

# codex alimentarius commission



FOOD AND AGRICULTURE  
ORGANIZATION  
OF THE UNITED NATIONS

WORLD  
HEALTH  
ORGANIZATION



JOINT OFFICE: Viale delle Terme di Caracalla 00100 ROME Tel: 39 06 57051 www.codexalimentarius.net Email: codex@fao.org Facsimile: 39 06 5705 4593

April 2002

ALINORM 03/11

## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### CODEX ALIMENTARIUS COMMISSION

Twenty-Fifth Session

Rome, Italy, 30 June - 5 July 2003

### REPORT OF THE FIFTH SESSION OF THE CODEX COMMITTEE ON MILK AND MILK PRODUCTS

*Wellington, New Zealand, 8 - 12 April 2002*

*Note: This report includes Codex Circular Letter CL 2002/11-MMP*

## APPENDIX III

## DRAFT REVISED STANDARD FOR FERMENTED MILKS

(Advanced to Step 8)

## 1. SCOPE

This standard applies to fermented milks, that is Fermented Milk including, Heat Treated Fermented Milks, Concentrated Fermented Milks and composite milk products based on these products, for direct consumption or further processing in conformity with the definitions in Section 2 of this Standard.

## 2. DESCRIPTION

## 2.1 FERMENTED MILK

**Fermented Milk** is a milk product obtained by fermentation of milk, which milk may have been manufactured from products obtained from milk with or without compositional modification as limited by the provision in Section 3.3, by the action of suitable microorganisms and resulting in reduction of pH with or without coagulation (iso-electric precipitation). 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.

Certain Fermented Milks are characterized by specific starter culture(s) used for fermentation as follows:

<b>Yoghurt:</b>	Symbiotic cultures of <i>Streptococcus thermophilus</i> and <i>Lactobacillus delbrueckii</i> subsp. <i>bulgaricus</i> .
<b>Alternate Culture Yoghurt:</b>	Cultures of <i>Streptococcus thermophilus</i> and any <i>Lactobacillus</i> species.
<b>Acidophilus Milk:</b>	<i>Lactobacillus acidophilus</i> .
<b>Kefir:</b>	Starter culture prepared from kefir grains, <i>Lactobacillus kefir</i> , species of the genera <i>Leuconostoc</i> , <i>Lactococcus</i> and <i>Acetobacter</i> growing in a strong specific relationship.  Kefir grains constitute both lactose fermenting yeasts ( <i>Kluyveromyces marxianus</i> ) and non-lactose-fermenting yeasts ( <i>Saccharomyces unisporus</i> , <i>Saccharomyces cerevisiae</i> and <i>Saccharomyces exiguus</i> ).
<b>Kumys:</b>	<i>Lactobacillus delbrueckii</i> subsp. <i>bulgaricus</i> and <i>Kluyveromyces marxianus</i> .

Other microorganisms than those constituting the specific starter culture(s) specified above may be added.

## 2.2 CONCENTRATED FERMENTED MILK

**Concentrated Fermented Milk** is a Fermented Milk the protein of which has been increased prior to or after fermentation to minimum 5.6%. Concentrated Fermented Milks includes traditional products such as Stragisto (strained yoghurt), Labneh, Ymer and Ylette.

## 2.3 FLAVOURED FERMENTED MILKS

**Flavoured Fermented Milks** are composite milk products, as defined in Section 2.3 of the Codex General Standard for the Use of Dairy Terms (CODEX STAN 206-1999) which contain a maximum of 50% (w/w) of non-dairy ingredients (such as nutritive and non nutritive carbohydrates, fruits and vegetables as well as juices, purees, pulps, preparations and preserves derived therefrom, cereals, honey, chocolate, nuts, coffee, spices and other harmless natural flavouring foods) and/or flavours. The non-dairy ingredients can be mixed in prior to/after fermentation.

### 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

#### 3.1 RAW MATERIALS

- Milk and/or products obtained from milk.
- Potable water for the use in reconstitution or recombination.

#### 3.2 PERMITTED INGREDIENTS

- Starter cultures of harmless microorganisms including those specified in Section 2;
- Sodium chloride; and
- Non-dairy ingredients as listed in Section 2.3 (Flavoured Fermented Milks).
- Gelatine and starch in:
  - fermented milks heat-treated after fermentation,
  - flavoured fermented milk, and
  - plain fermented milks if permitted by national legislation in the country of sale to the final consumer,

provided they are added only in amounts functionally necessary as governed by Good Manufacturing Practice, taking into account any use of the stabilizers/thickeners listed in section 4. These substances may be added either before or after adding the non-dairy ingredients.

