



**YoFlex®
Product Range**

Welcome to Chr. Hansen!

Since 1874, Chr. Hansen has worked to help dairy companies worldwide produce high-quality fresh dairy and cheese products. Today, Chr. Hansen is the leading global supplier of dairy cultures. We continuously engage in dialogue with our customers to ensure they have the help and inspiration they need to select the best ingredients for the foods they produce. Our customers' needs are our top priority and the driving force behind our work in research and development.

In this brochure, we provide an overview of the YoFlex® culture range for thermophilic dairy applications such as stirred, set, drinking, and concentrated yogurts. If further guidance is needed, please contact your local Chr. Hansen representative or local sales agent.





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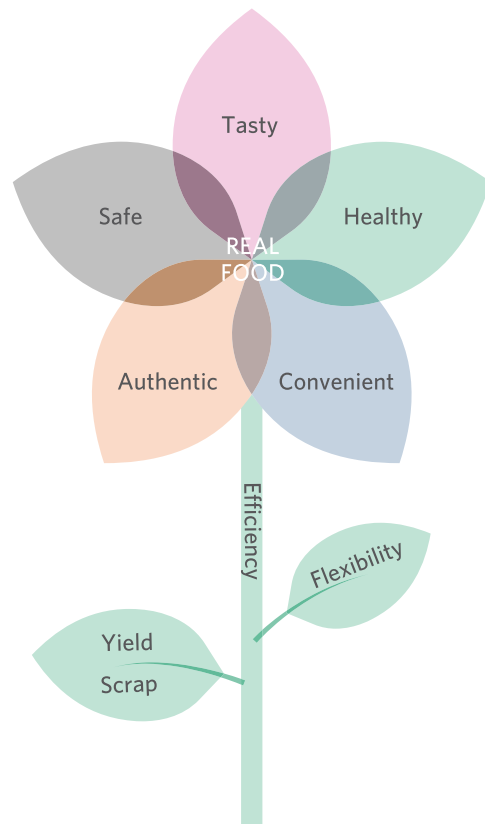
- Introduction to Chr. Hansen and the YoFlex® product range
- YoFlex® culture characteristics
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- Set yogurt
- Drinkable yogurt
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- Ambient yogurt
- YoFlex® culture range overview

Chr. Hansen has identified the consumer drivers that are shaping the new food world

The world of food and health is changing. In this 'new food world,' consumers are increasingly demanding 'real food' that is transparently grown and sourced, high in quality, and reasonably priced. These values shape what Chr. Hansen has identified as the five drivers that will guide consumers as they negotiate this new landscape when making decisions about what to feed themselves and their families. These drivers comprise our 'flower framework,' which suggests that in order to remain competitive within this shifting space, producers must be able to offer food that is tasty, healthy, convenient, authentic, and safe — all while remaining affordable.

As consumer standards rise and demands increase, food producers will require more efficient solutions that increase their yield and flexibility.

Consumer drivers

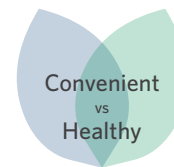


Industry drivers

The pursuit of real food is a constant negotiation among the five consumer value drivers and addressing dilemmas through affordable solutions is key



How can we make healthy products with rich flavors?



How can we bridge the gap between convenient and "good for me"?



How can we make fresh foods and "ready-to" meal solutions safer and help consumers trust them?



How can we bring more flavor to foods in a safe way?



How can we help make authentic foods safe, and standardized food more relatable?

Fresh dairy plants are constantly challenged to find hidden pockets of value in their operations

- How can we yield more product with the same amount of milk?
- How can we reduce waste within supply chains?
- How can we increase flexibility and efficiency in production?

Let us help you solve consumer dilemmas while increasing flexibility and efficiency in production

Our solutions can support your adaptation to changing market trends and consumer preferences while optimizing your production processes. The YoFlex® culture range enables you to solve consumer dilemmas by adding beneficial characteristics to your products and eliminating unfavorable ones.

Benefits of using the YoFlex® culture range include:

Optimize

- Taste
- Texture
- Appearance
- Shelf life
- Health benefits
- Consistent pH
- Yield



