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food

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* The acidification profile may vary according to the technological parameters (i.e.temperature)

* All our cultures reported in this catalogue are available in freeze-dried formats. Frozen culture are available upon request

Introduction

Sacco System is the focal point of international biotechnology, driving excellence in the food, nutraceutical, and pharmaceutical industries.

As a “microbial innovator” committed to a better world, we research, study, and develop microorganisms to enrich the lives of humans, animals, and plants.

For more than 150 years, we have supported our customers by producing enzymes, Lactic Acid Bacteria, and probiotics designed to promote a culture of wellness and improve quality of life. Our deep expertise and continuous investment in research and development allow us to create cutting-edge solutions tailored to the evolving needs of our partners and industries.

By combining family spirit, tradition, innovation, and sustainability, we provide our ingredients to over 110 countries, nurturing the world every day.

YOGURT

YOGURT

Yogurt

Yogurt is a fermented food product made from milk. It is prepared by adding live bacteria cultures, specifically *Lactobacillus delbrueckii* subsp. *bulgaricus* and *Streptococcus thermophilus* to milk.
This fermentation process converts lactose, the natural sugar in milk, into lactic acid, giving yogurt its tangy flavor and thick texture.
Yogurt is a good sourse of protein and calcium.

The great majority of the flavour compounds found in yogurt derive from the activity of microorganisms in starter cultures.

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Application			**Product description**			
Yogurt	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Set mild	Mild and aromatic flavor Controlled post-acidification Balanced aroma Naturally smooth	Y 258 A Y 259 A	Medium	Medium	Mild/Aromatic	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*
Set traditional	Traditional aromatic flavor Balanced aroma Fluidly refreshing	Y 278 F Y 280 F	Medium/High	Medium	Traditional	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*
Drinking mild	Mild and aromatic flavor Controlled post-acidification Balanced aroma Naturally smooth	Y 150 B Y 152 B	Medium	Low	Mild	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*
Drinking traditional	Traditional aromatic flavor Balanced aroma Fluidly refreshing	Y 170 F Y 172 F	Medium/High	Low	Traditional	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*

