

# Let's co-create winning powdered beverages

*Cargill*<sup>®</sup>



Plant-based



Indulgence



Reducing  
sugars



Label-  
friendly



Protein  
enrichment



# We've got the powder!

The powdered drinks arena is a dynamic market that's enjoying a golden period in terms of product activity. Innova Market Insights tracked more than 3,000 new powdered beverage product launches in Europe in 2023 alone.

For consumers seeking on-the-go options, powdered drinks provide a convenient solution thanks to their lightweight nature, portability, and extended shelf life. And with rising consumer awareness around health and wellness, there's an increasing appetite for powdered drinks offering functional benefits.

## The top reported powdered beverage subcategories



### Sports powders

with proteins (44%)  
& without (39%)



### Cocoa powders



### Meal replacements

Source: Innova Market Insights, Market Trends & Opportunities for Powdered Beverages – Proprietary Cargill Analysis 2024

Leverage our extensive expertise, deep ingredient, application, and category knowledge to meet the needs of this growing market space. Whether you are looking to deliver convenience in a powdered protein-enriched sports drinks, indulgent or sugar-reduced hot cocoas or a plant-based creamer, we can co-create the right solution with you!

## Our secrets to your powdered beverage success



### Enhanced Expertise

Formulation, product development and end-to-end commercialization support to help prototype, test and scale-up for success.



### Broad Solutions Portfolio

One of the broadest portfolios of nature-derived solutions for powdered beverages including sweeteners, texturizers, proteins, fibers, oils and functional systems.



### Insight-driven Innovation

Cargill's proprietary consumer and market studies offer insights to help understand what consumers want now and for the future.



# The power of our powder capabilities

In general, one of the key functionalities that a powder should have is instant properties for easy reconstitution. Ultimately, you don't want to have any difficulties in fully dissolving your powder. This is where the combination of Cargill's **portfolio** and **expertise** comes into play.

## A one-stop-shop for powdered beverages

With one of the broadest portfolios in the market, we can capture all your needs to create tantalizing beverages, be it an indulgent hot cocoa powdered drink or a plant-based muscle building powdered drink. Leverage our portfolio that houses all the ingredients required for your specific powdered beverage: sweeteners, texturizers, plant-based proteins, oils, cocoa powders and functional systems, everything needed for a winning powdered beverage solution!

## Powering your powdered performance

With our longstanding beverage formulation expertise, insights-driven innovation and our broad solutions portfolio, we're here to support you by developing and testing solutions that deliver consumer-pleasing beverages.

Take our expertise in terms of powder handling and measuring. We can instantize, agglomerate, spray dry and blend, depending on the technical requirements of your powdered beverage project. Furthermore, we have the capabilities to measure performance, as we take it from pilot scale to commercial production together.



*Whatever your formulation challenge, be it sugar reduction, protein enrichment, plant-based or functionals, our beverages application experts can help you achieve powdered beverage success!*

# Insights-driven innovation drives co-creation

To deliver consumer-pleasing beverages, you first need to consider in-depth insights.

Leveraging Cargill's proprietary research tools and consumer and market studies, we stay on top of market dynamics, ensuring our innovation efforts are focused where they matter most. Armed with a deep understanding of market trends, we can work together to co-create innovative powdered beverages.

"The same trends that you are seeing happening in ready to drinks (RTDs), are also on the rise in powders," says Wouter van Beneden, Senior Beverage Application Specialist. "Think of sugar reduction, protein enrichment, plant-based, and functionals!" he adds.

But this doesn't mean that the formulation challenges that these trends present can be handled in the same way.

"There are many similarities of course – when reducing sugar in a formulation, you need to find the right sweetener – but then you have some challenges in powdered beverages that you don't have in RTDs and vice versa," explains Wouter. "While in RTDs you may have issues in terms of stability, in powdered beverages maintaining the serving size and having good reconstitution properties are major issues when reformulating," he notes.