Minimize

- Sugar
- Fat
- Texturizers & stabilizers
- Milk powder
- Preservatives

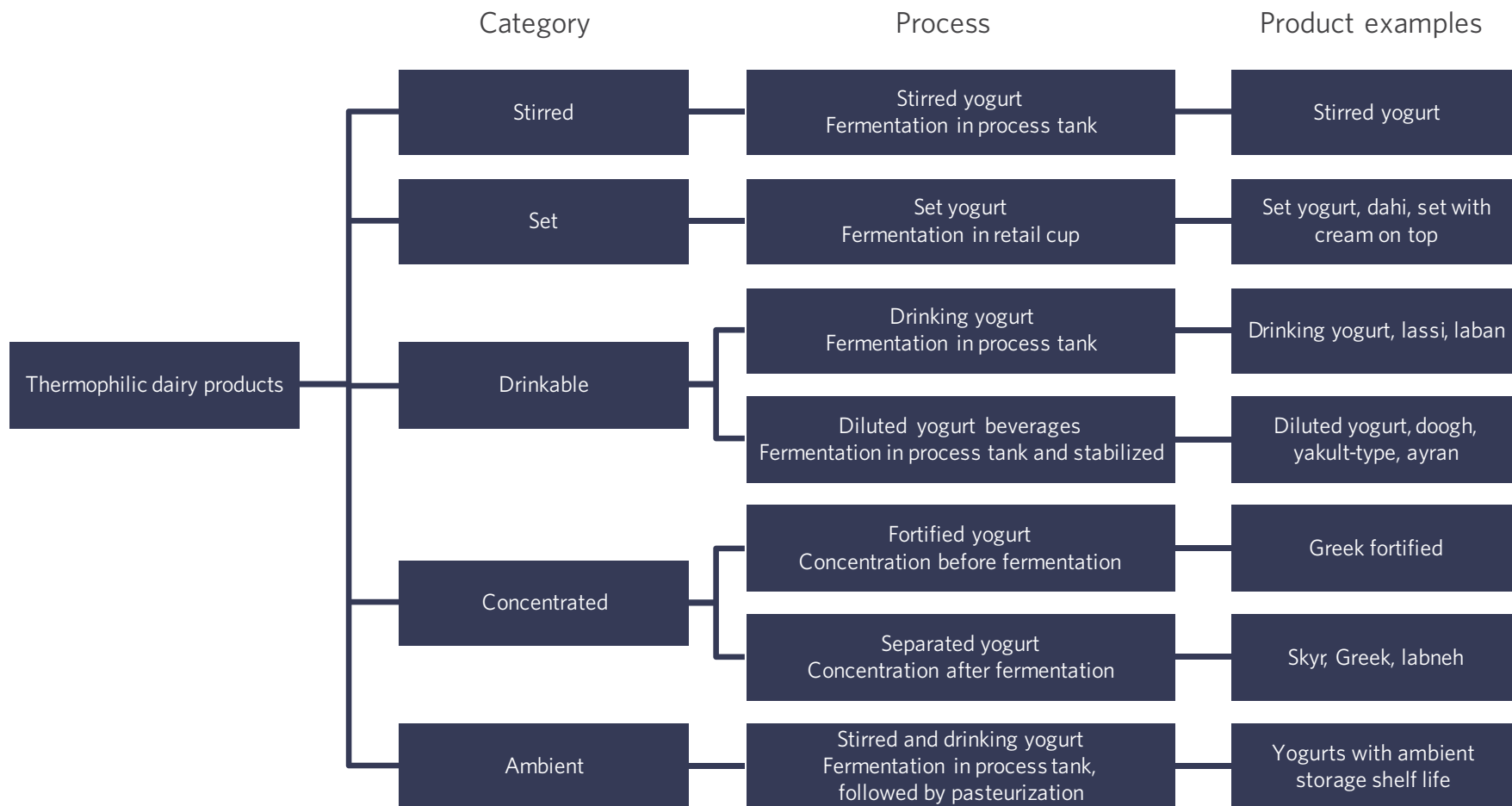


The YoFlex® culture range is dedicated to thermophilic dairy applications

In the following sections, the YoFlex® culture range will be presented for the product categories stirred, set, drinkable, concentrated and ambient yogurt.

The diagram below lists typical examples of thermophilic fermented milk applications according to product segment and processing conditions.

Recipes for various applications can be obtained from your local Chr. Hansen representative.





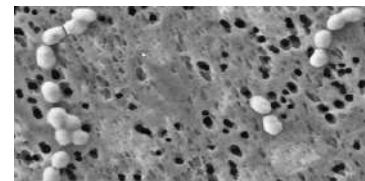
YoFlex® culture characteristics - matching your needs

Selecting the right culture depends on several factors, such as product type as well as desired product characteristics and quality.

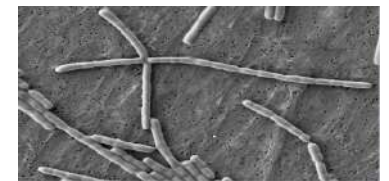
With the YoFlex® culture range, Chr. Hansen can help find the right culture for you!

The YoFlex® culture range consists mainly of combinations of defined single strains of the lactic acid bacteria *Streptococcus thermophilus* and *Lactobacillus delbrueckii* subsp. *bulgaricus*. The use of defined single strains makes it possible to produce a wide variety of cultures that match your needs.

Culture	Characteristics
<i>Streptococcus thermophilus</i>	Texture Viscosity Acidification speed
<i>Lactobacillus delbrueckii</i> subsp. <i>bulgaricus</i>	Flavor Post acidification
Other <i>Lactobacillus</i> species	Unique flavor characteristics



S. thermophilus



Lb. delbrueckii subsp. *bulgaricus*

In this brochure, the culture performance is described with scoring values from 1 to 6, indicating very low to very high or very slow to very fast, respectively. Parameters such as processing, milk base, milk powder, thickener and culture influence the characteristics of the final product and therefore the scoring should be regarded as indicative.

Main characteristics for describing yogurt include fermentation speed, mouth thickness, gel firmness, viscosity, yogurt flavor, ropiness, syneresis, smoothness, and acidity.

The flavor and texture properties of the YoFlex® culture range is depicted in chart 1.