#### 3.3 COMPOSITION

	Fermented Milk	Yoghurt, Alternate Culture Yoghurt and Acidophilus milk	Kefir	Kumys
Milk protein <sup>a</sup> (% w/w)	min. 2.7%	min. 2.7%	min. 2.7%	
Milk fat (% w/w)	less than 10%	less than 15%	less than 10%	less than 10%
Titration acidity, expressed as % lactic acid (% w/w)	min. 0.3%	min. 0.6%	min. 0.6%	min. 0.7%
Ethanol (% vol./w)				min. 0.5%
Sum of microorganisms constituting the starter culture defined in section 2.1 (cfu/g, in total)	min. 10 <sup>7</sup>	min. 10 <sup>7</sup>	min. 10 <sup>7</sup>	min. 10 <sup>7</sup>
Labelled microorganisms <sup>b</sup> (cfu/g, total)	min. 10 <sup>6</sup>	min. 10 <sup>6</sup>		
Yeasts (cfu/g)			min. 10 <sup>4</sup>	min. 10 <sup>4</sup>

- a) Protein content is 6.38 multiplied by the total Kjeldahl nitrogen determined.
- b) Applies where a content claim is made in the labelling that refers to the presence of a specific microorganism (other than those specified in section 2.1 for the product concerned) that has been added as a supplement to the specific starter culture.

In Flavoured Fermented Milks the above criteria apply to the fermented milk part. The microbiological criteria (based on the proportion of fermented milk product) are valid up to the date of minimum durability. This requirement does not apply to products heat-treated after fermentation.

Compliance with the microbiological criteria specified above is to be verified through analytical testing of the product through to "the date of minimum durability" after the product has been stored under the storage conditions specified in the labeling.

### 3.4 ESSENTIAL MANUFACTURING CHARACTERISTICS

Whey removal after fermentation is not permitted in the manufacture of fermented milks, except for Concentrated Fermented Milk (Section 2.2).

## 4 FOOD ADDITIVES

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 (Rev. 2-1999), additional additives may be present in the flavoured fermented milks as a result of carry-over from non-dairy ingredients.

	Fermented Milks		Fermented Milks Heat Treated After Fermentation	
	Plain	Flavoured	Plain	Flavoured
<b>Additive class</b>				
Colours	-	×	-	×
Sweeteners	-	×	-	×
Emulsifiers	-	×	-	×
Flavour enhancers	-	×	-	×
Acids	-	×	×	×
Acidity regulators	-	×	×	×
Stabilizers	× <sup>1</sup>	×	×	×
Thickeners	× <sup>1</sup>	×	×	×
Preservatives	-	-	-	×
Packaging gases	-	×	×	×

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.

- = The use of additives belonging to the class is not technologically justified

<sup>1</sup> Use is restricted to reconstitution and recombination and if permitted by national legislation in the country of sale to the final consumer.

## 5. CONTAMINANTS

The products covered by this standard shall comply with the maximum limits for contaminants and 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 Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 3-1997, Codex Alimentarius, Volume 1B), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

6.2 From raw material production to the point of consumption, the products covered by this Standard should be subject to a combination of control measures, which may include, for example, pasteurization, and these should be shown to achieve the appropriate level of public health protection.

6.3 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997, Codex Alimentarius, Volume 1B).

## 7. LABELLING

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991, *Codex Alimentarius*, Volume 1A) and the General Standard for the Use of Dairy Terms (CODEX STAN 206-1999), the following specific provisions apply:

### 7.1 NAME OF THE FOOD

7.1.1 The name of the food shall be fermented milk or concentrated fermented milk as appropriate.

However, these names may be replaced by the designations Yoghurt, Acidophilus Milk, Kefir, Kumys, Stragisto, Labneh, Ymer and Ylette, provided that the product complies with the specific provisions of this Standard. Yoghurt may be spelled as appropriate in the country of retail sale.

"Alternate culture yoghurt", as defined in Section 2, shall be named through the use of an appropriate qualifier in conjunction with the word "yoghurt". The chosen qualifier shall describe, in a way that is accurate and not misleading to the consumer, the nature of the change imparted to the yoghurt through the selection of the specific *Lactobacilli* in the culture for manufacturing the product. Such change may include a marked difference in the fermentation organisms, metabolites and/or sensory properties of the product when compared to the product designated solely as "yoghurt". Examples of qualifiers which describe differences in sensory properties include terms such as "mild" and "tangy". The term "alternate culture yoghurt" shall not apply as a designation.

The above specific terms may be used in connection with the term "frozen" provided (i) that the product submitted to freezing complies with the requirements in this Standard, (ii) that the specific starter cultures can be reactivated in reasonable numbers by thawing, and (iii) that the frozen product is named as such and is sold for direct consumption, only.

Other fermented milks and concentrated fermented milks may be designated with other variety names as specified in the national legislation of the country in which the product is sold, or names existing by common usage, provided that such designations do not create an erroneous impression in the country of retail sale regarding the character and identity of the food.

7.1.2 Products obtained from fermented milk(s) heat treated after fermentation shall be named "Heat Treated Fermented Milk". If the consumer would be misled by this name, the products shall be named as permitted by national legislation in the country of retail sale. In countries where no such legislation exists, or no other names are in common usage, the product shall be named "Heat Treated Fermented Milk".

