

Solutions that make fruit perform

Cargill's expertise and solutions
for fruit-based products,
Europe

Cargill | Food



Cargill is your partner for co-creating growth in fruit-based products

The fruit-based category is an overarching one that encompasses **fruit** applications such as jams & fruit desserts, but also fruit fillings for **bakery**, and fruit preparations for **dairy**.

FRUIT FOR FRUIT

- Jam
- Gelling sugar
- Fruit Dessert
- Water jelly



FRUIT FOR DAIRY

- Fruit preparation for yoghurt
- Ripple for frozen dessert



FRUIT FOR BAKERY

- Water-based filling
- Bakery cream
- Glazing, icing & acidified filling



Due to the **intermediary** nature of many of the solutions required for fruit-based products, you need a reliable partner who can understand your full matrix. By working with Cargill, you're partnering with **ingredient and formulation experts**, who can apply our knowledge to your specific processes, and help you win.

Whether you're manufacturing a fruit prep solution for a sugar-reduced fruit yogurt, a bake-stable filling for a French pastry, a high-in-fruit spread or anything in between, we've got you covered!

Our secrets to making fruit perform

Fruit-based products require the right mix of ingredients, expertise and understanding of the final matrix. Our broad range of (plant-based) ingredients including texturizers, sweeteners, fibers, cocoa & chocolate, as well as functional systems are designed to inspire consumer-pleasing solutions.

Our world-class technical expertise can help you leverage this broad portfolio to create deliciously satisfying products.

Furthermore, **our highly skilled fruit, dairy and bakery experts** can advise you at every stage of the process. When you further add in our reliable global supply chain – you have all the tools at your disposal to create consumer-pleasing products!



Anne Laure Rouger
R&D Dairy & Dairy Alternatives
Application Director – Baupte, France



Clementine Seguimbraud
R&D Fruit Application Team
Leader – Baupte, France



Susen Gottwald
R&D Bakery Category Leader –
Vilvoorde, Belgium



Insight-driven innovation:

Complement your insights with our research into market trends and consumer needs to develop consumer-pleasing fruity products.



Broad solutions portfolio:

Leverage our broad Cargill ingredient portfolio and functional systems to power your solutions.



Enhanced expertise:

Tap into reliable, knowledgeable and highly skilled fruit, dairy and bakery experts and state-of-the-art facilities that are close at hand to help solve your challenges.



Trusted supplier:

Get peace of mind through our global supply chain expertise, which focuses on safe products that are priced right and delivered on time.



Differentiating through sustainability:

Advance your sustainability goals by leveraging our sustainability actions across the supply chain.

Cargill can help build up texture & mouthfeel, enhance nutrition and create friendly labels. At the same time, we can support you in building cost-efficient, indulgent and innovative consumer products.

Today's fruit-based product development is being driven by consumer trends towards **indulgence** and **label-friendliness**, but also customer requirements around **cost-efficiency**.

At the same time, food manufacturers may engage in **improving the nutritional profile** of their products; either on a voluntary basis or driven by regulations. Especially in jams and marmalades, reducing sugars and increasing fruit content demands ingredients expertise.

Cargill can help you innovate across these macro trends:



Conscious consumption

Label-friendly formulation:

- Utilizing familiar ingredients e.g., functional, label-friendly starch.
- Organic labeling compliance such as the use of conventional pectin.

Cost optimization:

- Replacing ingredients in short supply with *more affordable* ingredients e.g., cost-effective delights alternatives to chocolate.
- Replacing ingredients with *more effective* ingredients e.g., LMC^{Plus} pectin which creates a stronger gel enabling lower dosage vs traditional LMC (low-methoxyl) pectin.



Healthy for me

Sugar reduction: Key topic in higher brix formulations, posing challenges on water activity and freeze/thaw stability, and potential texture adjustment, where our broad sweetness and sugar reduction solutions portfolio comes into play.



Experience It!

Texture innovation: Key topic for brands to win with consumers. Leveraging decorations, inclusions and more (e.g., fruit sauces for instant fruit puddings), or ingredient development to enable innovative textures (e.g., LMC^{Plus} pectin).

