

# CODEX ALIMENTARIUS COMMISSION



Food and Agriculture  
Organization of the  
United Nations



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Organization

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**TO** Codex Contact Points  
Contact Points of international organizations having observer status with Codex

**FROM** Secretariat,  
Codex Alimentarius Commission,  
Joint FAO/WHO Food Standards Programme

**SUBJECT** **Request for comments at step 3 on the proposed draft Regional Standard for Doogh**

**DEADLINE** **15 April 2017**

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## BACKGROUND

1. The 8th Session of the FAO/WHO Coordinating Committee for the Near East (June 2015) noted general support for the development of a regional standard for doogh. The Committee therefore agreed to retain the product as a regional standard and to establish an electronic working group led by Iran to prepare a revised proposed draft standard for consideration at its next session with a view to its completion and final adoption by the 40<sup>th</sup> Session of the Codex Alimentarius Commission in 2017. The Committee so returned standard for further development, comments and consideration at its next session.
2. The EWG revised the standard based on the comments submitted at CCNE08 and the discussion held at that session as well as comments provided by the members of the EWG and submitted a revised standard for comments at Step 3 by Codex members and observers and consideration by the forthcoming session of the Committee (CCNE09). The revised standard is aligned with the Standard for Fermented Milks (CODEX STAN 243-2003) to the extent it preserves the specific characteristics of doogh.
3. The proposed draft Regional Standard for Doogh is presented for comments in Appendix I. The list of participants of the EWG is presented in Appendix II. General guideline for comments are contained in Appendix III (Codex members and observers are kindly invited to follow the advice in the guidelines when providing comments on the standard to facilitate their compilation and translation).
4. Codex members and observers are kindly reminded that the timeframe for completion of this standard has been extended to 2017 (see paragraph 1) and therefore are encouraged to submit comments in order to finalize standard at the next session of the Committee.

**PROPOSED DRAFT REGIONAL STANDARD FOR DOOGH****(For comments at Step 3)****1. SCOPE**

This standard applies to Doogh for direct consumption or for further processing, in conformity with the definitions in Section 2 of this Standard. This Standard should be read in conjunction with the Standard for Fermented Milks (CODEX STAN 243-2003).

**2. DESCRIPTION**

**Doogh** is a 'drink based on fermented milk' as defined in Section 2.4 of the Standard for Fermented Milks (CODEX STAN 243-2003), obtained by mixing yogurt as defined in Sections 2.1 and 3.3 of the same standard, with potable water and regularly edible salt or mixing milk with potable water and regularly edible salt prior to heat treatment and fermentation, and its characteristics comply with 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 of the Standard for Fermented Milks, with or without the compositional modification as limited by the provision in Section 3.3.

In production of Doogh, other non-dairy ingredients than potable water as well as various dairy ingredients/dairy products are used, mandatory or optionally, according to Sections 3 and 4.

The typical starter microorganisms used in production of Doogh are traditional yogurt bacteria: *Streptococcus thermophilus* and *Lactobacillus delbrueckii* ssp. *bulgaricus*. However, other harmless and suitable microorganisms than these specific starter cultures (starter/nonstarter, claimed/unclaimed) could be used. These starter microorganisms shall be viable, active and abundant in the product to the date of minimum durability. 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 adding flavorings/flavor is so-called 'plain Doogh'. Doogh with flavors in the form of essences or extracts (such as mentol, ziziphore or wild thyme, pennyroyal and cucamber) or with different natural flavorings such as aromatic herbs, spices and condiments is known as 'flavored Doogh'. 'Carbonated/Uncarbonated' and 'Heat treated/Un-heat treated' Dooghs represent those contain/does 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**

- Yogurt (in mixing yogurt with potable water) or milk (in mixing milk with potable water). Yogurt should conform to Standard for fermented Milks.
- Potable water for dilution of yogurt or milk, and probably for the use in reconstitution or recombination (if milk is prepared by reconstitution or recombination).

