

# Drinking Yogurt Guideline

## Suggested Recipe

|                           |   |
|---------------------------|---|
| <i>Type of technology</i> | Drinking yogurt   |
| <i>Source of milk</i>     | High quality milk is used   |
| <i>Culture</i>            | YoFlex® range   |
| <i>Description</i>        | 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 <i>Streptococcus thermophilus</i> and <i>Lactobacillus delbrueckii ssp. bulgaricus</i> 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<br>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<br>YF-L706  |
| High yogurt flavor, medium acidity                 | Medium texture & smoothness | YF-L901<br>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<br>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/<br>66 gal | 1000 l/<br>264 gal | 2500 l/<br>660 gal | 5000 l/<br>1320 gal | 10000 l/<br>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).



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