Ingredients in this document:

Texturizers



Functional systems



Sweeteners



Fibers



Cocoa & chocolate





Texturizers

Texture is a vital part of product delivery as it determines how we experience a product: its flavor, appearance, texture, and mouthfeel. At Cargill, we couple our texture solutions with in-depth application and technical expertise to help address your most challenging formulation needs. Furthermore, we deliver the palate-pleasing textures that will keep your customers coming back for more.

Pectin

Cargill has a wide range of pectins that covers a full array of specifications with regards to reactivity, pH, calcium content of fruit, filling temperature, and more. These pectin solutions enable great fruit suspension. They help to ensure consistent, stable texture in both conventional, and sugar-reduced applications.

TYPE OF PECTIN	TYPICAL USE	BENEFITS
HM pectin (High-methoxyl)	Jams & spreads	Allow greater formulation flexibility for gelation with sugar Stabilizing & thickening Cost-efficient but less flexible
Low-methoxyl amidated pectin (LMA)	Lower sugar jams & spreads Fruit preparations for dairy Fruit fillings for bakery Glazings & acidified fillings	Enable low sugar formulations thanks to calcium gelation Easier to manage thanks to thermo-reversibility* Stabilizing & thickening Help to prevent syneresis Low viscosity in hot conditions
Low-methoxyl conventional pectin (LMC)	Lower sugar jams & spreads Fruit preparations for dairy Fruit fillings for bakery	High calcium need Provide stronger texture Stabilizing, texturizing & thickening Help to prevent syneresis Bake stable High viscosity in hot conditions

*Versus a pure calcium network created with LMC pectins

Did you know?

Fruits are a source of sugars, salts, fibers (including pectin), which can influence the pectin gelation. Red fruits are known to bring higher acidity and higher calcium content than yellow fruit and will increase pectin reactivity.



Innovation spotlight:

UniPECTINE® LMC Plus

High performing pectins in functionality, cost and label, for recipes higher in fruits and lower in sugars (jams, bakery fillings)

Designed for recipes higher in fruits and lower in sugars, these LMCPlus pectins have strong gel strength, enabling stronger texture. The range offers label benefits versus LMA pectins and cost benefits thanks to lower dosage up to 25%*.

They help to reduce syneresis, have good heat resistance and bake-stability versus apple pectins and are suitable for use in end products wanting to make an organic claim.

*Versus standard LMC pectin.

Starch

Cargill has a wide range of food starches, including modified, native and functional, label-friendly starches. The range is primarily built according to the process (hot or cold), as well as the desired texture and functionality. It covers starches for creaminess, gelling, viscosity, and thickening.

Our solutions include:

TYPE/BRAND	MAIN FUNCTIONALITY	PROCESS	FEATURES
Native starch <i>C★Gel[®]</i>	Viscosity; Gelling	Hot & cold	Water binding for immediate consumption Limited stability over shelf-life
Functional, label-friendly starch <i>SimPure[®]</i>	Viscosity ; Gelling	Hot & cold	Better water control vs native starches Improved flavor release vs. modified starches
Modified starch (E1422) <i>C★Tex[®]</i>	Viscosity	Hot & cold	Better water control vs. native starches Cost-effective
Modified starch (E1442) <i>C★PolarTex[®]</i>	Viscosity	Hot & cold	Superior water holding vs. C*Tex [®] (lower dosage) Improved texture & taste : smoothness, creaminess, gloss, body Neutral taste
Modified starch (E1442 or E1450) <i>C★CreamTex[®]</i>	Viscosity	Hot	Enhanced creamy mouthfeel enabling fat reduction vs other modification types Clean taste
Modified starch (E1412) <i>C★PulpTex[®]</i>	Viscosity	Hot	Delivers authentic, pulpy texture to e.g., fruit sauces Can support cost reduction and texture improvement
Modified starch (E1422 or E1442) <i>C★HiForm[®]</i>	Thickening	Cold	Closest performance to cook-up products Superior texture properties such as shine, gloss and body Can be dosed lower versus C*Instant range

Innovation spotlight:

SimPure[®] functional, label-friendly starch

SimPure[®] starches help address consumers' desire for simple ingredients and familiar labels, while at the same time giving manufacturers greater process tolerance, shelf-life, and storage stability.