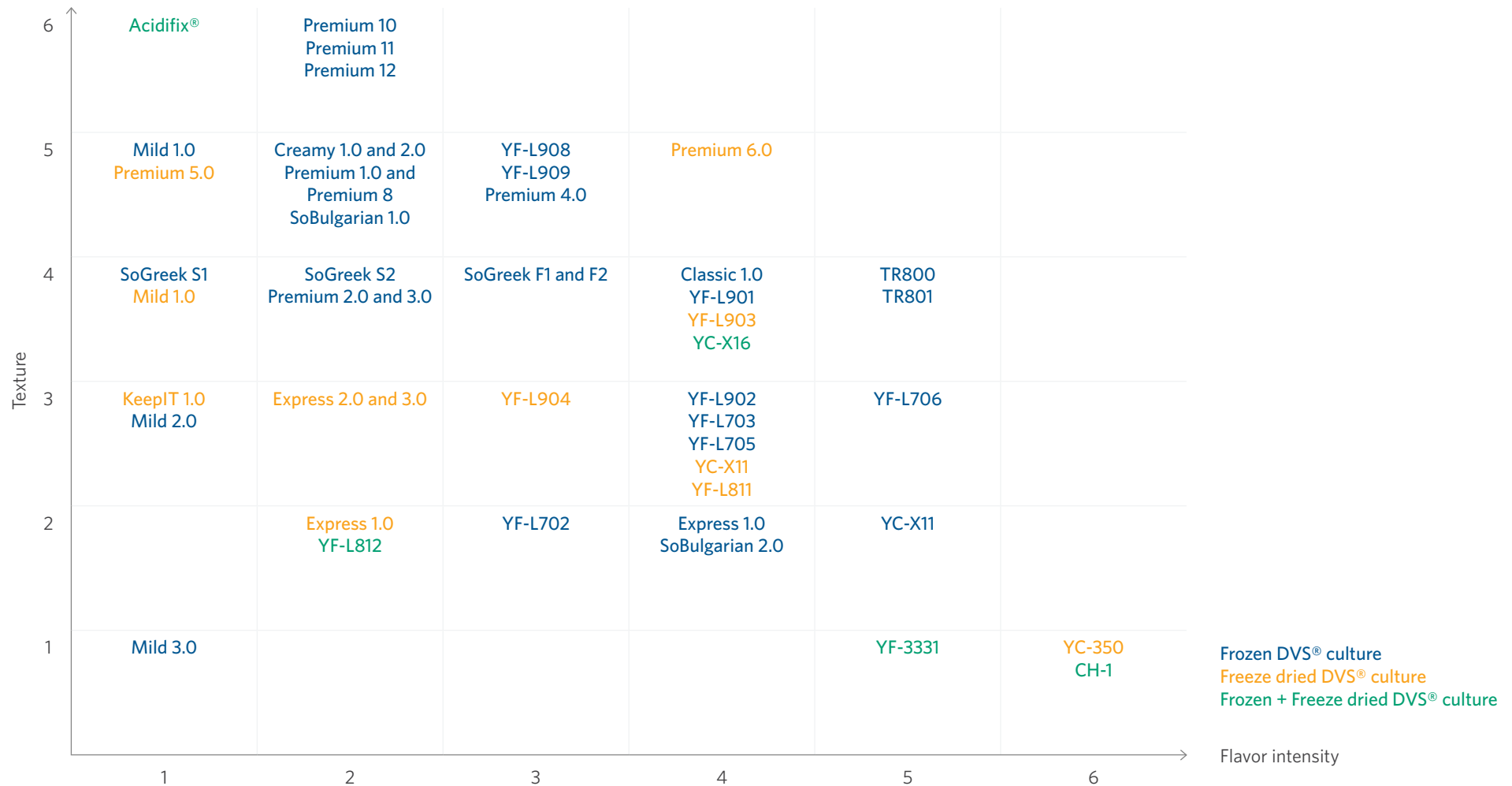


Chart 1: Flavor intensity properties of the YoFlex® culture range compared to texture (shear stress in stirred yogurt and general texture evaluation across main applications). Scoring performance scale: 1 = very low, 2 = low, 3 = medium, 4 = medium, 5 = high, 6 = very high

YoFlex® Acidifix® - the revolutionary yogurt culture

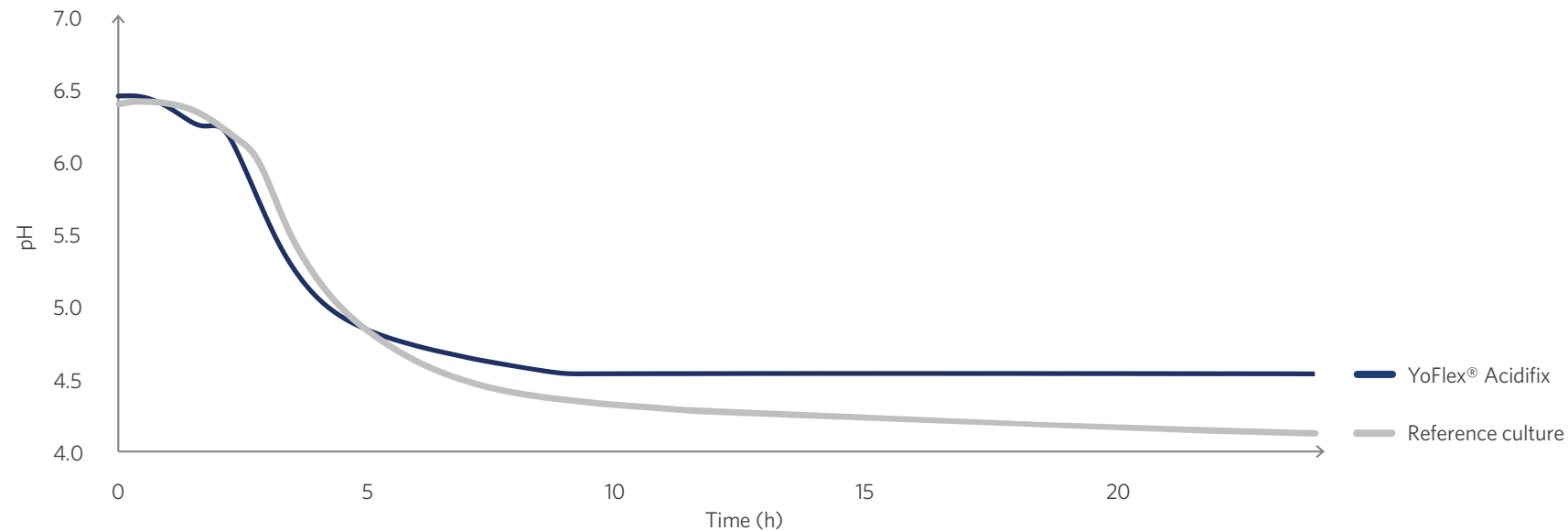
Chr. Hansen has launched YoFlex® Acidifix®, a new patented innovation in culture development that delivers unparalleled pH stability allowing for infinite flavor possibilities, unique texture and production cost benefits.

The New Yogurt: YoFlex® Acidifix® provides very mild yogurt bases that work with any flavor you can think of. Be innovative and capture market trends with a flavor that stays the same throughout shelf life.

Superior pH stability: With stable pH throughout shelf life, YoFlex® Acidifix® provides yogurts with a consistent high quality, and possibility to extend shelf life.

Cost reduction: YoFlex® Acidifix® is the first culture that fits a warm filling process. Preserving the texture otherwise lost during the yogurt manufacturing process (i.e. pumping and shearing) is the natural way to reduce the need for added texturizers or protein. Achieve the desired yogurt texture with a total protein content reduction of 0.3 - 0.6%, providing significant cost optimization potential.

Please contact your local Chr. Hansen representative for guidance on how to implement YoFlex® Acidifix®.







Stirred yogurt

Stirred yogurt is a fermented milk product where the fermentation takes place in a tank. Stirred yogurt can be made using different YoFlex® cultures depending on the desired final product characteristics.

The Premium cultures are The Perfect Partner™ for creating high-textured yogurt with fewer additives, enabling producers to reduce cost or offer a cleaner label.

For low fat yogurt with high fat perception, apply the Creamy cultures. Creamy 1.0 and 2.0 contain a specially selected strain of *Lactobacillus rhamnosus* enhancing the creamy flavor of the yogurt.

With SoBulgarian culture, you can produce a high quality, balanced yogurt with a Bulgarian origin story.

For very mild yogurts with extremely low post acidification we recommend Mild 1.0 and 2.0, YF-L812 and YF-L702. Furthermore, Mild 1.0 and 2.0 provide yogurt with high mouth thickness and gel firmness.

The YF-L900 series provides medium flavored yogurts with relatively high mouth thickness and gel firmness.

For fast fermentation and medium to high yogurt flavors choose YF-L811, YF-L703, YF-L705 and YF-L706 cultures.

Acidifix® 1.0 gives mild yogurt with unparalleled pH stability, extremely low post acidification, and great texture especially if used in a warm filling process.