**3.2. Permitted Ingredients**

- 3.2.1** Starter culture of harmless microorganisms including typical Doogh starters, as described in Section 2 of this standard;
- 3.2.2** Other harmless and suitable microorganisms (bacteria, yeast or mold) 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 product;
- 3.2.3** Sodium chloride, in accordance with the Standard for Food Grade Salt (CODEX STAN 150-1985);
- 3.2.4** Natural flavoring substances such as fine particles of aromatic vegetables and herbs, and spices, as specified in Section 2.3 of the Standard for Fermented Milks (CODEX STAN 243-2003);
- 3.2.5** Nutraceutical ingredients such as dietary fibers, prebiotics and fortifying agents;
- 3.2.6** Dairy ingredients or dairy products such as milk proteins, milk powders, milk fat (butter fat or cream), buttermilk and different types of whey;

**3.2.7 Potable water.**

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

**3.3. Composition**

pH	Max: 4.5
Titration acidity, expressed as lactic acid (%w/w)	Min: 0.3
Milk solid non-fat (MSNF)	Min 3.0
Milk protein <sup>(a)</sup> (%w/w)	Min: 0.8
Fat content (%v/w)	Max: 40% of MSNF of Doogh (salt not included)
Sodium chloride (%w/w)	Max: 0.7
Ethanol (v/w)	Max: 0.5
Sum of microorganisms constituting the starter culture defined in Section 2 (cfu/g, total count) <sup>(b)</sup>	Min: 10 <sup>6</sup>
Labelled microorganisms <sup>(c)</sup> (cfu/g, each strain)	Min: 10 <sup>7</sup>

(a) Protein content is '6.38 multiplied by the total Kjeldahl nitrogen determined'.

(b) This requirement does not apply to products 'heat treated after fermentation'.

(c) Applies when claimed microorganisms (as specified in Section 2 of this standard) are added to the product. Probiotics are of 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 labeling.

**4. FOOD ADDITIVES**

**4.1** Only those additives classes indicated in the Table below may be used for the product categories specified. Within each additive class, and where permitted according to the Table, only those individual additives listed may be used and only within the limits specified.

In accordance with Section 4.1 of the Preamble to the *General Standard for Food Additives* (CODEX STAN 192-1995), additional additives may be present in the flavored fermented product as a result of carry-over from non-dairy ingredients.

Carbonating agents <sup>(a)</sup>	X
Thickeners	X
Stabilizers	X
Acidity Regulators <sup>(b)</sup>	X
Flavor enhancers	X
Emulsifiers	X <sup>1</sup>
Packaging gases	X
Preservatives	X <sup>1</sup>

X = The use of additives belonging to the class is technologically justified. In the case of flavored products, the additives are technologically justified in the dairy portion.

<sup>1</sup>Use is only permitted by national legislation in the country of sale to the final consumer.

(a) Carbon dioxide may be incorporated by cold injection or fermentation (yeast and/or mesophilic bacteria)

(b) Use only when chemical (non-fermenting) acidification is incorporated to fermenting acidification.

Acidity regulators, emulsifiers, packaging gases and preservatives listed in Table 3 of the General Standard for Food Additives (CODEX STAN 192-1995) are acceptable for use in Doogh categories as specified in the table above.

INS no.	Name of additive	Maximum level
<b>Acidity regulators</b>		
270	Lactic acid, L-, D- and DL-	2 000 mg/kg as tartaric acid
<b>Carbonating agents</b>		
290	Carbon dioxide	GMP
<b>Emulsifiers</b>		
432	Polyoxyethylene (20) sorbitan monolaurate	3 000 mg/kg
433	Polyoxyethylene (20) sorbitan monooleate	
434	Polyoxyethylene (20) sorbitan monopalmitate	
435	Polyoxyethylene (20) sorbitan monostearate	
436	Polyoxyethylene (20) sorbitan tristearate	
472e	Diacetyltartaric and fatty acid esters of glycerol	10 000 mg/kg
473	Sucrose esters of fatty acids	5 000 mg/kg
474	Sucroglycerides	5 000 mg/kg
475	Polyglycerol esters of fatty acids	2 000 mg/kg
477	Propylene glycol esters of fatty acids	5 000 mg/kg
481(i)	Sodium stearoyl lactylate	10 000 mg/kg
482(i)	Calcium stearoyl lactylate	10 000 mg/kg
491	Sorbitan monostearate	5 000 mg/kg
492	Sorbitan tristearate	
493	Sorbitan monolaurate	
494	Sorbitan monooleate	
495	Sorbitan monopalmitate	
900a	Polydimethylsiloxane	50 mg/kg
<b>Flavour enhancers</b>		
580	Magnesium gluconate	GMP
620	Glutamic acid, (L+)-	
621	Monosodium L-glutamate	
622	Monopotassium L-glutamate	
623	Calcium di-L-glutamate	
624	Monoammonium L-glutamate	
625	Magnesium di-L-glutamate	
626	Guanylic acid, 5'-	
627	Disodium 5'-guanylate-	
628	Dipotassium 5'-guanylate-	