Label-friendly



Broad functionality



Body & mouthfeel

SimPure[®] can help clean up labels and positively influence purchasing decisions, while allowing you to maintain product quality, texture, and manufacturing methods.



NEW: SimPure[®] Bright

SimPure[®] Bright is designed to help create brighter end products such as instant creams or fruit fillings. It delivers on visual appeal while maintaining great baking stability and texture properties. Available in SimPure[®] Bright 99406 for hot processes and SimPure[®] Bright 99476 for cold processes.

Texturizers (continued)

Maltodextrin & dried glucose

Maltodextrin is produced from high-quality corn starch. It is commonly used as a bulking agent, where it helps to control viscosity, add body & mouthfeel, and stabilize ingredients to help extend shelf-life.

Solutions:

C★Dry® MD, C★Dry® Light, C★Dry® GL, C★ NutriDry

- Body, mouthfeel, bulking agent
- Low relative sweetness
- Neutral taste

Carrageenan

Carrageenans are water-soluble polysaccharides extracted from selected species of red seaweeds with thickening, stabilizing and gelling properties. These are truly exceptional ingredients with unique functionalities such as protein protection and phase separation avoidance.

Cargill offers one of the widest portfolios of commercially available carrageenan, using a large array of red seaweed varieties sourced from four continents. Each carrageenan solution undergoes strict quality control tests that mimic the specific processing conditions of relevant applications.

Our carrageenan solutions include:

BRAND	TYPE	OTHER BENEFITS
Satiagum™	Refined viscosifying carrageenan	Red Seaweed Promise™ approved
Satiagel™	Refined gelling carrageenan	Red Seaweed Promise™ approved
Aubygel™	Semi-refined and refined carrageenan	Cost-effective solution

Xanthan gum

Xanthan is a macro molecule of sugar produced by fermentation. Nutrient sources in the fermentation broth are plant-based (typically wheat or sugar beet). The result is a widely used, cold-soluble thickener that provides high viscosity over time, even at low concentrations.*

Solution:

Satiaxane®

Versatile: Texture & mouthfeel enhancement with the ability to form an elastic gel in combination with guar or locust bean gum. Standard and transparent grades are available.

- **Standard grade:** When looking for a cost-efficient thickener that provides high viscosity over time at low concentration. Available in dust-free, quick dispersibility, and kosher versions.
- **Transparent grade:** When looking for a transparent formulation thickener that provides very high viscosity over time at low concentrations. Available in rapid hydration, dust-free, and quick dispersibility versions.

Easy to use: Cold dispersible, hot or cold process, sprayable.

Resistant: Thermo-reversibility and freeze-thaw stability. High resistance to acid and alkaline pH, shear, amylase, heat treatment, and salt tolerance.

Cost-effective: Can be applied effectively at a very low dosage.



Functional systems

In today's complex food environments, where consumers want it all, manufacturers are expected to accelerate new product development to capitalize on faster changing consumer trends. Functional systems can play a role here. Cargill's large portfolio of off-the-shelf blends have been designed to provide targeted functionalities such as thickening, gelling, emulsifying, water binding, and shape retention. Moreover, they can offer operational benefits such as cost saving, simplicity, and speed.

Discover some of our building blocks which can be further tailored according to specific customer processing and manufacturing needs:

RANGE	APPLICATION	HERO SOLUTION	BENEFITS
Flanogen® OB series	Fruit fillings for bakery	Flanogen® OB 60: A blend of pectin and alginate.	Bake-stable
Trilisse® OB series	Bakery creams	Trilisse® OB920: A blend of functional, label-friendly starch and pectin.	Bake stable Creaminess Shine
Flanogen® OGC series	Glazings	Flanogen® OCG 204: A blend of agar, starch and pectin.	Cold spreadable Thixotropic Cost-effective
Gelogen® OW series	Water jelly desserts	Gelogen® OW 0590: A blend of carrageenan, locust bean gum and buffer salts.	Fast gelling Mimicks gelatin texture: Creates a soft and very cohesive texture High acid resistance High transparency Prevents syneresis No stickiness (easy demolding)

IN FUSE
by Cargill

“We offer you a seamless solution so you can fast forward product development cycles and deliver on-trend products to market faster and more efficiently.”