Frozen DVS® cultures for stirred yogurt						
Culture Name	Yogurt flavor	Gel firmness	Mouth thickness	Acidity	Fermentation time to pH 4.55 at 43°C	Post acidification ΔpH at day 22 (6°C storage)
Acidifix® 1.0	Very mild	5	6	1	6.0-6.5 h*	<0.05
Mild 1.0	Very mild	5	5	1	5.5-6.0 h	0.15-0.20
Mild 2.0	Very mild	4	3	2	5.5-6.0 h	0.10-0.15
Creamy 1.0	Mild + Creamy	5	5	2	5.0-5.5 h	0.15-0.20
Creamy 2.0	Mild + Creamy	4	5	2	7.0-7.5 h	0.20-0.25
Premium 10	Mild	5	6	1	5.5-6.0 h	0.10-0.15
Premium 11	Mild	6	6	1	6.0-7.0 h	0.10-0.15
Premium 12	Mild	5	6	1	5.5-6.0 h	0.10-0.15
SoBulgarian 1.0	Mild	5	5	2	5.5-6.0 h	0.15-0.20
Premium 1.0	Mild	5	5	2	5.5-6.0 h	0.15-0.20
Premium 2.0	Mild	4	4	2	8.0-8.5 h	0.15-0.20
Premium 3.0	Mild	5	4	2	5.0-5.5 h	0.15-0.20
Premium 4.0	Mild	5	5	2	6.0-6.5 h	0.20-0.25
Premium 8	Mild	5	5	1	5.5-6.0 h	0.15-0.20
YF-L702	Mild	3	2	2	5.0-5.5 h	0.10-0.15
YF-L812	Mild	2	2	1	6.0-6.5 h	0.05-0.10
YF-L901	Medium	4	4	2	6.0-6.5 h	0.20-0.25
YF-L902	Medium	3	3	2	5.5-6.0 h	0.25-0.30
YF-L703	Medium	2	3	4	4.5-5.0 h	0.30-0.35
YF-L705	Medium	3	3	2	5.5-6.0 h	0.15-0.20
YF-L706	High	3	3	2	4.5-5.0 h	0.20-0.25

Freeze dried DVS® cultures for stirred yogurt						
Culture Name	Yogurt flavor	Gel firmness	Mouth thickness	Acidity	Fermentation time to pH 4.55 at 43°C	Post acidification ΔpH at day 22 (6°C storage)
Acidifix® 1.0	Very mild	5	6	1	6.0-6.5 h*	<0.05
Premium 5.0	Very mild	5	5	1	5.5-6.5 h	0.15-0.20
Mild 1.0	Very mild	4	4	1	6.5-7.0 h	0.15-0.20
YF-L812	Mild	3	2	1	6.0-6.5 h	0.05-0.10
Premium 6.0	Medium	5	5	3	5.5-6.5 h	0.25-0.35
YF-L903	Medium	4	4	2	4.5-5.0 h	0.30-0.35
YF-L904	Medium	3	3	2	5.0-5.5 h	0.15-0.20
YF-L811	Medium	4	3	3	4.5-5.0 h	0.25-0.30

Scoring performance scale: 1 = very low, 2 = low, 3 = medium, 4 = medium, 5 = high, 6 = very high
 *for Acidifix®, fermentation speed and end pH is dependent on milk base composition, sugar level etc.

YoFlex® Premium is The Perfect Partner™ for dairies working to reduce cost or differentiate their offerings within the premium segment with an all-natural ingredients list

YoFlex® Premium uses the power of good bacteria to create high texture naturally, reducing the need for expensive added ingredients, such as skim milk powder.



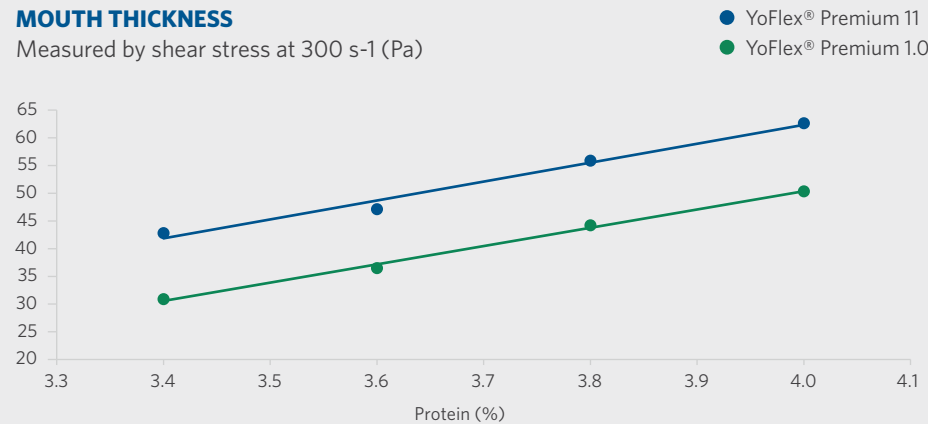
Premium 11 is the latest addition to the range. It is developed for maximum texture through high mouth thickness and gel-firmness.¹



By choosing Premium 11, producers can reduce milk protein level in their recipe while maintaining a high level of mouth thickness and gel firmness in the yogurt.¹

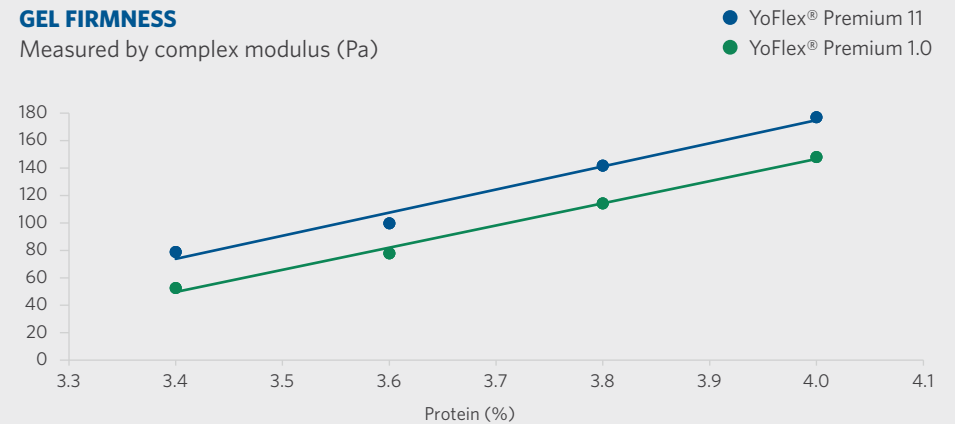
MOUTH THICKNESS

Measured by shear stress at 300 s⁻¹ (Pa)



GEL FIRMNESS

Measured by complex modulus (Pa)



¹ Fermentation at 43°C, inoculation level 500U/2500L, cut pH 4.55. Plain stirred yogurt, 1.5% fat. 3.4-4.0% protein

THE PERFECT PARTNER™

For dairy producers
committed to excellence

YoFlex® Premium





Set yogurt

Set yogurt is a yogurt where fermentation takes place in a retail cup. The coagulum is not broken until it is consumed. Set yogurt can be made using different YoFlex® cultures depending on the desired final product characteristics, mainly gel firmness, mouth thickness, and fermentation speed.