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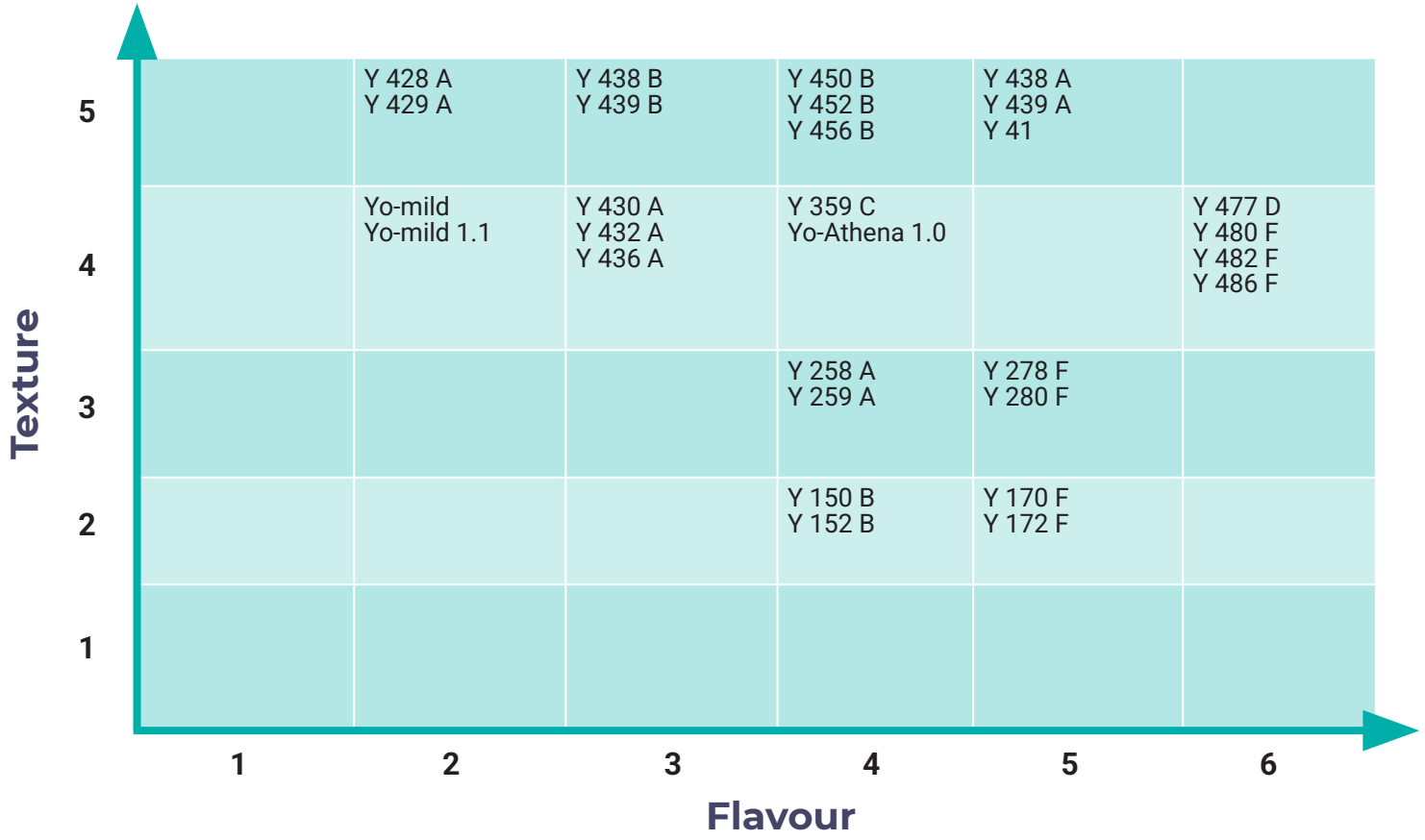
Application			Product description			
Yogurt	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Stirred mild	Mild flavor Extremely low post-acidification Very high texture Extra mouthfeel	Yo-mild and Yo-mild 1.1 Y 428 A Y 429 A	Medium/High	High	Extra-Mild	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*
Stirred and aromatic mild	Mild flavor Low post-acidification maintaining Balanced aroma High texture Extra mouthfeel	Y 359 C	Medium	Medium/High	Mild	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*
Stirred and aromatic	Enhanced yogurt flavor Controlled post-acidification High texture Extra mouthfeel	Y 430 A Y 432 A Y 436 A Y 438 A Y 439 A Y 438 B Y 439 B Y 41	Medium	High	Mild	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*
Ambient and stirred Premium	Mild flavor Low post-acidification maintaining Balanced aroma High texture Extra mouthfeel	Yo-Athena	Medium	Medium/High	Mild	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*
Stirred and aromatic	Mild and aromatic flavor Controlled post-acidification Balanced aroma High texture Extra mouthfeel	Y 450 B Y 452 B Y 456 B	Medium	High	Mild to aromatic	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*
Stirred and traditional	Traditional flavor Balanced aroma High texture Extra mouthfeel	Y 477 D Y 480 F Y 482 F Y 486 F	Medium/High	Medium/High	Traditional	*Streptococcus thermophilus* *Lactobacillus delbrueckii* subsp. *bulgaricus*

Yogurt line

Texture and flavor characteristics of Sacco System cultures



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FERMENTED MILK

FERMENTED MILK

Dahi

Dahi or curd, also mosaru, thayir and perugu, is a traditional yogurt or fermented milk product originating from and popular throughout the Indian subcontinent.

It is usually prepared from cow's milk, and sometimes buffalo milk or goat milk.

The species involved in the fermentation depends on the temperature and humidity of the environment and may include *Lactobacillus delbrueckii* subsp. *bulgaricus* and *Streptococcus thermophilus*.

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Application			Product description			
Dahi	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Dahi mild	Medium texture No buttery notes	MS 058 ET MS 059 ET	Medium	Low	MIld	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis;* *Leuconostoc mesenteroides* ssp. *dextranicum*

Ayran

Ayran is a cold savory yogurt-based beverage popular across Turkic countries.
The principal ingredients are yogurt, water and salt.