Wouter van Beneden,  
Senior Beverage  
Application Specialist

"The same trends that you are seeing happening in RTDs, are also on the rise in powders."



# Powdered prototypes to power your performance

To demonstrate the breadth of Cargill's portfolio and our capabilities, our applications experts have created four concepts that highlight how we have the power to take powdered beverages to new innovation heights.



**Plant-based  
muscle building  
powder**



**The real white  
chocolate  
experience**



**A taste  
of chocolate  
perfection**



**Simply  
sweet success**

# Plant-based muscle building powder

Today's active consumers who are looking to build muscle are mainly looking to protein powders to help accomplish this goal.

However, dissolution is often a real challenge as you can only 'shake and stir'. Also, most of the commercially available powders rely on whey protein.

Enter our plant-based muscle building sports powder that provides a plant-based punch! It provides the right nutritional profile together with a perfect balance of protein and carbohydrates without compromising on taste and mouthfeel while delivering on the vegan trend.



## INGREDIENT SPOTLIGHT:



**INFUSE**  
by Cargill

Under our INFUSE by Cargill™ service offering we provide functional systems to help fast forward your product development. We bring together Cargill's extensive ingredient portfolio and 50+ years' experience to tailor the exact solution to your needs.

### Trilisse® MM 100 – Protein enrichment blend

- Ingredient blend consisting of pea and rice protein
- Solution for plant-based formulation of protein-enriched muscle building sports powders
- Delivers the right level of Essential Amino Acids, in particular leucine, isoleucine and valine (BCAA)
- Helps to deliver a clean taste profile and mouthfeel
- Easily dispersed and cold soluble

### Lygomme KCT 58 – Texturizer blend

- Ingredient blend consisting of xanthan gum and guar gum
- Designed to improve mouthfeel
- Helps to reduce sedimentation
- Cold soluble

### Trilisse® QSR 900 – Sugar replacement blend

- Ingredient blend consisting of steviol glycosides from stevia and sucralose
- Zero calories blend
- Enables sugar-free claim
- Delivers a well-balanced sweetness
- Helps to bring a more natural component/ alternative to popular artificial sweetener combination of Ace K & sucralose

## Recipe

| Ingredients (g/ serving size) |              |
|-------------------------------|--------------|
| Trilisse® MM 100              | 31.74        |
| Cargill Cocoa powder DP70W3   | 6.48         |
| Vanilla flavor                | 0.37         |
| Lygomme® KCT 58               | 0.17         |
| Trilisse® QSR 900             | 0.093        |
| <b>SUM</b>                    | <b>38.85</b> |

**Trilisse® MM 100:** Pea protein, Rice protein

**Trilisse® QSR 900:** Steviol glycosides from Stevia, Sucralose

**Lygomme® KCT 58:** Xanthan gum, Guar gum

## Nutritional information

| Amount per serving        |            |
|---------------------------|------------|
| <b>Energy (kcal)</b>      | <b>152</b> |
| Fats                      | 4          |
| <i>of which saturated</i> | 1          |
| Carbohydrates             | 1          |
| <i>of which sugars</i>    | 0          |
| Dietary fibers            | 0          |
| Proteins                  | 26         |
| Salt                      | 0          |



**RadiPure® Pea protein harnesses the natural power of peas, offering quality plant-based protein tailored to the active consumer.**

- ✓ **Pea is packed with all the essential amino acids**, like BCAAs (branched chain amino acids) and leucine; known to promote muscle synthesis.
- ✓ **RadiPure® delivers functional and nutritional advantages:**
  - **Solubility** (ensuring smooth texture without lumps)
  - **Viscosity** (for mouthfeel and consistency)
  - **Taste and sensorial appeal** (neutral taste with non-gritty mouthfeel)
  - **Favorable nutrition profile at an affordable price** (high quality protein with a minimum of 80% protein content).