For very mild set yogurts with high gel firmness we recommend using Mild 1.0 and 2.0. They combine the mild flavor with very low post acidification.

Premium 3.0, 4.0 and 8 provide set yogurts with great gel firmness and mouth thickness, as well as low post acidification. Premium 6.0 provides set yogurt with very high gel firmness and a medium flavor profile, with some acidity.

With SoBulgarian culture, you can produce a high quality, balanced set yogurt with a Bulgarian origin story.

Select the Express cultures for fast fermentation without compromising mildness in the yogurt throughout shelf life.

The YF-L900 series provides yogurts with high gel firmness and mouth thickness. YC-X16 provides yogurt with similar texture and mouth thickness and with more yogurt flavor, whereas the YF-L700 series provides a set yogurt with very short texture.

With KeepIT 1.0 you get a very mild yogurt with high gel firmness and short texture while offering very low post acidification.

For intense yogurt flavor and very fast fermentation speed choose YC-3331, YC-X11 or YC-350.

The TR800 series is a new addition to the YoFlex® culture range. It combines very high gel firmness with high yogurt flavor.

Frozen DVS® cultures for set yogurt						
Culture Name	Yogurt flavor	Gel firmness	Mouth thickness	Acidity	Fermentation time to pH 4.55 at 43°C	Post acidification ΔpH at day 22 (6°C storage)
Mild 1.0	Very mild	4	5	1	4.5-5.0 h	0.25-0.30
Mild 2.0	Very mild	4	3	2	4.5-5.0 h	0.15-0.20
Premium 3.0	Mild	4	4	2	4.0-4.5 h	0.15-0.20
Premium 4.0	Mild	4	5	2	4.0-4.5 h	0.15-0.20
Premium 8	Mild	5	5	1	5.5-6.0 h	0.15-0.20
SoBulgarian 2.0	Medium	4	2	2	3.5-4.0 h	0.35-0.40
Express 1.0	Medium	4	2	2	3.5-4.0 h	0.35-0.40
YF-L901	Medium	4	4	2	5.0-5.5 h	0.25-0.30
YF-L902	Medium	3	3	2	4.5-5.0 h	0.35-0.40
YF-L705	Medium	4	3	2	4.5-5.0 h	0.25-0.30
YC-X16	Medium	4	4	3	4.5-5.0 h	0.25-0.30
TR800	High	5	4	3	4.5-5.0 h	0.35-0.40
TR801	High	5	4	3	4.5-5.0 h	0.35-0.40
YF-L706	High	3	3	2	4.0-4.5 h	0.30-0.35
YC-X11	High	4	2	3	4.5-5.0 h	0.35-0.40
YF-3331	High	4	1	5	3.5-4.0 h	> 0.40

Freeze dried DVS® cultures for set yogurt						
Culture Name	Yogurt flavor	Gel firmness	Mouth thickness	Acidity	Fermentation time to pH 4.55 at 43°C	Post acidification ΔpH at day 22 (6°C storage)
Premium 5.0	Very Mild	5	5	1	5.5-6.5 h	0.15-0.20
Mild 1.0	Very mild	4	4	1	5.5-6.0 h	0.25-0.30
KeepIT 1.0	Very mild	3	3	1	4.5-5.0 h	0.05-0.10
YF-L812	Mild	5	2	1	5.0-5.5 h	0.15-0.20
Express 1.0	Mild	3	2	1	4.0-4.5 h	0.15-0.20
Express 2.0	Mild	4	4	3	4.5-5.0 h	0.25-0.30
Express 3.0	Mild	3	3	2	4.0-4.5 h	0.25-0.30
Premium 6.0	Medium	5	5	3	5.5-6.5 h	0.25-0.35
YF-L903	Medium	4	4	2	4.0-4.5 h	>0.40
YC-X16	Medium	4	4	3	4.5-5.0 h	0.15-0.20
YC-X11	High	4	3	3	4.5-5.0 h	0.35-0.40
YF-3331	High	3	1	4	4.0-4.5 h	>0.40
YC-350	Very high	2	1	6	5.0-5.5 h	>0.40

Scoring performance scale: 1 = very low, 2 = low, 3 = medium, 4 = medium, 5 = high, 6 = very high



Drinkable yogurt

Drinkable yogurt is divided into two sub categories – drinking yogurt and diluted yogurt beverages, and the selection of culture depends on the category.

For **drinking yogurt** the main requirements are mouth thickness, smoothness, low syneresis, as well as robustness to pumping and shearing.

Both Mild 1.0 and Classic 1.0 are very resistant to the shear stress the drinks undergo during cooling and filling. The texture created by the cultures enables production of drinking yogurt without the use of thickeners.

Mild 1.0 provides mild drinking yogurt with superior texture and smoothness and very low post acidification.

YF-L812 offers even lower post acidification with medium texture.

Classic 1.0 creates a drinking yogurt with smooth texture with a more classic yogurt flavor and higher post acidification than Mild 1.0.

With YF-L901 and YF-L902 you get a smooth drinking yogurt with high mouth thickness and acidity between Mild 1.0 and Classic 1.0.

YF-L706 and YC-X11 provide drinking yogurt with intense yogurt flavor and some acidity.

Acidifix® 1.0 creates drinking yogurt with extremely low post acidification, and great texture when used in a warm filling process.

Frozen DVS® cultures for drinking yogurt						
Culture Name	Yogurt flavor	Mouth thickness	Smoothness	Acidity	Fermentation time to pH 4.55 at 43°C	Post acidification ΔpH at day 22 (cold storage)
Acidifix® 1.0	Very mild	6	5	1	5.5-6.0 h*	<0.05
Mild 1.0	Very mild	5	5	1	5.5 - 6.0 h	0.15 - 0.20
YF-L812	Mild	2	3	1	6.0-6.5 h	0.05-0.10
Classic 1.0	Medium	5	5	3	5.0 - 5.5 h	0.20-0.25
YF-L901	Medium	4	4	2	6.0-6.5 h	0.25-0.30
YF-L902	Medium	3	4	2	5.0 - 5.5 h	0.20-0.25
YF-L706	High	3	3	2	4.5-5.0 h	0.20-0.25
YC-X11	High	2	2	3	4.5 - 5.0 h	0.30 - 0.35

Freeze dried DVS® cultures for drinking yogurt						
Culture Name	Yogurt flavor	Mouth thickness	Smoothness	Acidity	Fermentation time to pH 4.55 at 43°C	Post acidification ΔpH at day 22 (cold storage)
Acidifix® 1.0	Very mild	6	5	1	5.5-6.0 h*	<0.05
Mild 1.0	Very mild	4	5	1	6.5 7.0 h	0.15-0.20
YF-L812	Mild	2	3	1	6.0-6.5 h	0.05-0.10
YC-X11	High	3	2	3	5.5-6.0 h	0.30-0.35

Scoring performance scale: 1 = very low, 2 = low, 3 = medium, 4 = medium, 5 = high, 6 = very high
 *with Acidifix®, fermentation speed and end pH is dependent on milk base composition, sugar level etc

For **diluted yogurt beverages** the requirements for the culture mainly concern fermentation speed, acidity and yogurt flavor. These drinks are usually added stabilizers and homogenized. This breaks down most of the yogurt texture, and therefore possible differences in mouth thickness and viscosity between cultures are minimized.