Ayran is served chilled and often as an accompaniment to grilled meat, bread or rice, especially during summer.

It is made by mixing yogurt with chilled or iced water and is sometimes carbonated and seasoned with mint.
It has been variously described as “diluted yogurt“ and “a most refreshing drink made by mixing yogurt with iced water. The species involved in the fermentation include *Lactobacillus delbrueckii* subsp. *bulgaricus* and *Streptococcus thermophilus*.

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Application			Product description			
Ayran	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Ayran refreshing drink	Traditional flavor Balanced aroma High texture Extra mouthfeel Salt resistant strains	Y 476 E Y 478 E	Medium/ High	High	Traditional	*Streptococcus thermophilus;* *Lactobacillus delbrueckii* subsp. *bulgaricus*
Ayran refreshing drink	Traditional flavor Balanced aroma High texture Extra mouthfeel	Y 470 E Y 480 F	Medium/ High	High	Traditional	*Streptococcus thermophilus;* *Lactobacillus delbrueckii* subsp. *bulgaricus*

Smetana

Smetana is a popular dairy product in Eastern and Central European countries, particularly in Russia and Ukraine. It is a type of thick, creamy, and tangy cultured cream that is often used as a topping or ingredient in various dishes.
Smetana is made by fermenting high-fat cream with lactic acid bacteria. The fermenting process gives it a distinct sour taste and thick consistency. It is similar to sour cream but has a higher fat content and is usually thinner and less tangy.
In culinary traditions, smetana is commonly used to accompany and enhance the flavors of savory dishes like soups, stews, blini (Russian pancakes), pierogi, and borscht. It can also be used as a topping for desserts or added to sauces and dressings to add richness and tanginess.
Smetana is available in different fat percentages, ranging from around 10% to 40%.

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Application			Product description			
Smetana	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Smetana mild	Medium-high texture Creamy Extra mouthfeel No buttery notes	MOS 330 E MOS 332 E	Medium/High	Medium/ High	High	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *cremoris.*
Smetana aroma	Aromatic flavor Medium-high texture Extra mouthfeel Extra creaminess Low buttery notes	MS 330 EN MS 332 EN	Medium/High	Medium/ High	High	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *cremoris;* *Leuconostoc mesenteroides;* *Leuconostoc pseudomesenteroides.*
Smetana mild	Aromatic flavor Medium-high texture Extra creaminess Low buttery notes	MOS 235 D	Medium/High	Medium	High	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *cremoris.*

Rjazhenka

Rjazhenka is a traditional Russian dairy product that has gained popularity worldwide for its unique taste and numerous health benefits. It's different from regular yogurt or milk due to its fermentation process, which gives it a distinct flavor and consistency.
It's an excellent source of probiotics, calcium, and protein, promoting gut health, bone strength, and overall well-being.
Unlike regular yogurt, Rjazhenka has a creamy, velvety texture that's pleasing to the palate.
You can enjoy Riazhneka on its own, with fruits, as a base for smoothies, or in various culinary recipes thanks to its versatile usage.

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Application			Product description			
Rjazhenka	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Rjazhenka std	Medium high texture	ST 440 ST 446 ST 338 ST 339	Medium	Medium	Medium	*Streptococcus thermophilus*

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Kefir

Kefir is an acid-alcholic fermented dairy beverage originating from the Caucasus and much appreciated especially in the countries of the former Soviet Union that is popular for its unique taste and potential health benefits. Kefir can be prepared with goat, sheep or cow's milk through the coagulation of the milk carried out by species of lactic ferments naturally present or added as starter. The final product has a consistency similar to thin yogurt but may be slightly thinner. It is smooth and pourable, with a slightly effervescent quality due to the carbon dioxide produced during fermentation.

Nowadays, the word kefir is addressed to a wide range of fermented milk and we have the possibility to use different cultures to make the traditional kefir and the contemporary kefir as well.
It can be taken for breakfast, lunch or dinner and provides health benefits to everyone, even those who are lactose intolerant.