**Serving size:** 38.85g/340ml water - ~3 tablespoons

# The real white chocolate experience

**Today's hot chocolates are virtually always based on a milk or dark chocolate option containing cocoa powder. There is a technical explanation as to why white chocolate cannot be labeled as such in a powdered form.**

As white chocolate contains no cocoa powder, it gains its chocolate element from cocoa butter which is high in fat.

Our teams have now succeeded in creating an indulgent powdered white chocolate, which meets the EU regulation in terms of minimum cocoa butter content and can be labeled as 'white chocolate'!

"This prototype is a great example of the benefits of Cargill's broad portfolio and capabilities. We were able to successfully combine cocoa butter and lecithin together in a homogeneous beverage powder concept that doesn't require stirring before the addition of liquid. In this way, we could create a highly differentiating indulgent hot chocolate concept that truly stands out from the crowd."

## Recipe

| Ingredients (g/ serving size)           |              |
|---|--------------|
| Sugar                                   | 9.80         |
| <b>Pulverized cocoa butter</b>          | <b>3.92</b>  |
| Whole milk powder                       | 2.67         |
| Skimmed milk powder                     | 1.26         |
| <b>Glucose syrup C*Dry® GL 01921</b>    | <b>0.98</b>  |
| <b>Sunflower lecithin Topcithin® SF</b> | <b>0.38</b>  |
| Vanilla flavor                          | 0.20         |
| Salt                                    | 0.20         |
| <b>SUM</b>                              | <b>19.40</b> |

## Nutritional information

| Amount per serving        | Per 100g   | Per 100ml |
|---------------------------|------------|-----------|
| <b>Energy (kcal)</b>      | <b>514</b> | <b>96</b> |
| Fats                      | 25.7       | 4.3       |
| <i>of which saturated</i> | 14.7       | 2.8       |
| Carbohydrates             | 64         | 10.5      |
| <i>of which sugars</i>    | 60         | 10        |
| Dietary fibers            | 0          | 0         |
| Proteins                  | 6.6        | 3.6       |
| Salt                      | 1.15       | 0.2       |



### Cargill Cocoa butter



✔ **Cocoa butter is a fundamental element of chocolate.** The right taste, color, texture, and snap – these are all achieved through working with the right base ingredients! At Cargill, our cocoa butter experts are here to help guide our customers in finding their perfect fit.

✔ **For this concept, we use pulverized ‘Sunshine’ cocoa butter.** A traditional deodorized cocoa butter product that has been polished through years of experience. This cocoa butter can be used for the manufacturing of all chocolate types, including traditional white chocolate.

**Serving size:** 19.4g/200ml semi-skimmed milk - ~3 teaspoons

# A taste of chocolate perfection

**Adult cocoa beverage consumers want more pure indulgent experiences.**

They prefer products that are less sweet, lower in sugar and with simple ingredients. Often however these consumers are disappointed by the watery and granular texture of commercially available products.

Try our dark, intense cocoa powder drink that envelops the palate delivering moments of pure indulgence for adult consumers thanks to its full flavor, smoothness and attractive visual appeal. It truly offers the perfect balance between creaminess, body and sweetness and all with a simple ingredient list.

## INGREDIENT SPOTLIGHT:



**Meet SimPure® 99480, a new instant starch.**

SimPure® 99480 truly delivers thanks to its' better instantizing properties when compared to other starches. In this way, it is better dispersible and easier to use in a powder mix. All of this results in a highly premium product for adults that is creamier and with more body, and without the need for bringing “undesirable” ingredients onto the list.