INS no.	Name of additive	Maximum level
629	Calcium 5'-guanylate	
630	Inosinic acid, 5'-	
631	Disodium 5'-inosinate	
632	Dipotassium 5'-inosinate	
633	Calcium 5'-inosinate	
634	Calcium 5'-ribonucleotides-	
635	Disodium 5'-ribonucleotides-	
636	Maltol	
637	Ethyl maltol	
<b>Preservatives</b>		
200	Sorbic acid	1 000 mg/kg as sorbic acid
201	Sodium sorbate	
202	Potassium sorbate	
203	Calcium sorbate	
210	Benzoic acid	300 mg/kg as benzoic acid
211	Sodium benzoate	
212	Potassium benzoate	
213	Calcium benzoate	
234	Nisin	500 mg/kg
<b>Stabilizers and Thickeners</b>		
170(i)	Calcium carbonate	GMP
331(iii)	Trisodium citrate	GMP
338	Phosphoric acid	10% of MSNF of Doogh (salt not included)
339(i)	Sodium dihydrogen phosphate	
339(ii)	Disodium hydrogen phosphate	
339(iii)	Trisodium phosphate	
340(i)	Potassium dihydrogen phosphate	
340(ii)	Dipotassium hydrogen phosphate	
340(iii)	Tripotassium phosphate	
341(i)	Monocalcium dihydrogen phosphate	
341(ii)	Calcium hydrogen phosphate	
341(iii)	Tricalcium orthophosphate	
342(i)	Ammonium dihydrogen phosphate	
342(ii)	Diammonium hydrogen phosphate	
343(i)	Monomagnesium phosphate	
343(ii)	Magnesium hydrogen phosphate	
343(iii)	Trimagnesium phosphate	
450(i)	Disodium diphosphate	

INS no.	Name of additive	Maximum level
450(ii)	Trisodium diphosphate	
450(iii)	Tetrasodium diphosphate	
450(v)	Tetrapotassium diphosphate	
450(vi)	Dicalcium diphosphate	
450(vii)	Calcium dihydrogen diphosphate	
451(i)	Pentasodium triphosphate	
451(ii)	Pentapotassium triphosphate	
452(i)	Sodium polyphosphate	
452(ii)	Potassium polyphosphate	
452(iii)	Sodium calcium polyphosphate	
452(iv)	Calcium polyphosphate	
452(v)	Ammonium polyphosphate	
542	Bone phosphate	
400	Alginic acid	
401	Sodium alginate	
402	Potassium alginate	
403	Ammonium alginate	
404	Calcium alginate	
405	Propylene glycol alginate	
406	Agar	
407	Carrageenan	
407a	Processed eucheama seaweed (PES)	
410	Carob bean gum	
412	Guar gum	
413	Tragacanth gum	
414	Gum Arabic (Acacia gum)	
415	Xanthan gum	
416	Karaya gum	
417	Tara gum	
418	Gellan gum	
425	Konjac flour	
440	Pectins	
459	Cyclodextrin, -beta	5 mg/kg
460(i)	Microcrystalline cellulose (Cellulose gel)	GMP
460(ii)	Powdered cellulose	
461	Methyl cellulose	
463	Hydroxypropyl cellulose	
464	Hydroxypropyl methyl cellulose	
465	Methyl ethyl cellulose	
466	Sodium carboxymethyl cellulose (Cellulose gum)	
467	Ethyl hydroxyethyl cellulose	

