CHR. HANSEN

Improving food & health

Drinking Yogurt Guideline

Suggested Recipe

Type of technology	Drinking yogurt
Source of milk	High quality milk is used
Culture	YoFlex® range
Description	Drinking yogurt is defined as a fermented milk product for which the fermentation and coagulation takes place in a tank. Drinking yogurt can be made with various combinations of fat and dry matter using different DVS® cultures depending on the desired final product characteristics. Yogurt cultures consist of symbiotic combinations of *Streptococcus thermophilus* and *Lactobacillus delbrueckii* ssp. *bulgaricus* strains. Depending on the national regulations and definition of yogurt, cultures may also contain other lactic acid bacteria and/or probiotic bacteria.

Table 1: Frozen DVS® culture recommendations

Flavor and Acidity	Texture Profile	Culture name
Low to medium yogurt flavor, low acidity	High texture & smoothness	Mild 1.0 Premium 1.0
Low to medium yogurt flavor, low to medium acidity	High texture & smoothness	Premium 4.0
High yogurt flavor, medium acidity	High texture & smoothness	Classic 1.0 YF-L706
High yogurt flavor, medium acidity	Medium texture & smoothness	YF-L901 YF-L703

Table 2: Freeze-dried DVS® culture recommendations

Flavor and Acidity	Texture Profile	Culture name
Low to medium yogurt flavor, low acidity	High texture & smoothness	Mild 1.0
Low to medium yogurt, low acidity	Medium texture & smoothness	YF-L812
High yogurt flavor, medium acidity	Medium to high texture & smoothness	Harmony 1.0
High yogurt flavor, medium to high acidity	Medium texture & smoothness	YF-L811 YC-X11

Milk

The milk (fresh or reconstituted powder milk) should be of high quality and not contain any inhibitory agents, e.g. antibiotics. The fat is standardized to the desired level.
Optionally other ingredients such as LM pectin (0.1-0.2%), starch (0.5-1.75%), sugars, sweeteners etc. may be added to modify texture and flavor.

De-aeration

It is recommended to de-aerate in order to lower the oxygen content. This might improve the quality of the yogurt and shorten the fermentation time.

Homogenization

Homogenization is normally carried out at 60-70°C (140-158°F) at a pressure of 100-200 bar (1450-2900 psi).

Heat treatment

The milk is heated to 90-95°C (194-203°F) for 3-5 min; vat pasteurization 85°C (185°F) for 30 min; milk is then cooled to incubation temperature, i.e. 36-44°C (97-111°F).

Culture

The choice of culture influences the characteristics of the final product such as flavor, acidity, texture (Exopolysaccharides) and appearance. The main characteristics of the YoFlex® cultures are described in the YoFlex® Product Range brochure.
For production of drinking yogurt, a yogurt culture with production of exopolysaccharides (EPS) is generally recommended as the EPS improves texture properties like smoothness, mouth thickness and appearance.

Inoculation

Amount of milk to be inoculated	250 l/ 66 gal	1000 l/ 264 gal	2500 l/ 660 gal	5000 l/ 1320 gal	10000 l/ 2640 gal
Amount of DVS® culture	50 U	200 U	500 U	1000 U	2000 U

The culture is taken out from the freezer just prior to use. The pouch is disinfected prior to opening. After opening the culture is poured into the milk. The mixture is agitated slowly for 10-15 minutes to distribute the culture evenly.

Fermentation

The inoculated milk is left undisturbed until cut pH (4.50-4.60).

Post treatment

When cut pH is reached, the product is stirred, and then typically pumped through a smoothening filter or back pressure valve to obtain a smooth appearance. Optionally homogenization can be used.
Finally, the product is cooled to 5-20°C (41-68°F) and packaged. To reduce post-acidification, cooling time should be limited, preferably by use of a plate or tubular cooler.

Flavoring

Fruit preparation and/or flavor may be added to the drinking yogurt by in-line mixing prior to packaging .

Storage

The product is placed in a cold store at approximately 4-8°C (39-46°F).

DVS®	DVS® is a registered trademark of Chr. Hansen.
Probiotics	The nu-trish® range consists of well documented probiotic strains with credible health benefits based on research and strong clinical documentation. Available as single strain probiotics which can be added with the YoFlex® cultures. nu-trish® cultures are also available as ready to use blends for production of probiotic drinking yogurt.
Bioprotection *Keep it great! with FreshQ®*	FreshQ® are natural bioprotective food cultures used as adjunct cultures to the yogurt starter culture. With the use of FreshQ® you can meet a growing demand for natural products and extend your shelf life, without adding artificial preservatives. FreshQ® cultures can help you take control of your yeast and mold risk, lowering your product recalls and consumer complaints. With FreshQ® you can protect your brand by making sure that your product stays the way you made it throughout shelf life, even after it has been opened.

ABOUT CHR. HANSEN

Founded in 1874, Chr. Hansen (www.chr-hansen.com) is a global bioscience company that develops natural ingredient solutions for the food, nutritional, pharmaceutical and agricultural industries. All solutions are based on strong research and development competencies coupled with significant technology investments. With more than 3,000 employees in over 30 countries, the facilities and personnel of our worldwide Local and Regional Application Centers are at your disposal with assistance, instructions and guidance for your choice of cultures and coagulants.