Food and Agriculture Organization of the United Nations

World Health Organization

CODEX ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

CODEX ALIMENTARIUS
STANDARD

REGIONAL STANDARD FOR DOOGH (NEAR EAST)
CXS 332R-2018

ADOPTED 2018
AMENDED 2025

CXS 332R-2018

History of the standard

2025 Amendments

Following adoption by the Forty-eighth Session of the Codex Alimentarius Commission, Section 4: “Food additives” was completed and Section 8.3: “Labelling of non-retail containers” was amended to align with the *General Standard for the labelling of non-retail containers of foods* (CXS 346-2021).

This publication was redesigned and published in 2025.

Adopted in 2018.

1 Scope

This standard applies to doogh for direct consumption or for further processing, in conformity with the definitions in Section 2: "Description" of this standard. This standard should be read in conjunction with the *Standard for fermented milks* (CXS 243-2003).[1]

2 Description

Doogh is a "drink based on fermented milk" as defined in Section 2.4: "Drinks based on fermented milk" of the *Standard for fermented milks* (CXS 243-2003), obtained by mixing yoghurt, as defined in Section 2.1: "Fermented milk" and Section 3.3: "Composition" of the same standard, with potable water and optionally food-grade salt or by mixing milk with potable water and sodium chloride prior to heat treatment and fermentation to give an end product with similar physical, chemical and organoleptic characteristics as the product defined under the provisions of this standard. When doogh is produced by mixing milk with potable water, edible salt may be added before or after fermentation.

The milk used for production of doogh may have been manufactured from products obtained from milk as specified in Section 2.1: "Fermented milk" of the *Standard for fermented milks* (CXS 243-2003), with or without the compositional modification as limited by the provision in Section 3.3: "Composition" in this standard.

In the production of doogh, non-dairy ingredients, other than potable water, as well as various dairy ingredients/dairy products are used according to Section 3: "Essential composition and quality factors" and Section 4: "Food additives".

The typical starter microorganisms used in production of doogh are traditional yoghurt bacteria: *Streptococcus thermophilus* and *Lactobacillus delbrueckii* subsp. *bulgaricus*. Microorganisms other than those constituting the specific starter cultures may be added. If the product is heat treated after fermentation, the requirement for viable microorganisms does not apply. Heat treatment after fermentation does not apply for "probiotic" doogh (doogh containing probiotic microorganisms).

Doogh without added flavourings/flavour is called "plain doogh". Doogh with flavours in the form of essences or extracts (such as menthol, ziziphora or wild thyme, pennyroyal and cucumber) or with different natural flavourings such as aromatic herbs, spices and condiments is known as "flavoured doogh". "Carbonated/Uncarbonated" and "heat treated/un-heat treated" dooghs represent those that contain/do not contain carbon dioxide and those with heat treatment/without heat treatment after fermentation, respectively. Doogh may be produced and displayed as powder (dried doogh) for special applications and demands.

3 Essential composition and quality factors

3.1 Raw materials

a) Yoghurt (for mixing yoghurt with potable water) or milk (for mixing milk with potable water). Yoghurt should conform to the *Standard for fermented milks* (CXS 243-2003).

b) Potable water for dilution of yoghurt or milk, and/or for the use in reconstitution or recombination (if milk is prepared by reconstitution or recombination).

3.2 Permitted ingredients

a) Starter culture of harmless microorganisms including typical doogh starters, as described in Section 2: "Description" of this standard.

b) Other harmless and suitable microorganisms (bacteria, yeast) as starter- or non-starter microorganisms, including probiotics; for the functions of acidification, aroma production, fermenting carbonation, texture improvement, health promotion, and improving other functional aspects of the product.

c) Sodium chloride, in accordance with the *Standard for food-grade salt* (CXS 150-1985).[2]

d) Natural flavouring ingredients such as fine particles of aromatic vegetables and herbs, and spices, as specified in Section 2.3 of the *Standard for fermented milks* (CXS 243-2003).

e) Nutraceutical ingredients such as dietary fibres.

f) Dairy ingredients or dairy products obtained from milk such as milk proteins, milk powders (as specified in the *Standard for milk powders and cream powder* (CXS 207-1999)),[3] milk fat (butter fat or cream), (as specified in the *Standard for milkfat products* (CXS 280-1973)[4] and in Section 2.1: "Cream" of the *Standard for cream and prepared creams* (CXS 288-1976)),[5] buttermilk and whey products.