INS no.	Name of additive	Maximum level
468	Cross-linked sodium carboxymethyl cellulose (Cross-linked cellulose gum)	
469	Sodium carboxymethyl cellulose, enzymatically hydrolyzed (Cellulose gum, enzymatically hydrolyzed)	
470(i)	Salts of myristic, palmitic and stearic acids with ammonia, calcium, potassium and sodium	
470(ii)	Salts of oleic acid with calcium, potassium and sodium	
471	Mono- and di- glycerides of fatty acids	
472a	Acetic and fatty acid esters of glycerol	
472b	Lactic and fatty acid esters of glycerol	
472c	Citric and fatty acid esters of glycerol	
508	Potassium chloride	
509	Calcium chloride	
511	Magnesium chloride	
1200	Polydextrose	
1400	Dextrins, roasted starch	
1401	Acid treated starch	
1402	Alkaline treated starch	
1403	Bleached starch	
1404	Oxidized starch	
1405	Starches, enzyme treated	
1410	Mono starch phosphate	
1412	Distarch phosphate	
1413	Phosphated distarch phosphate	
1414	Acetylated distarch phosphate	
1420	Starch acetate	
1422	Acetylated distarch adipate	
1440	Hydroxypropyl starch	
1442	Hydroxypropyl distarch phosphate	
1450	Starch sodium octenyl succinate	
1451	Acetylated oxidized starch	

#### 4.2 Flavorings

The flavorings used in Doogh covered by this standard should comply with the Guidelines for the Use of Flavorings (CAC/GL 66-2008).

#### 5. CONTAMINANTS

5.1 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 (CODEX STAN 193-1995).

5.2 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

- 6.1** 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 (CAC/RCP 1-1969), the Code of Hygienic Practice for Milk and Milk Products (CAC/RCP 57-2004) and other relevant Codex texts such as codes of hygienic practice and codes of practice.
- 6.2** 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 (CAC/GL 21-1997).

The maximum counts of contaminating microorganisms in Doogh shall comply with the amounts of Table below:

Sum of molds and yeasts (cfu/g) <sup>(a)</sup>	Max: 100
Coliforms (cfu/g)	Max: 10
<i>Escherichia coli</i> (cfu/g)	Negative
Staphylococci (cfu/g)	Negative

<sup>(a)</sup> This provision does not apply to 'fermenting carbonated Doogh' or when yeasts are used as claimed microorganisms.

## 7. PACKAGING AND STORAGE

- 7.1** The product shall be packed in containers which preserve the hygienic quality and the other qualities of the food.
- 7.2** Doogh (after fermentation) shall be stored under refrigerated conditions, preferably.

## 8. LABELING

In addition to the provisions of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) and the General Standard for the Use of Dairy Terms (CODEX STAN 206-1999), the following specific provisions apply:

### 8.1. Name of the Food

- 8.1.1** The name of the food shall be 'Doogh'.
- 8.1.2** 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.
- 8.1.3** The designation of 'Flavored Doogh' shall be used as the name of product if any flavoring substance is added.
- 8.1.4** When probiotic microorganisms are incorporated in Doogh, the word 'Probiotic' may be applied somewhere on the label.
- 8.1.5** For Doogh powder, the name 'Doogh powder' or 'Dried Doogh' shall be inserted in marking.

### 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. The word 'non-fat' may be used whenever the content of milk fat in final product is less than 0.2% (m/m).

### 8.3 Labeling of Non-Retail Containers

Information required in Section 8 of this Standard and Sections 4.1 to 4.8 of the General Standard for the Labeling of Pre-packaged Foods, and, if necessary, storage instructions, shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer, packer, distributor or importer, as well as storage instructions, shall appear on the container. However, lot identification, and the name and address of the manufacturer, packer, distributor or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

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**9. METHODS OF ANALYSIS AND SAMPLING**

For checking the compliance with this Standard, the methods of analysis and sampling for fermented milks as contained in the Recommended Methods of Analysis and Sampling (CODEX STAN 234-1999) relevant to the provisions in this standard, shall be used.

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**APPENDIX III****GENERAL GUIDANCE FOR THE PROVISION OF COMMENTS**

In order to facilitate the compilation and prepare a more useful comments' document, Members and Observers, which are not yet doing so, are requested to provide their comments under the following headings:

- (i) General Comments
- (ii) Specific Comments

Specific comments should include a reference to the relevant section and/or paragraph of the document that the comments refer to.

When changes are proposed to specific paragraphs, Members and Observers are requested to provide their proposal for amendments accompanied by the related rationale. New texts should be presented in underlined/bold font and deletion in ~~strikethrough font~~.

In order to facilitate the work of the Secretariats to compile comments, Members and Observers are requested to refrain from using colour font/shading as documents are printed in black and white and from using track change mode, which might be lost when comments are copied/pasted into a consolidated document.

In order to reduce the translation work and save paper, Members and Observers are requested not to reproduce the complete document but only those parts of the texts for which any change and/or amendments is proposed.