Traditional Kefir

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Application			Product description			
Kefir type	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Traditional flavour	Drinkable with lactose fermenting yeast	MT 036 LX	Medium/ High	Low	Medium/High	*Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *cremoris;* *Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis;* *Lactobacillus brevis; Leuconostoc ;* *Saccharomyces cerevisiae* var. *boulardii;* *Kluyveromyces marxianus*
Traditional mild	Drinkable with non lactose fermenting yeast	MT 031 LV MT 032 LV MT 036 LV	Medium/ High	Low	Medium/High	*Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *cremoris;* *Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis;* *Lactobacillus brevis; Leuconostoc;* *Saccharomyces cerevisiae;* var. *boulardii.*
Traditional body flavour	Stirred with lactose fermenting yeast	MT 372X	Medium/ High	High	Medium/High	*Lactobacillus delbrueckii* ssp. *bulgaricus;* *Streptococcus thermophilus; Lactococcus lactis* ssp. *lactis* biovar *diacetylactis;* *Leuconostoc; Saccharomyces cerevisiae* var. *boulardii; Kluyveromyces marxianus.*
Traditional body mild	Stirred with non lactose fermenting yeast	MT 430 ANV	Medium/ High	High	Medium/High	*Lactococcus lactis* ssp. *cremoris;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *lactis* biovar *diacetylactis;* *Lactobacillus brevis; Leuconostoc;* *Saccharomyces cerevisiae* var. *boulardii.*

Contemporary Kefir

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Application			Product description			
Kefir type	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Contemporary	Stirred with no yeast	MS 330 EN MS 332 EN MT 430 AN	Medium/ High	High	Medium	*Lactococcus lactis* ssp. *lactis;* *Streptococcus thermophilus;* *Lactococcus lactis* ssp. *cremoris;* *Lactococcus lactis* ssp. *lactis* biovar *diacetylactis;* *Leuconostoc.* MT 430 AN also contains: *Lactobacillus brevis*
	Stirred with probiotics	MTX 432 EN	Medium/ High	High	Medium/Low	*Lactococcus lactis* ssp. *cremoris;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *lactis* biovar *diacetylactis;* *Streptococcus thermophilus;* *Lacticaseibacillus rhamnosus (Lb. rhamnosus);* *Bifidobacterium animalis* ssp. *lactis;* *Lactobacillus acidophilus;* *Lacticaseibacillus casei (Lb casei);* *Lactobacillus delbrueckii* ssp. *lactis;* *Lactobacillus brevis;* *Leuconostoc mesenteroides.*

CHEESES

Pasta filata cheeses

Pasta filata cheese is a type of cheese that undergoes a unique stretching and kneading process during its production. This method gives the cheese a stringy, elastic texture. Common examples include mozzarella and provolone.
Pizza cheese typically refers to a blend of cheeses, commonly mozzarella, known for its meltability and gooey texture. The choice of cheese contributes significantly to the taste and texture of the final pizza.

Fresh mozzarella is a soft, mild, and moist cheese made from cow's or buffalo's milk. It has a high moisture content, a smooth surface, and a delicate, creamy flavor. The cheese is typically formed into small, round shapes and is best enjoyed shortly after production for its optimal freshness and texture. It's a popular choice for salads, caprese dishes, and as a topping for pizzas due to its ability to melt into a creamy consistency when heated.

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Application			Product description			
Pasta filata	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Pizza cheese	High performing cultures to better control browning and blistering issues related Improved stretchability and meltability	ST REGINA M ST REGINA S + (LH)	Very High	-	Medium	*Streptococcus thermophilus* Possibility to add: *Lactobacillus helveticus*
Fresh mozzarella	A series designed to endows the typical "fior di latte" characteristics to the product	ST 05X	Medium	-	High	*Streptococcus thermophilus*

Hard cheeses

As the name suggests, hard cheese is firm. Production involves separating and draining most of the whey before pressing the curd, which is then either brined to create a hard rind or waxed. Finally, the cheese is aged for between 2 and 36 months, and in some cases even longer. Aging determines the intensity of the flavour.
A well-aged cheese will be more flavourful, less creamy and grainier in texture.