For fast fermentation and high to very high yogurt flavor we recommend YF-3331, YC-350, YC-X11 and CH-1 cultures.

For fast fermentation and less intense yogurt flavor Classic 1.0 is the culture for you.

If a very mild tasting yogurt beverage is desired Mild 1.0 is recommended.

Frozen DVS® cultures for diluted yogurt drinks				
Culture Name	Yogurt flavor	Acidity	Fermentation time to pH 4.55 at 43°C	Post acidification ΔpH at day 22 (cold storage)
Mild 1.0	Very mild	1	5.5-6.0 h	0.15-0.20
Classic 1.0	Medium	3	5.0-5.5 h	0.20-0.25
YF-3331	High	5	3.5-4.0 h	> 0.40
YC-X11	High	3	4.5-5.0 h	0.30-0.35
CH-1	Very high	6	4.5-5.0 h	> 0.40

Freeze dried DVS® cultures for diluted yogurt drinks				
Culture Name	Yogurt flavor	Acidity	Fermentation time to pH 4.55 at 43°C	Post acidification ΔpH at day 22 (cold storage)
Mild 1.0	Very mild	1	6.5-7.0 h	0.15-0.20
YF-3331	High	4	4.5-5.0 h	> 0.40
YC-X11	High	3	5.5-6.0 h	0.30-0.35
YC-350	Very high	6	5.5-6.0 h	> 0.40
CH-1	Very high	6	4.5-5.0 h	> 0.40



YoFlex® SoGreek

– as Greek as it gets

Create Greek yogurt with the authenticity of a true Greek heritage story!

The **YoFlex® SoGreek** series contains original Greek culture isolated from artisanal Greek yogurt produced on the island of Crete, optimized for producing modern high protein, low fat yogurt.





Concentrated yogurt

Concentrated yogurt like Greek, skyr and labneh can be produced using two different methods. The most commonly used method is to concentrate the yogurt after fermentation by mechanical separators or ultrafiltration (UF), termed separated yogurt. The other method is to concentrate the milk by UF and/or by addition of milk protein powder before fermentation, termed fortified yogurt.

For **separated** yogurt, parameters like fermentation time and post acidification during process are important due to the fact that yogurt is kept at 40-43°C for several hours while being concentrated. Further, it is important that the texture created by the culture is smooth and allows for an efficient separation of the yogurt.

With SoGreek S1 and S2 mild tasting yogurt with very low post acidification can be produced. A low post acidification during processing secures the time needed for separation.

For a mild flavored separated yogurt with very low post acidification we recommend Mild 1.0, 2.0 and 3.0, whereas Premium 1.0 and 2.0 as well as YF-L702 and YF-L812 will give slightly more flavor.

With YF-L903 and YC-X16 separated yogurt with medium flavor will be obtained.

Frozen DVS® cultures for separated yogurt						
Culture Name	Yogurt flavor	Mouth thickness	Acidity	Fermentation time to pH 4.65 at 41°C (Milk base: 0.1% fat/ 3.4% protein)	Process post acidification at fermentation temperature	Storage post acidification ΔpH at day 28 (cold storage)
SoGreek S1	Very mild	4	1	4.7-5.2 h	Very low	0.10-0.15
Mild 2.0	Very mild	3	2	5.0-5.5 h	Very low	0.15-0.20
Mild 3.0	Very mild	1	2	5.0-5.5 h	Medium	0.10-0.15
SoGreek S2	Mild	4	1	4.2-4.7 h	Very low	0.10-0.15
Premium 1.0	Mild	5	1	4.5-5.0 h	Very low	0.25-0.30
Premium 2.0	Mild	4	1	5.5-6.0 h	Medium	0.25-0.30
YF-L702	Medium	2	2	5.0-5.5 h	Medium	0.15-0.20

Freeze dried DVS® cultures for separated yogurt						
Culture Name	Yogurt flavor	Mouth thickness	Acidity	Fermentation time to pH 4.65 at 41°C (Milk base: 0.1% fat/ 3.4% protein)	Process post acidification at fermentation temperature	Storage post acidification ΔpH at day 28 (cold storage)
Mild 1.0	Very mild	4	1	4.0-4.5 h	Very low	0.25-0.30
YF-L812	Mild	2	1	5.0-5.5 h	Low	0.15-0.20
YF-L903	Medium	4	2	3.5-4.0 h	Low	>0.40
YC-X16	Medium	4	3	3.5-4.0 h	Low	0.15-0.20

Scoring performance scale: 1 = very low, 2 = low, 3 = medium, 4 = medium, 5 = high, 6 = very high



Fortified yogurt requires cultures with high acidification activity that can ferment in high protein milk base. As the protein level in the final product is lower than in separated yogurt, it is important that the culture provides high mouth thickness and gel firmness. The yogurt flavor of the culture is especially important in fortified yogurt as it may cover possible off-flavors from the milk powder.

SoGreek F1 and F2 provide relatively mild, smooth yogurt with a classic yogurt flavor profile, high gel firmness and mouth thickness, and low post acidification. The cultures offer fast fermentation speed at high protein levels.

The Premium and Creamy cultures provide mild yogurt with high gel firmness and mouth thickness, additionally Creamy 1.0 and 2.0 give an extra creamy flavor.

For a mild yogurt with medium flavor we recommend using Classic 1.0 or YF-L705.

The 900 series provides mild yogurt with relatively high mouth thickness and gel firmness.

With YF-L706 and YC-X11 you get yogurt with intense yogurt flavor and medium to high post acidification.

