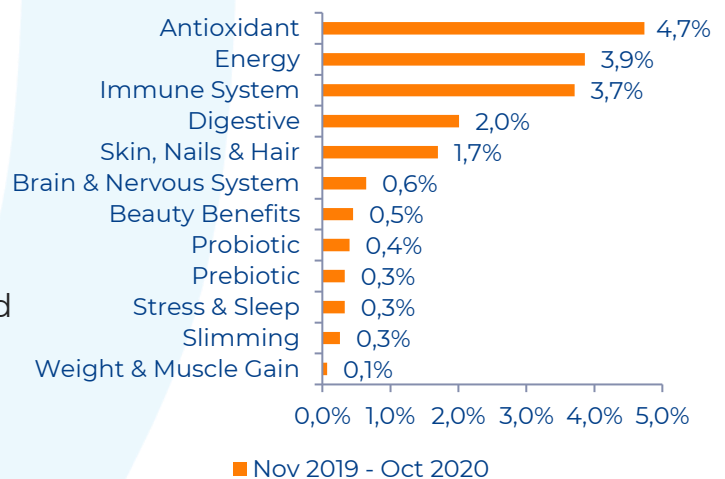
There is an increasingly competitive landscape Functional drinks are driven by busy consumers seeking shortcuts to enhanced health, primarily by younger adults and parents.

As consumers are learning more about functional ingredients and products for health, they're becoming more aware of irresponsible marketing and thus skeptical of some claims. Brands are leveraging on transparency and scientifically substantiated functional ingredients.

Here the concept is simple: Juice, taurine, postbiotics and sugars.

Claims: Support your metabolism
Support your immune system

% of JN & FFSD launches featuring the following functional claims, Nov 2017-Nov 2019





So, what are we tasting at Gulfood 2023?

“Exotic energy drink”

Nutrition Facts	100 ml
Calories	63
Total Fat	0.0g
Saturated Fat	0.0g
Trans Fat	0.0g
Cholesterol	0mg
Sodium	0mg
Total Carbohydrate	15.0g
Dietary Fibers	0.0g
Total Sugars	15.0g
Includes added sugar	13.4g
Protein	0.0g

Ingredients list

Water, sugar, apple juice concentrate, acidifier citric acid (E330), taurine, mango juice, postbiotic saccharomyces boulardii, zinc

Processing parameters

Add all powders and liquids at 10°C

Adjust pH to 3.90

Hydrate 10 min w. slow agitation, 10°C

Preheating 65°C

Pasteurisation at 95°C/6 sec

Flash cooling 65°C

Two stage homogenization 150/30 bars

Cooling and septic filling 20°C





Oat iced espresso

- sweet and soft with hints of vanilla



Oat iced espresso

Delightful and creamy - on the go

Why does taste matter? Everything we consume we evaluate. From appearance to mouthfeel – but most important is taste. This is rated highest by consumers and is the biggest contributor to turning back to the product.

Therefore combining the right raw materials are essential. Coffee in a rice beverage might not sound appealing and mixing oat with strawberry flavours is not a fit.

However, mixing cold brew coffee with an oat beverage you get one of the most delightful creamy products. The sweetness and nutty flavour from the oats combined with the balance of flavours where sweet, bitter and acidic notes all work pleasantly together from the coffee