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Application			Product description				
Hard cheeses	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Maximum heating Temperature**	**Strains**
Parmesan type	Hard cheese with moisture content ranging from 33% to 40% A mix of strain purposely selected to undergo the hard cheese temperature gradient	YH 090 E YH 092 E YH 094 E YH 092 F YH 094 F YH 096 F	Medium/High	-	Medium/High	>52°C	*Streptococcus thermophilus;* *Lactobacillus delbrueckii* ssp. *bulgaricus;* *Lactobacillus helveticus.*
		YHL 090 E YHL 092 E YHL 096 E YHL 092 F YHL 094 F YHL 096 F	Medium/High	-	Medium/High	>52°C	*Streptococcus thermophilus;* *Lactobacillus helveticus;* *Lactobacillus delbrueckii* ssp. *bulgaricus;* *Lactobacillus delbrueckii* ssp. *lactis.*
Emmenthal type	Hard cheese with a balanced elasticity/plasticity ratio to get the best out from eyes formation A choice of propionibacterium able to undergoes different ration of temperature A wide range of starter to guarantee production versatility	SHL 092 F + PF/PB + (LH,LL)	Medium/High	-	Medium/High	>52°C	*Streptococcus thermophilus;* *Lactobacillus delbrueckii* ssp. *lactis;* *Lactobacillus helveticus* *Possibility* to add: *Propionibacterium freudenreichii* ssp. *shermanii* or *Propionibacterium freudenreichii*
		MOT 09x FF MOT 09x EF MOT 09x EE + PF/PB + (LH,LL)	Medium/High	-	Medium/High	>48°C	*Lactobacillus helveticus;* *Lactobacillus delbrueckii* ssp. *bulgaricus;* *Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis.* Possibility to add: *Propionibacterium freudenreichii* ssp. *shermanii or Propionibacterium freudenreichii*

Semi-hard cheeses

Semi-hard cheeses are a category of cheese that falls between soft and hard cheeses in terms of texture and flavor. They are often characterized by their moderate moisture content and a firm, yet somewhat pliable, texture. These cheeses undergo a longer aging process than soft cheeses but not as long as hard cheeses, which gives them their distinct characteristics. allowing them to develop more complex flavors and textures
The flavor profile of semi-hard cheeses can vary widely, but it often includes a balance of nutty, salty, and savory notes. The aging process can intensify and add complexity to the flavor, resulting in a wide range of taste experiences.

Cheddar

Cheddar cheese (or simply cheddar) is a natural cheese that is relatively hard, off-white (or orange if colourings such as annatto are added), and sometimes sharp-tasting. It originates from the English village of Cheddar in Somerset, South West England.

Cheddar is produced all over the world, and cheddar cheese has no Protected Designation of Origin.
The ideal quality of the original Somerset cheddar was described by Joseph Harding in 1864 as "close and firm in texture, yet mellow in character or quality; it is rich with a tendency to melt in the mouth, the flavour full and fine, approaching to that of a hazelnut".

Cheddar made in the classical way tends to have a sharp, pungent flavour, often slightly earthy.
The "sharpness" of cheddar is associated with the levels of bitter peptides in the cheese. This bitterness has been found to be significant to the overall perception of the aged cheddar flavour.

Application			**Product description**			
Semi hard cheeses	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Cheddar cheeses	Specifically designed for Cheddar type cheese Creamy notes	MOS 052 A MOS 054 A MOS 056 A	Medium/ Fast	Medium/ Low	Medium/ High	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *cremoris.*
	Specifically designed for semi hard cheeses Also suitable for long ripening	MOS 062 B MOS 064 B MOS 066 B	Medium	Medium/ Low	Medium	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *cremoris.*
	Complex set of cultures for the production of semi hard cheeses Versatile blends	MOS 060 G MOS 066 G	Fast	Medium/ Low	Medium	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *cremoris.*

Rossiyskiy

Rossiyskiy cheese, also known as Russian cheese, is a type of cheese that hails from Russia. This cheese is made using traditional cheese-making methods and is distinct to the region. It's known for its unique characteristics, flavor, and texture.