Sweeteners

Cargill offers one of the broadest sweetness portfolios; ranging from full to no calorie options, to offer choice to customers, and consumers. Whether you're creating an entirely new product or formulating for balanced nutrition, Cargill's broad range of nature-derived sweetness solutions can help you deliver sweet success.

Full calorie sweeteners

Our portfolio of nutritive sweeteners are bulk sweeteners that bring 4 kcal/g. By varying the syrup's composition, the sweetness profile and functional benefits can be tailored to match the exact needs of food & beverage formulations.

TYPE/BRAND	BENEFITS
Glucose syrup <i>C★Sweet®</i>	Low to moderate relative sweetness Medium to high viscosity, body and mouthfeel Helps to adjust sugar recrystallization Can be used to reduce declarable sugars (DP1+DP2)
Glucose-fructose syrup <i>C★TruSweet®</i>	Moderate to high relative sweetness Cost-effective sugar replacement Controlled browning and freezing point depression
Fructose syrup <i>C★TruSweet® 01795</i>	High relative sweetness Enables up to 30% sugar and calorie reduction, and more in combination with high intensity sweeteners Enhances freshness and boosts fruity flavors
Dextrose <i>C★Dex®</i>	High relative sweetness Typical sweet taste Flavor enhancement Good solubility

Stevia sweeteners

Stevia sweeteners¹ are high-intensity sweeteners with 0 kcal/g that can help reduce sugar and calories, while still delivering a nice, sweet taste.

TYPE/BRAND	LABELING	BENEFITS
High purity Reb A <i>Truvia®</i>	Steviol glycosides from stevia	Clean, sweet taste Ideal for lower level sugar reduction Cost-effective
Proprietary, synergistic blends of steviol glycosides <i>ViaTech®</i>	Steviol glycosides from stevia	Designed for optimal taste and sweetness Reduced bitterness and licorice off-notes Enables deeper sugar reduction
Reb M and Reb D produced via advanced fermentation techniques <i>EverSweet®2</i>	Steviol glycosides from fermentation	Significant levels of sugar reduction, while still maintaining great taste Further reduction possible in combination with flavor modulators or flavor enhancers like erythritol



Polyols

Polyols¹ are sugar alcohols that hold 2.4 kcal/g and can help reduce sugar and calories. They are typically less sweet versus sucrose, tooth-friendly, and typically used for bulking.

TYPE/BRAND	BENEFITS
Maltitol <i>Maltidex</i> [®]	Similar sweetness, cooling effect and behavior to sucrose Boosts fruity flavors
Sorbitol <i>C★Sorbidex</i> [®]	Milder relative sweetness versus sucrose Cost-effective

1. Steviol glycosides and polyols are permitted in most energy or sugars reduced foods under “quantum satis” or under conditions of use. Foods with over 10% polyol content must carry a label “Excessive consumption may cause laxative effects” (EU Reg. 1333/2008 on food additives).

2. Product of Avansya, a joint venture between Cargill and dsm-firmenich.

3 FSA is a standardized reference developed by SAI Platform, a food-industry organization dedicated to advancing sustainable agriculture in the food chain. It’s designed to help producers assess their sustainable practices and support manufacturers in sourcing sustainably grown products. ISO/TS 19657:2017 (<https://www.iso.org/news/ref2254.html>).

4. LCA results have undergone a ISO14040/44 panel review, underlying report available upon request.

Stevia leaf

Cargill’s agricultural stevia program has been benchmarked at Silver level by Farm Sustainability Assessment (FSA) 3.03 – becoming the first stevia producer in the industry with our entire grower network evaluated that achieved this distinction.