Frozen DVS® cultures for fortified yogurt						
Culture Name	Yogurt flavor	Mouth thickness	Smoothness	Acidity	Fermentation time to pH 4.60 at 43°C (Milk base: 0.5% fat/ 7.5% protein)	Post acidification ΔpH at day 28 (cold storage)
Premium 1.0	Mild	5	5	1	6.0-6.5 h	0.15-0.25
Premium 4.0	Mild	5	5	2	6.0-6.5 h	0.20-0.30
Creamy 1.0	Mild + Creamy	5	5	2	6.0-6.5 h	0.15-0.25
Creamy 2.0	Mild + Creamy	5	5	2	8.0-8.5 h	0.15-0.25
SoGreek F1	Medium	3	3	2	4.7-5.2 h	0.20-0.30
SoGreek F2	Medium	3	3	2	4.2-4.7 h	0.20-0.30
Classic 1.0	Medium	5	5	3	5.0-5.5 h	0.25-0.35
YF-L901	Medium	4	4	2	5.5-6.0 h	0.20-0.30
YF-L902	Medium	3	4	2	5.5-6.0 h	0.20-0.30
YF-L705	Medium	3	3	2	5.0-5.5 h	0.20-0.30
YF-L706	High	3	3	2	4.5-5.0 h	0.25-0.35
YC-X11	High	2	4	3	5.0-5.5 h	0.25-0.35

Freeze dried DVS® cultures for fortified yogurt						
Culture Name	Yogurt flavor	Mouth thickness	Smoothness	Acidity	Fermentation time to pH 4.60 at 43°C (Milk base: 0.5% fat/ 7.5% protein)	Post acidification ΔpH at day 28 (cold storage)
YF-L904	Medium	3	4	2	5.5-6.0 h	0.20-0.30
YC-X11	High	3	4	3	5.0-5.5 h	0.25-0.35

Scoring performance scale: 1 = very low, 2 = low, 3 = medium, 4 = medium, 5 = high, 6 = very high

Ambient yogurt

Expand market reach with ambient yogurt, solving the demand for extended shelf life as well as distribution in poor cold chain conditions.

Ambient yogurts are stirred or drinking yogurts which undergo heat treatment after fermentation, prior to filling. The products are packaged aseptically and are stable at ambient temperature during shelf life. To ensure stability and product quality most products are added stabilizers.

In order to produce ambient yogurt with high quality it is important to select the right culture.

Premium 1.0 provides a mild flavored yogurt with high texture and very low post in-process acidification. For a mild flavored ambient yogurt with high texture Mild 1.0 can be applied.

YF-L904 brings medium yogurt flavor and relatively high texture while having low in-process post acidification.

If medium yogurt flavor and high texture is preferred then we recommend YF-L908.

For medium yogurt flavor and very high texture then YF-L909 is recommended.

Frozen DVS® cultures for ambient yogurt						
Culture Name	Yogurt flavor	Gel firmness	Mouth thickness	Acidity	Fermentation time to pH 4.30 at 43°C (Milk base: 3% fat/ 3% protein)	In process post acidification at 20°C for 3 hours
Premium 1.0	Mild	5	5	1	9.0-10.0 h	1
Mild 1.0	Mild	5	4	1	9.0-10.0 h	1
YF-L908	Medium	5	5	2	7.0-8.0 h	1
YF-L909	Medium	5	5	2	6.0-7.0 h	2

Freeze dried DVS® cultures for ambient yogurt						
Culture Name	Yogurt flavor	Gel firmness	Mouth thickness	Acidity	Fermentation time to pH 4.30 at 43°C (Milk base: 3% fat/ 3% protein)	In process post acidification at 20°C for 3 hours
YF-L904	Medium	3	4	2	7.0-8.0 h	2



YoFlex® culture range overview - Frozen DVS® cultures

Culture Name	Culture composition			Culture performance*					Frozen DVS® culture
	<i>S. thermophilus</i>	<i>Lb. bulgaricus</i>	<i>Lb. rhamnosus</i>	Yogurt flavor	Gel firmness	Mouth thickness	Fermentation speed	Post acidification	500U pack size
YoFlex® Acidifix® 1.0	■	■		1	5	6	3	1	713152
YoFlex® Mild 1.0	■	■		1	5	5	3	2	719957
YoFlex® Mild 2.0	■	■		1	4	3	3	2	704984
YoFlex® Mild 3.0	■	■		1	3	1	2	2	713277
YoFlex® SoGreek S1	■	■		1	5	4	4	1	710738
YoFlex® SoGreek S2	■	■		2	5	4	4	1	721008
YoFlex® SoBulgarian 1.0	■	■		2	5	5	3	2	720571
YoFlex® Premium 10	■	■		2	5	6	3	2	722303
YoFlex® Premium 11	■	■		2	6	6	2	2	722865
YoFlex® Premium 12	■	■		2	5	6	3	2	722912
YoFlex® Premium 1.0	■	■		2	5	5	3	2	719958
YoFlex® Premium 2.0	■	■		2	4	4	1	2	705304
YoFlex® Premium 3.0	■	■		2	5	4	4	2	705261
YoFlex® Premium 4.0	■	■		2	5	5	3	2	715067
YoFlex® Premium 8	■	■		2	5	5	3	2	722964
YoFlex® Creamy 1.0	■	■	■	2	5	5	4	2	720071
YoFlex® Creamy 2.0	■	■	■	2	4	5	2	2	705305
YF-L812	■	■		2	2	2	3	1	704982
YF-L702	■	■		3	3	2	4	2	704947
YF-L908	■	■		3	5	5	4	1	718538
YF-L909	■	■		3	5	5	4	2	718539
YoFlex® SoGreek F1	■	■		3	4	3	4	2	710740
YoFlex® SoGreek F2	■	■		3	4	3	4	2	710742
YoFlex® SoBulgarian 2.0	■	■		4	2	2	5	2	720572
YoFlex® Express 1.0	■	■		4	2	2	5	2	704953
YoFlex® Classic 1.0	■	■		4	3	5	4	3	721007
YF-L901	■	■		4	4	4	3	3	704950
YF-L902	■	■		4	3	3	3	2	704989
YF-L703	■	■		4	2	3	4	3	704948
YF-L705	■	■		4	3	3	3	2	704987
YC-X16	■	■		4	4	4	3	3	714000
YoFlex® TR800	■	■		5	5	4	4	2	718677
YoFlex® TR801	■	■		5	5	4	4	2	718678
YF-L706	■	■		5	3	3	4	2	704988
YF-3331	■	■		5	3	1	5	4	704969
YC-X11	■	■		5	2	2	4	3	704946
CH-1	■	■		6	2	1	4	5	704936

*Performance scale: 1 = very low/very slow, 2 = low/slow, 3 = medium, 4 = high/fast, 5 = very high/very fast.