Traditionally, Rossiyskiy cheese is made from cow's milk. The quality of the milk used plays a crucial role in determining the cheese's flavor and texture.
The exact texture can vary depending on the specific production method and the cheese's age.
Rossiyskiy cheese can be aged for varying durations. Younger cheeses may be milder in flavor and have a smoother texture, while aged versions tend to be sharper and more crumbly. Some types of Rossiyskiy cheese are aged for several months or even longer, allowing for a deeper and more intense taste.
Younger cheeses may be more pliable, while aged versions can become quite firm and crumbly.
The flavor of Rossiyskiy cheese is often described as mild and slightly salty. It may have subtle tangy or nutty undertones, depending on the aging process. The cheese can develop a more complex flavor as it matures.
There are different regional and local varieties of Rossiyskiy cheese throughout Russia, each with its own unique characteristics.

Maasdam

Maasdam cheese, also known as Maasdammer or Leerdammer, originated in the Netherlands, and it is named after the Maas River and the town of Maasdam in South Holland.
It is a **semi-hard** Dutch cheese that is recognized for its distinctive appearance and sweet, nutty flavor. It shares some similarities with Emmental or Swiss cheese due to its characteristic holes or “eyes” and its production process.

Maasdam cheese is traditionally made from cow’s milk. The milk used in its production can vary depending on the region and specific cheesemaker, but cow’s milk is the most common choice.
This kind of cheese has a semi-hard to hard texture. It is firm yet somewhat elastic, making it easy to slice and melt. The texture is smooth and creamy with occasional small, irregular holes, which are a defining feature of the cheese.

Maasdam cheese is known for its **sweet, nutty, and slightly buttery flavor**. It is less pungent than some other hard cheeses, which makes it appealing to a wide range of palates.
The aging period for Maasdam cheese can vary, typically from a few weeks to a few months. The cheese develops a more pronounced flavor and firmer texture as it ages.
Maasdam cheese is characterized by its numerous small holes or “eyes” throughout the cheese. These holes are created by carbon dioxide gas produced during fermentation and are a distinctive feature of the cheese.

There are variations of Maasdam cheese produced in different countries, sometimes marketed under different names like Leerdammer. While they share similarities, the flavor and texture can vary slightly depending on the production location.

Dutch cheeses

Dutch cheeses are a diverse and renowned group of cheeses that come from the Netherlands. These cheeses are known for their quality, flavor, and versatility.

Dutch cheeses are enjoyed both domestically and internationally and are often featured in cheese platters, sandwiches, salads, and various culinary dishes.

The diversity of Dutch cheeses, from mild and creamy to strong and pungent, makes them suitable for a wide range of tastes and preferences.

Here's an overview of Dutch cheeses and some of the most popular varieties:

Gouda: perhaps the most famous Dutch cheese, named after the city of Gouda in the Netherlands. It comes in various ages, including young, matured, and extra matured. Young Gouda is creamy and mild, while older versions have a firmer texture and a deeper, nutty flavor.

Edam: another well-known Dutch cheese. It is characterized by its distinctive, round shape and a pale yellow wax rind. Edam has a mild and slightly salty taste, making it a popular choice for slicing and snacking.

Leerdammer: mild cheese with a slightly nutty flavor. It is a popular cheese for sandwiches and snacking. It is often marketed as a healthier alternative to other cheeses due to its lower fat content.

Limburger: distinct for its strong aroma and pungent flavor. This semi-soft cheese is often spread on bread and paired with onions or pickles. It has a bold and acquired taste.

Leyden (Leidse kaas): known for its spiced variety, flavored with cumin and caraway seeds. It has a semi-hard texture and a slightly tangy and aromatic taste. The spiced version is particularly popular.