Partial or full replacement of milkfat or milk protein with other sources of non-dairy fat or non-dairy protein shall not be allowed.

3.3 Composition

Table 1

pH	Max: 4.5
Titratable acidity, expressed as % lactic acid (%m/m)	Min: 0.3
Milk solid non-fat (MSNF)	Min 3.0
Milk protein (%m/m)[a]	Min: 1.08%
Sodium chloride (%m/m)	-
Sum of microorganisms constituting the starter culture defined in Section 2: "Description" (cfu/g, total count)[b]	Min: 10^7
Labelled microorganisms (cfu/g, each strain)[c]	Min: 10^7

Notes:

[a] Protein content is 6.38 multiplied by the total Kjeldahl nitrogen determined.
[b] This requirement does not apply to products that are "heat treated after fermentation".
[c] Applies when claimed microorganisms (as specified in Section 2: "Description" of this standard) are added to the product. Probiotics are the most important.

The microbiological criteria in the product are valid up to the "date of minimum durability" under the storage conditions specified in the labelling.

4 Food additives

Only those additive classes indicated in Table 2 may be used for the product categories specified.

In accordance with Section 4.1: "Conditions applying to carry-over of food additives from ingredients and raw materials into foods" of the preamble to the *General standard for food additives* (CXS 192-1995),[6] additional additives may be present in the flavoured doogh as a result of carry-over from non-dairy ingredients.

Carbonating agents, stabilizers and thickeners in food category 01.2.1.1 (Fermented milks (plain), not heat treated after fermentation); acidity regulators, carbonating agents, packaging gases, stabilizers and thickeners in food category 01.2.1.2 (Fermented milks (plain), heat treated after fermentation); and acidity regulators, colours, emulsifiers, flavour enhancers, preservatives, stabilizers, sweeteners and thickeners in food category 01.1.4 (Flavoured fluid milk drinks) used in accordance with Table 1 and Table 2 of the *General standard for food additives* (CXS 192-1995) are acceptable for use in foods conforming to this standard.

For flavoured products, all acidity regulators, colours, emulsifiers and packaging gases and only certain carbonating agents, flavour enhancers, stabilizers, sweeteners and thickeners listed in Table 3 of the *General standard for food additives* (CXS 192-1995) are acceptable for use in doogh, as specified in Table 2. Preservatives listed in Table 3 of the *General standard for food additives* (CXS 192-1995) are only permitted in doogh (flavoured, heat treated).

Table 2

	Doogh (plain, not heat treated)	Doogh (flavoured, not heat treated)	Doogh (plain, heat treated)	Doogh (flavoured, heat treated)
Food category of the *General standard for food additives* (CXS 192-1995)	01.2.1.1	1.1.4 (Drinks based on fermented milks)	01.2.1.2	1.1.4 (Drinks based on fermented milks)
Acidity regulators	-	X	X	X
Carbonating agents	X [a]	X [a]	X [a]	X [a]
Colours	-	X	-	X
Emulsifiers	-	X	-	X
Flavour enhancers	-	X	-	X
Packaging gases	-	X	X	X
Preservatives	-	-	-	X
Stabilizers	X [b]	X	X	X
Sweeteners	-	X [c]	-	X [c]
Thickeners	X [b]	X	X	X

Notes:

- The use of additives belonging to the class is not technologically justified.
X The use of additives belonging to the class is technologically justified. In the case of flavoured products the additives are technologically justified in the dairy portion.
[a] Use of carbonating agents is technologically justified in drinks based on fermented milk only.
[b] Use is restricted to reconstitution and recombination and if permitted by national legislation in the country of sale to the final consumer.
[c] The use of sweeteners is limited to milk and milk derivatives-based products energy reduced or with no added sugar.