**Label-friendly**  
Starch declaration

**Easy to formulate**

**Luxurious texture**  
Allows the flavors to authentically shine through, with a full-bodied texture

**Easy to use – superior dispersibility**  
Reduced risk of lump formation; for use in cold and hot dispersing

**SimPure® 99480 features & benefits**

**Quick viscosity development**  
Delivers a good visual appearance and desired consumption experience

**Good shelf life stability**

**Can act as a protein stabilizer**

A taste of chocolate perfection

## Recipe

| Ingredients (g/ serving size)                               |              |
|---|--------------|
| Sugar   | 9.00         |
| <b>Fat reduced cocoa powder Gerkens®<br/>10-12% POR10G9</b> | <b>8.00</b>  |
| <b>Waxy corn starch SimPure® 99480</b>                      | <b>0.75</b>  |
| Salt  | 0.20         |
| Vanilla flavor  | 0.16         |
| <b>SUM</b>  | <b>18.11</b> |



## Cargill Cocoa powder

- ✔ **The innovative cocoa powders from Gerkens®** deliver high quality, consistently vivid color and delicious tasting fillings anytime, anywhere.
- ✔ **Work with our cocoa & chocolate engineers** to develop the ingredient blend that is tailored to your specific recipe.

## Nutritional information

| Amount per serving        | Per 100g   | Per 100ml |
|---------------------------|------------|-----------|
| <b>Energy (kcal)</b>      | <b>349</b> | <b>78</b> |
| Fats                      | 4.6        | 2.3       |
| <i>of which saturated</i> | 2.8        | 1.6       |
| Carbohydrates             | 59         | 9.7       |
| <i>of which sugars</i>    | 51         | 9.0       |
| Dietary fibers            | 14         | 1.3       |
| Proteins                  | 10.0       | 3.8       |
| Salt                      | 1.13       | 0.18      |



**Serving size:** 18,11g/200ml semi-skimmed milk, ~3 teaspoons

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**Cargill**

# Simply sweet success

**Growing consumer demand for healthier products is driving the key trends of sugar reduction and simple ingredient lists within the powdered beverage space, particularly when it comes to cocoa powder-based options.**

But sugar reduction presents its' own unique challenges. Say the beverage contains 80% sugar and 20% cocoa powder (including flavoring). If you remove the sugar part, you will only have the cocoa part left, which is hydrophobic (i.e., it repels water). Then you will have difficulties in wettability and dispersibility of your powder and will also have to change your serving size.

But what if you could achieve significant sugar reduction without having to take any real reformulation steps, and without the introduction of any other ingredients into the mix? Gerkens® Sweety cocoa powder makes this possible!



## INGREDIENT SPOTLIGHT:

**Meet Sweety, a game-changing solution for powdered beverages.**

Cargill's cocoa engineers have developed two new cocoa powders as part of our Gerkens® range which can enable 30% sugar reduction in a natural way, while still providing a nice chocolaty taste that consumers love. Both powders are low in bitterness, but maintain a strong well-balanced chocolaty flavor, with a strong sweet perception by consumers.

With Sweety cocoa powder, it is possible for beverage producers to hit the sweet spot for consumers who want it all: **less sugar, simple ingredients and great taste.**

Sweety is specifically targeted towards applications within the chocolate beverage category e.g., instant beverage mixes and dairy drinks.



## Recipe

| Ingredients (g/ serving size)                             |             |
|---|-------------|
| Skimmed milk powder                                       | 21.0        |
| Sugar   | 8.2         |
| <b>Fat reduced Cocoa powder (Gerkens®) 10-12% SRB 200</b> | <b>4.8</b>  |
| <b>SUM</b>  | <b>34.0</b> |



## Cargill Sweety powder

- ✔ **A game-changing range of cocoa powders for the beverage market** with 2 new cocoa powders with different flavor profiles that enable 30% sugar reduction in a simple way, without the need of additional sweeteners.
- ✔ **Taste loved by consumers** confirmed in consumer tests with both adults and kids!