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Application			Product description			
Semi hard cheeses	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
(Rossiskiy Maasdam Dutch type)	Specifically designed for Rossiskiy type cheese Creamy notes	MS 062 CM MS 064 CM/ CP MS 066 CM/ CP + LH	Medium	Medium/Low	Medium(High	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis;* Possible to add: *Lactobacillus helveticus.*
	Specifically designed for semi hard Russian type cheeses Also suitable for long ripening	MT 092 FFM**	Medium/Fast	Medium/Low	Medium	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis* *Lactobacillus helveticus*
	Complex set of cultures for the production of semi hard cheeses Versatile blends Long vat operations	MT 090 EFN** MT 096 EFN** MT 092 FET** MT 096 FET** MT 096 FEN + BGP 1 + LH13	Medium/Fast	Medium/Low	Medium	*Lactococcus lactis* ssp. *lactis* *Lactobacillus delbrueckii* ssp. *lactis;* *Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis* *Streptococcus thermophilus;* *Leuconostoc.* Possible to add: *Lactobacillus helveticus.*
	Complex set of cultures for the production of semi hard cheeses Versatile blends Short vat operations	MT 090 FDN** MT 092 FDN** MT 094 FDN**	Medium/Fast	Medium/Low	Medium	*Lactococcus lactis* ssp. *cremoris* *Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis* *Streptococcus thermophilus Lactobacillus helveticus* *Lactobacillus casei* and *Leuconostoc.*

* The acidification profile may vary according to the technological parameters (i.e.temperature)

Fresh Cheeses

Acid coagulated cheeses

Acid coagulated cheeses, acid-set, lactic curd, and lactic-set are all monikers that refer to using acid to coagulate milk. That acid can either be added directly or can be produced by starter cultures.
A few examples of acid-coagulated cheeses include **tvorog, american cottage cheese** and **quark**.

Tvorog is a non-liquid white fermented milk product, traditional for Eastern, Northern and (less often) Central Europe, obtained by fermenting milk with subsequent whey removal. According to the method of manufacture, such types of Tvorog are distinguished as simple, soft, and grained Tvorog, which is a type of low-fat Tvorog.

Quark is a type of fresh cheese made from pasteurized cow's milk. In Germany the appearance is similar to that of ricotta, although the two dairy products should not be confused; some types of quark have a semi-liquid consistency.

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Application			**Product description**			
Acid coagulated cheeses	Product characteristics	Cultures series	Fermentation speed	Texture	Flavor	Strains
Tvorog	Phage robustness (3 rotations) Finely working at 28-32°C Fresh taste.	MW 035 QT MW 038 QT MW 039 QT	High	Low	Medium/High	*Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis;* *Lactococcus lactis* ssp. *cremoris;* *Lactococcus lactis* ssp. *lactis;* *Leuconostoc.*
American Cottage Cheese	Finely working at 28-38°C	MOS 080 F MOS 082 F MOS 090 F MOS 092 F	Very high	Low	Medium/High	*Streptococcus thermophilus;* *Lactococcus lactis* ssp. *lactis.*

Cream cheese

Cream cheese is a soft, usually mild-tasting fresh cheese made from milk and cream.

Cream cheese is not naturally matured and is meant to be consumed fresh, so it differs from other soft cheeses.
It is more comparable in taste, texture, and production methods to Boursin and mascarpone.
Cream cheese are general defined as containing at least 33% milk fat with a moisture content of not more than 55%, and a pH range of 4.4 to 4.9.
In other countries, it is defined differently and may need a considerably higher fat content.

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Application			Product description			
Acid coagulated cheeses	**Product characteristics**	**Cultures series**	**Fermentation speed**	**Texture**	**Flavor**	**Strains**
Quark/Cream cheese	Phage robustness Creamy notes No gas	MWO 030 MWO 032	Medium	Low	Medium	*Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *cremoris;*
Quark/Cream cheese	Phage robustness Creamy notes	MW 030 S MW 031 S MW 036 S	High	Low	Medium/High	*Lactococcus lactis* ssp. *lactis;* *Lactococcus lactis* ssp. *cremoris;* *Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis;*
Quark/Cream cheese	Phage robustness Creamy notes	MW 035 TA MW 038 TA MW 039 TA	High	Low	Medium/High	*Lactococcus lactis* ssp. *lactis* biovar. *diacetylactis;* *Lactococcus lactis* ssp. *cremoris;* *Lactococcus lactis* ssp. *lactis;* *Leuconostoc.*


4PROTECTION
Food Cultures with Protective Effect

4P Range

4PROTECTION
Food Cultures with Protective Effect

Food Cultures with protective effect are used for the “protection” or, rather, biopreservation of food. Food Cultures with protective effect are based on the use of single cultures or in mixtures of microorganisms, which are normally lactic acid bacteria, since the metabolic properties of these are known in counteracting the development of microorganisms pathogenic to humans and in modifying the substrate of development to the detriment of any altering microorganisms, ensuring the healthfulness requirements of the product and the extension of the shelf-life of the food (shelf life).