YoFlex® culture range overview - Freeze dried DVS® cultures

Culture Name	Culture composition		Culture performance*					Freeze-dried DVS® culture		
	<i>S. thermophilus</i>	<i>Lb. bulgaricus</i>	Yogurt flavor	Gel firmness	Mouth thickness	Fermentation speed	Post acidification	30x50U pouch	25x200U pouch	20x500U pouch
YoFlex® Acidifix® 1.0	▪	▪	1	5	5	3	1		716878	
YoFlex® Premium 5.0	▪	▪	1	5	5	3	1		719587	
YoFlex® Mild 1.0	▪	▪	1	4	4	2	2	713617	703028	719228
YoFlex® KeepIT 1.0	▪	▪	1	3	3	4	2		720548	712891
YoFlex® Express 1.0	▪	▪	2	3	2	4	1	713623	698649	
YoFlex® Express 2.0	▪	▪	2	3	4	4	2		707362	
YoFlex® Express 3.0	▪	▪	2	3	3	4	3		707363	
YF-L812	▪	▪	2	3	2	3	1	713513	677350	677650
YF-L903	▪	▪	3	4	4	4	3	713515	689562	690639
YF-L904	▪	▪	3	3	3	4	2	713609	697884	693671
YF-L811	▪	▪	3	4	3	4	3	713512	667330	667331
YC-X16	▪	▪	3	4	4	3	3	713508	617225	614038
YC-X11	▪	▪	4	4	3	3	3	713506	612772	600870
YoFlex® Premium 6.0	▪	▪	4	5	5	3	3		719588	
YF-3331	▪	▪	5	3	1	4	4	713599		701686
YC-350	▪	▪	6	2	1	3	4	713503	100257	100262
CH-1	▪	▪	6	2	1	4	5	713507	601093	713826

Scoring performance scale: 1 = very low, 2 = low, 3 = medium, 4 = medium, 5 = high, 6 = very high

Culture backup scheme

Stirred yogurt Frozen DVS® cultures	
Recommended culture	Closest phage alternative
Acidifix® 1.0	Acidifix® 1.1
Creamy 1.0	Creamy 2.0
SoBulgarian 1.0	Premium 8
Premium 1.0	Premium 8
Premium 2.0	Premium 1.0
Premium 3.0	Premium 8
Premium 10	Premium 8
Premium 11	Premium 7.0
Premium 12	Premium 8
Mild 1.0	Premium 4.0
Mild 2.0	Mild 1.0
YF-L901	Advance 1.2
YF-L902	YF-L705
YF-L706	YF-L705
YF-L703	YF-L706
YF-L812	Mild 1.0

Ambient yogurt		
Recommended culture	Closest phage alternative	2nd closest phage alternative
FD-DVS YF-L904	F-DVS YF-L908	FD-DVS YC-X11
F-DVS YF-L908	F-DVS Premium 1.0	F-DVS Premium 3.0
F-DVS YF-L909	F-DVS YC-X11*	F-DVS Premium 1.0*
F-DVS Premium 1.0	F-DVS YF-L908**	F-DVS Premium 4.0**
F-DVS Mild 1.0	F-DVS YF-L908**	F-DVS Premium 4.0**

*: F-DVS YC-X11 is closest in fermentation time and flavor, F-DVS Premium 1.0 is closest in texture and in-process post acidification
 **: F-DVS YF-L908 is closest in texture and with faster fermentation time, while F-DVS Premium 4.0 is closest in flavor and with slower fermentation time

Set yogurt Frozen DVS® cultures		
Recommended culture	Rotation culture	Closest phage alternative
Premium 3.0	Premium 8	Advance 1.2
Mild 1.0	Premium 4.0	Mild 2.0
YF-L901	Advance 1.2	YF-L902
YF-L705	YF-L706	Express 1.0 or YC-X16
YC-X11	YF-L706	Express 1.0
YF-3331	Express 1.0	CH-1

Diluted yogurt beverage Frozen DVS® cultures	
Recommended culture	Closest phage alternative
Mild 1.0	Advance 2.0
Classic 1.0	YF-L901
YC-X11	YF-L703
YF-3331	YC-350
CH-1	YC-350

Stirred yogurt Freeze dried DVS® cultures	
Recommended culture	Closest phage alternative
Mild 1.0	YF-L812
YF-L904	Express 1.0 + ST-BODY-4
YF-L811	YC-X11 + ST-BODY-4
YF-L903	Express 3.0

Set yogurt Freeze dried DVS® cultures		
Recommended culture	Rotation culture	Closest phage alternative
KeepIT1.0	KeepIT 1.1	Express 2.0
Mild 1.0	YF-L812	YC-X16
Express 1.0	Express 2.0	YC-X11
Express 3.0	Express 1.1	YF-L811
YF-3331	YC-350	YC-380

Diluted yogurt beverage Freeze dried DVS® cultures	
Recommended culture	Closest phage alternative
Mild 1.0	Advance 2.0
YC-X11	YC-180*
YF-3331	YC-350
CH-1	YC-350

* Besides from ST and LB the culture also contains *Lactobacillus delbrueckii* subsp. *lactis*.

Fortified yogurt Freeze dried DVS® cultures	
Recommended culture	Closest phage alternative
YF-L811	YC-X11
Express 1.0	Express 2.0
YF-3331	YC-350
YF-L904	Express 1.0 + ST-BODY-4

Fortified yogurt Frozen DVS® cultures	
Recommended culture	Closest phage alternative
SoGreek F1	SoGreek F2
Classic 1.0	YF-L901
YF-L902	YF-L901
YF-L705	YF-L706
Creamy 1.0	Creamy 2.0
Premium 1.0	Premium 4.0

Separated yogurt Frozen DVS® cultures	
Recommended culture	Closest phage alternative
SoGreek S1	SoGreek S2
Premium 1.0	Premium 2.0
Mild 2.0	Mild 3.0
YF-L812	YF-L722* or Premium 2.0
YF-L702	Premium 4.0

* Common texturing strain in YF-L812 and YF-L722

Separated yogurt Freeze dried DVS® cultures	
Recommended culture	Closest phage alternative
YF-L812	Mild 1.0

Drinking yogurt Freeze dried DVS® cultures	
Recommended culture	Closest phage alternative
Mild 1.0	Advance 2.0
YF-L812	Mild 1.0
YC-X11	YF-L811

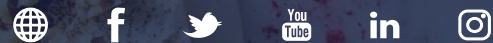
Drinking yogurt Frozen DVS® cultures	
Recommended culture	Closest phage alternative
Mild 1.0	Advance 2.0
Classic 1.0	YF-L901
YF-L902	YF-L901
YC-X11	YF-L706

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