## Nutritional information

| Amount per serving        | Per 100g   | Per 100ml |
|---------------------------|------------|-----------|
| <b>Energy (kcal)</b>      | <b>359</b> | <b>61</b> |
| Fats                      | 2.39       | 0.4       |
| <i>of which saturated</i> | 1.5        | 0.25      |
| Carbohydrates             | 58         | 9.9       |
| <i>of which sugars</i>    | 57         | 9.7       |
| Dietary fibers            | 4.5        | 0.8       |
| Proteins                  | 23         | 3.0       |
| Salt                      | 0.66       | 0.14      |



**Serving size:** 34g/200ml water, 3 tablespoons

# Deeper sugar reduction in cocoa beverages

## What can we use to replace sugar without altering taste profile?

A combination of HIS and bulking agents such as maltodextrin, spray dried glucose powder, soluble fibers, erythritol.



100%  
SUGAR



↓ 50%  
SUGAR  
REDUCTION

Truvia® RA80  
Cargill™  
soluble fiber



↓ 70%  
SUGAR  
REDUCTION

ViaTech® TS 1600  
Cargill™  
soluble fiber



↓ 100%  
SUGAR  
REDUCTION

ViaTech® TS 1600  
Erythritol  
Cargill™  
soluble fiber

CAPABILITY IN THE SPOTLIGHT:

# Crème de la crème of plant-based creamers

Coffee creamer traditionally consists of a liquid emulsion based on a blend of dairy fat and caseinate. These ingredients are spray dried and turned into a powdered creamer.

However, the growing demand for plant-based alternatives, as well as the constant pressure to reduce expensive dairy ingredients means that powdered beverage manufacturers are often looking for alternatives to caseinate that can function as emulsifiers in creamer applications.

This is where our application expertise and broad solutions portfolio truly comes to the fore. Combined with the right technology, we can meet customer and market needs around emulsion stability and final powder stability during shelf life, mouthfeel and whitening upon reconstitution, low fat and plant-based formulation.

## BUILDING BLOCKS FOR SUCCESS

### Starches

#### Starch: C\*EmCap® Emulsifying starch

Based on spray-drying technology, Cargill's C\*EmCap® emulsifying starches have a unique molecular architecture that ensures their emulsification, encapsulation, texturizing/rheological and stabilization properties. They enable the replacement of dairy and protein-based emulsifiers for higher cost efficiency, while ensuring easy dispersibility, low viscosity at high solids and acid stability.

### Oils & fats

#### Edible oils

We can replace dairy-based fats with our plant-based options, e.g., a coconut oil. Depending on the specific technical creamer requirements it is also possible to use palm-based options that bring a creamy mouthfeel, structural stability, opacity, whiteness and enhance flavors.

### Sweeteners

#### Sweeteners

Glucose syrup influences the spray drying stage and end product, depending on the viscosity. Where typically a 30DE syrup will be used as a bulking agent for the carrier system, we also provide a range of lower DE glucose syrups which can help to reduce the % of declarable sugars.



# What's next for powdered beverages?

With the growing demand for on-the-go options and rising consumer awareness around health and wellness, powdered beverages are experiencing somewhat of a revitalization.

Sugar reduction was the dominant claim (51%) in protein enriched sports powders while sucralose was cited as the main ingredient (77%). And although consumers seek indulgence in cocoa powdered beverages, attitudes are also shifting towards healthier indulgence to formulations that are lowering sugars, with a +14% CAGR over the past five years.

So, how can you deliver sugar reduction in powdered beverages without compromising on taste or label friendliness?

## Enter EverSweet®: The next generation stevia sweetener

This advanced, zero-calorie sweetener will bring consumers a new generation of products that reflect their priorities around health, nutrition and indulgence. Consumers don't want to compromise on any of these points; with EverSweet®, they don't have to – it's the sweetness solution that brings it all together.

*Coming end of 2024!*



## Three distinct market opportunities



Protein-based sports powders with lower sugar, calories and fat



Cocoa powders increasingly act as a canvas for healthier indulgence



Disruptors such as boosters, nutritious coffee creamers and drinks to excite