Cultures with protective effect function through multiple biological interactions with the food matrix and with the spoilage microrganisms present in the food;

The protective effect of fermentation is the result of three main interacting mechanisms:

Occupy the physical space

Compete for nutrients

Produce inhibitory molecules

food

Culture name	Application	Dosage (doses/100L)	Flavor influence	
LPR A LR B LR4 PD	Direct vat inoculum for yogurt and fermented milk	1-10	No	**Anti Yeast & Moulds**
LC 4P1 LCP 4P2 MO N4P01 MO N4P02 MO L4P04 MO L4P05 DY 4P13	Direct vat inoculum	0,5-2	No	**Anti Clostridia**
CNBAP LR B	Brine Storage liquid Raw milk	0,1 - 10	No	**Anti Pseudomonas & Psychrotrophic bacteria**
BGP1	Anti Heterofermentative & Propionibacteria	0,5-1	No	**Anti Heterofermentative & Propionibacteria**

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CHOICE
Food Cultures for Plant-Based

Cultures for Plant based

Application			Product description				
	Product characteristics	Cultures series	Fermentation speed	Texture	Flavor	Optimal growing temperature	Strains
Plant based fermented products	Ideal for legum based (soy, pea, chickpea, faba) and cereal based (oat, rice)	V Essential	Low	Very low	Very mild	43°C	*Streptococcus thermophilus.*
	Ideal for legum based (soy, pea, chickpea, faba), cereal based (oat, rice) and nut based (coconut, almond, cashew)	V mild	Low	Medium	Mild	43°C	*Streptococcus thermophilus; Lactobacillus delbrueckii* ssp. *bulgaricus.*
	Ideal for cereal based (oat, rice) and nut based (coconut, almond, cashew)	SY 1	Medium/High	Medium	Mild	43°C	*Streptococcus thermophilus.*
	Ideal for legum based (soy, pea, chickpea, faba), cereal based (oat, rice) and nut based (coconut, almond, cashew)	V STV 10	Low	High	Mild	37°C for optimal EPS production	*Streptococcus thermophilus.*
	Ideal for legum based (soy, pea, chickpea, faba), cereal based (oat, rice) and nut based (coconut, almond, cashew)	SY 42	Medium/High	High	Mild	43°C	*Streptococcus thermophilus; Lactobacillus delbrueckii* ssp. *bulgaricus.*
Plant based fermented products and fresh spreadable cream	Ideal for legum based (soy, pea, chickpea, faba), cereal based (oat, rice) and nut based (coconut, almond, cashew)	V M01 N	Low	-	-	32-37°C	*Lactococcus lactis* ssp. *lactis* biovar *diacetylactis; Lactococcus lactis* ssp. *lactis Leuconostoc mesenteroides* ssp. *mesenteroides.*

Plant based products range includes also probiotics and adjuncted coltures.
For more informations please refer to our technical service and support.

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Add Value with postbiotics

CRL 1505® HI

Thanks to the maintenance of higher levels of circulating dendritic cells involved in the anti-viral responses, CRL 1505® HI shows a beneficial role in promoting immune defense, with a reduction of symptomatic day of physical conditions.

CRL 1505® HI is:

versatile

stable

safe

Immune system modulation:
better maintenance of receptor HLA-DR (Human Leukocyte Antigen) expression during the treatment period. HLA-DR is a marker of pDC (plasmacytoid dendritic cells) activation, whose production is associated with immune activation, showing a beneficial role in modulating the immune response.

Physical condition improvement:
reduction of symptomatic day of physical conditions during 8 weeks of intake, with a global improvement of bowel symptoms and social conditions.

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Contact us to discover the best solution for your business!

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