5 Contaminants

The milk used in the manufacture of the products covered by this standard shall comply with the maximum levels of the *General standard for contaminants and toxins in food and feed* (CXS 193-1995).[7]

The milk used in the manufacture of the products covered by this standard shall comply with the maximum residue limits for pesticides and veterinary drugs established by the Codex Alimentarius Commission.

6 Hygiene

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the *General principles of food hygiene* (CXC 1-1969),[8] the *Code of hygienic practice for milk and milk products* (CXC 57-2004)[9] and other relevant Codex texts such as codes of hygienic practice and codes of practice. The products should comply with any microbiological criteria established in accordance with the *Principles and guidelines for the establishment and application of microbiological criteria related to foods* (CXG 21-1997).[10]

7 Packaging and storage

The product shall be packed in containers that preserve the hygienic quality and the other qualities of the food.

Doogh (after fermentation) shall be stored under appropriate conditions, e.g. refrigerated.

8 Labelling

In addition to the provisions of the *General standard for the labelling of pre-packaged foods* (CXS 1-1985)[11] and the *General standard for the use of dairy terms* (CXS 206-1999),[12] the following specific provisions apply:

8.1 Name of the food

a) The name of the food shall be “doogh”.

b) The descriptions of “carbonated/uncarbonated” and/or “heat treated/un-heat treated” shall be used in conjunction with the word “doogh”. For carbonated doogh, the terms “fermenting” or “injecting” shall be applied before the word “carbonated” in product designation to represent the source of carbonation.

c) The designation of “flavoured doogh” shall be used as the name of product if any flavouring substance is added.

d) When probiotic microorganisms are incorporated in doogh, the word “probiotic” may be applied somewhere on the label.

e) For doogh powder, the name “doogh powder” or “dried doogh” shall be inserted on the label.

8.2 Declaration of fat content

If the consumer would be misled by the omission, the milk fat content shall be declared in a manner acceptable in the country of sale to the final consumer, either as: (i) a percentage of mass or volume; or (ii) in grams per serving as qualified in the label, provided that the number of servings is stated. Any labelling should be in accordance with the *Guidelines for use of nutrition and health claims* (CXG 23-1997).[13]

8.3 Labelling of non-retail containers

The labelling of non-retail containers should be in accordance with the *General standard for the labelling of non-retail containers of foods* (CXS 346-2021).[14]

9 Methods of analysis and sampling

For checking compliance with this standard, the methods of analysis and sampling for fermented milks as contained in the *Recommended methods of analysis and sampling* (CXS 234-1999)[15] relevant to the provisions in this standard shall be used.

Referenced texts

1 *Standard for fermented milks* (CXS 243-2003).

2 *Standard for food-grade salt* (CXS 150-1985).

3 *Standard for milk powders and cream powder* (CXS 207-1999).

4 *Standard for milkfat products* (CXS 280-1973).

5 *Standard for cream and prepared creams* (CXS 288-1976).

6 *General standard for food additives* (CXS 192-1995).

7 *General standard for contaminants and toxins in food and feed* (CXS 193-1995).

8 *General principles of food hygiene* (CXC 1-1969).

9 *Code of hygienic practice for milk and milk products* (CXC 57-2004).

10 *Principles and guidelines for the establishment and application of microbiological criteria related to foods* (CXG 21-1997).

11 *General standard for the labelling of pre-packaged foods* (CXS 1-1985).

12 *General standard for the use of dairy terms* (CXS 206-1999).

13 *Guidelines for use of nutrition and health claims* (CXG 23-1997).

14 *General standard for the labelling of non-retail containers of foods* (CXS 346-2021).

15 *Recommended methods of analysis and sampling* (CXS 234-1999).

Codex Alimentarius

A collection of international food standards developed to protect consumer health and ensure fair practices in the food trade. Codex standards are adopted by the Codex Alimentarius Commission, an intergovernmental body with 189 Members, established by FAO and WHO. The standards are recognized by the World Trade Organization as the benchmark for the safety of internationally traded food.

Codex Secretariat
Contacts

codex@fao.org
codexalimentarius.org
x.com/FAOWHOCodex
youtube.com/@UNFAO

Food and Agriculture Organization of the United Nations
Rome, Italy

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