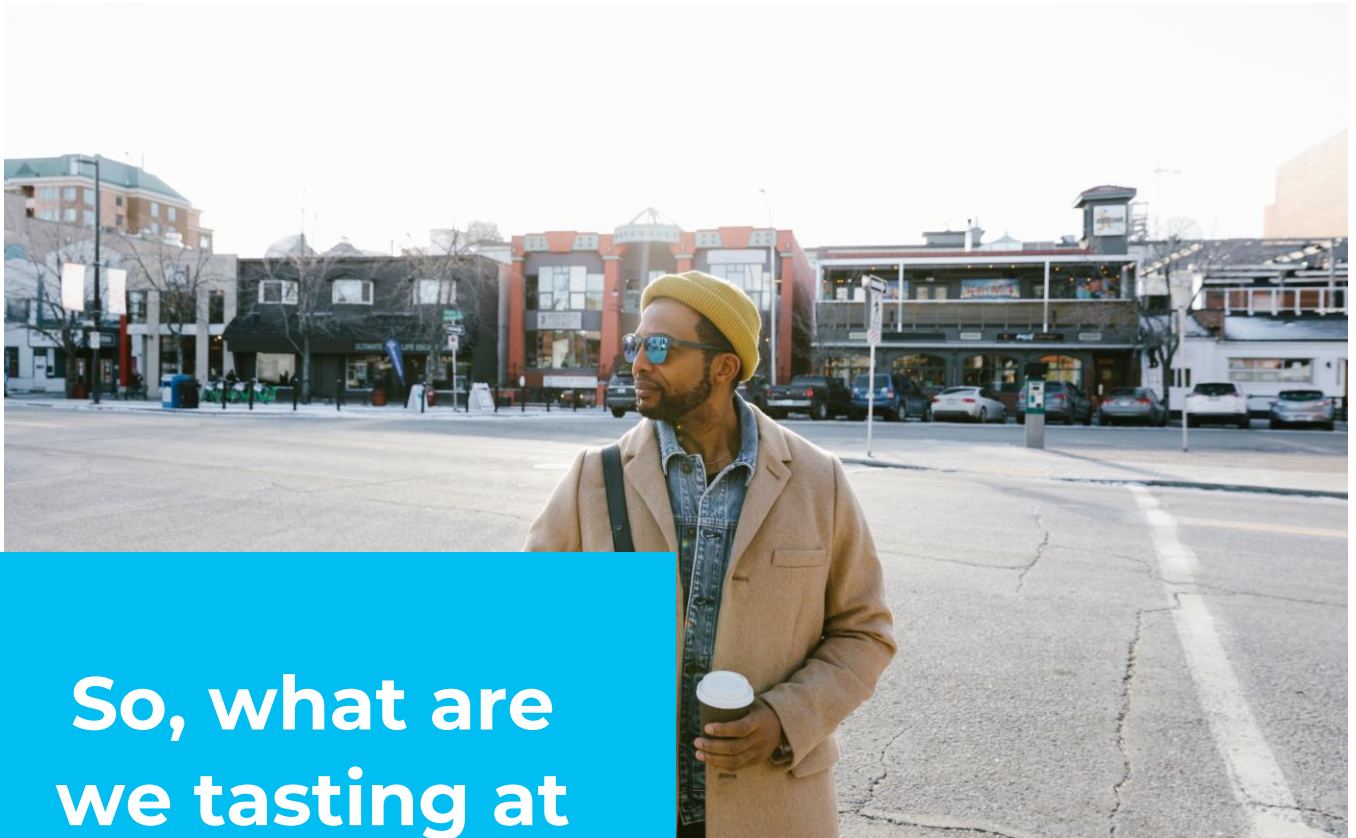
It just combines perfect!

So, what are you waiting for?

Predicting the future development

Coffee consumption is on the rise and trendy amongst millennials. The coffee market size worth USD 112.8 billion by 2030 at 5.12% CAGR. Oat is still booming and expected to reach a market size of USD 5.37 Billion in 2029 with CAGR (2023 - 2029) 13.57 %.





So, what are we tasting at Gulfood 2023?

“Oat iced espresso”

Nutrition Facts	100 ml
Calories	58
Total Fat	1.5g
Saturated Fat	0.5g
Trans Fat	0.0g
Cholesterol	0mg
Sodium	46mg
Total Carbohydrate	10.0g
Dietary Fibers	0.7g
Total Sugars	7.3g
Includes added sugar	2.3g
Protein	0.6g

Ingredients list

Water, oat, concentrated coffee, sucrose, chia oil, vanilla flavour, E460, E466, E418, phosphates, salt

Processing parameters

Add all powders and liquids at 10°C

Adjust pH to 3.90

Hydrate 10 min w. slow agitation, 10°C

Preheating 65°C

Pasteurisation at 95°C/6 sec

Flash cooling 65°C

Two stage homogenization 150/30 bars

Cooling and septic filling 20°C