EverSweet[®]

A life cycle assessment (LCA) shows that EverSweet[®] stevia sweetener, produced using advanced fermentation techniques, results in improved environmental performance in key metrics such as carbon footprint, water use, and land use impact compared to production from leaf or bioconversion, or traditional sugar.⁴



Fibers

As consumers embrace a more proactive and preventative approach towards health, their attitudes are increasingly reflected in their food & beverage choices. As a result, fiber is rising in popularity. Cargill's offer of fibers is fully in line with today's trends towards sugar and calorie reduction, fiber enrichment, and label-friendliness.

TYPE/BRAND	BENEFITS
Soluble corn/wheat fiber Cargill™ soluble fiber	Enables “source of”/ “high in” fiber claims Helps to improve Nutri-Score (sugar/calorie reduction, fiber enrichment)
Citrus fiber CitriPure®	Supports fiber enrichment Versatile functionality (thickening, texturizing, binding, bulking) Can help with viscosity and suspension
Seaweed powder WavePure®	Whole, non-transformed seaweed Label-friendly ingredient Consistent quality and limited taste and color impact. Contributes to mouthfeel and consistency in (non-) dairy applications. Adds functionality in terms of gel strength, viscosity and suspension.

Innovation spotlight:

Cargill™ Soluble fiber

Cargill™ soluble fiber can help you improve the nutritional profile of fruit-based products.

Based on European corn and wheat, these plant-based and label-friendly ingredients answer the rising consumer demand for sugar reduction and fiber enrichment.

Produced via micro-reactor technology developed in partnership with Germany's Karlsruhe Institute for Technology, these fibers do not impact color nor flavor and contribute to a good mouthfeel.

In jams, Cargill™ soluble fiber can help to reduce sugar up to 30%, contribute to a high in fiber claim, without impact on texture.





Cocoa & chocolate

From bean to bar, Cargill's global portfolio of high-quality cocoa and chocolate ingredients can help you create consumer pleasing products. Whether you're adding a touch of indulgence to a jam or creating a delicious chocolate bakery cream or sauce for ice creams, Cargill has the portfolio and expertise to guide your product formulation.

Chocolate

SOLUTIONS	TYPE	BENEFITS
Standard – Milk, dark, white	Liquid & solid solutions	Capability to produce chocolate recipes that comply with vegan certification Available with sustainable certification
Caramel Selection	White chocolate with caramelized ingredients	Label-friendly – flavored with natural caramelized ingredients Four color & flavor profiles
Organic	Organic claim chocolate	Sourced from organic origins across the globe to limit local influences on supply stability Blended from different origins to ensure consistent flavor profiles

Cocoa powder



The Cocoa Collection by Gerkens®

A broad portfolio of high-quality cocoa powders, backed by expert guidance, and vast sensory expertise. Offers you endless opportunities for that super indulgent kick to your creations.

Enquire to learn more about our various cocoa ranges, to meet label-friendly, sugar-reduction, indulgence boosting goals or more.

Decorations & inclusions

Cargill offers a broad expertly crafted portfolio of decorations & inclusions, to help you create extraordinary sensorial experiences.

For fat-based fillings portfolio, we kindly refer you to our bakery solutions:

Let's discuss how we can improve the performance of your fruit portfolio.

Get in touch today: [Contact us about Fruit-based products | Food EMEA | Cargill](#)

Read more about our solutions: [Fruit-based products | Food EMEA | Cargill](#)



This document is provided for your information and convenience only. All information, statements, recommendations and suggestions are believed to be true and accurate under local laws but are made without guarantee, express or implied. WE DISCLAIM, TO THE FULLEST EXTENT PERMITTED BY LAW, ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE and FREEDOM FROM INFRINGEMENT and disclaim all liability in connection with the storage, handling or use of our products or information, statements, recommendations and suggestions contained herein. All such risks are assumed by you/ user. The labeling, substantiation and decision making relating to the regulatory approval status of, the labeling on and claims for your products is your responsibility. We recommend you consult regulatory and legal advisors familiar with applicable laws, rules and regulations prior to making regulatory, labeling or claims decisions for your products. The information, statements, recommendations and suggestions contained herein are subject to change without notice.

The labeling, substantiation and decision making of all claims for your products is your own responsibility. We recommend you consult regulatory and legal advisors familiar with applicable laws, rules and regulations prior to making labeling claims decisions for your products.