7.1.3 The designation of Flavoured Fermented Milks shall include the name of the principal flavouring substance(s) or flavour(s) added.

7.1.4 Fermented milks to which only nutritive carbohydrate sweeteners have been added, may be labeled as "sweetened \_\_\_\_\_", the blank being replaced by the term "Fermented Milk" or another designation as specified in Section 7.1.1. If non-nutritive sweeteners are added in partial or total substitution to sugar, the mention "sweetened with \_\_\_\_\_" or "sugared and sweetened with \_\_\_\_\_" should appear close to the name of the product, the blank being filled in with the name of the artificial sweeteners.

7.1.5 The names covered by this Standard may be used in the designation, on the label, in commercial documents and advertising of other foods, provided that it is used as an ingredient and that the characteristics of the ingredient are maintained to a relevant degree in order not to mislead the consumer.

## **7.2 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.

## **7.3 LABELLING OF NON-RETAIL CONTAINERS**

Information required in Section 7 of this Standard and Sections 4.1 to 4.8 of the General Standard for the Labelling 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 or packer, shall appear on the container. However, lot identification and the name and address of the manufacturer or packager may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

## **8. METHODS OF SAMPLING AND ANALYSIS**

See *Codex Alimentarius*, Volume 13.

はっ酵乳改正規格案  
(ステップ 8 に進む)

1. 適用範囲

本規格は、直接消費もしくは更に加工処理することを目的とした本規格の第 2 項に示した定義に適合するはっ酵乳類に適用される。はっ酵乳類とは、加熱処理はっ酵乳、濃縮はっ酵乳及びこれらの製品から成る複合乳製品をいう。

2. 製品説明

2.1 はっ酵乳

はっ酵乳とは、乳に対して適切な微生物を作用させることによって凝固（等電点沈殿）を伴うもしくは伴わずに pH を低下させる発酵によって得られる乳製品をいう。乳は、乳から得られる製品から、第 3.3 項の規定に従うように組成調整を受けるかもしくは受けることなしに製造してもよい。それらのスターター微生物は品質保持期限内において製品中に生存し、活性があり、かつ多数存在しなければならない。発酵後に加熱処理をする場合、微生物の生菌規定は適用されない。

いくつかのはっ酵乳は、発酵に使用される以下の特徴的スターターカルチャーによって特色付けられる。

- |                   |   |  |
|-------------------|---|--|
| ヨ   ー   グ   ル   ト | : | <i>Streptococcus thermophilus</i> 及び <i>Lactobacillus delbrueckii</i> subsp. <i>bulgaricus</i> の共生カルチャー。   |
| カルチャー代替ヨーグルト      | : | <i>Streptococcus thermophilus</i> 及びあらゆる乳酸桿菌属のカルチャー  |
| アシドフィルスミルク        | : | <i>Lactobacillus acidophilus</i>   |
| ケ   フ   ィ   ア     | : | 強力な特定の関連性をもって生育するケフィア粒、 <i>Lactobacillus kefir</i> , <i>Leuconostoc</i> , <i>Lactococcus</i> 及び <i>Acetobacter</i> 属の各種微生物群から調製したスターターカルチャー。<br>ケフィア粒は、乳糖発酵性酵母 ( <i>Kluyveromyces marxianus</i> ) 及び非乳糖発酵性酵母 ( <i>Saccharomyces unisporus</i> , <i>Saccharomyces cerevisiae</i> 及び <i>Saccharomyces exiguus</i> ) の両酵母から構成される。 |
| ク   ー   ミ   ス     | : | <i>Lactobacillus delbrueckii</i> subsp. <i>bulgaricus</i> 及び <i>Kluyveromyces marxianus</i>  |

上記で規定されている特徴的なスターターカルチャー以外の微生物も加えてよい。

2.2 濃縮はっ酵乳

濃縮はっ酵乳は、発酵の前又は後に、蛋白質が 5.6% 以上に増加した発酵乳をいう。濃縮はっ酵乳には、Stragisto(うらごししたヨーグルト)、Labneh、Ymer 及び Ylette の類の伝統的な製品が含まれる。

2.3 フレーバードはっ酵乳

フレーバードはっ酵乳は、乳用語使用に係る一般規格(CODEX STAN 206-1999)の第 2.3 項で定義されている複合乳製品であり、非乳原料（栄養性及び非栄養性炭水化物、果実及び野菜、果実及び野菜ジュース、ピューレ、パルプ、調製品及びジャム、穀物、蜂蜜、チョコレート、ナッツ類、コーヒー、スパイス類及びその他の無害な天然賦香用食品）及び／又は香料を最大 50% (w/w) 含む製品をいう。非乳原料は、発酵前もしくは発酵後に混合してよい。

### 3. 必須成分及び品質要素

#### 3.1 原材料

- ・乳及び／又は乳から得られる製品
- ・加水還元または組合せ還元の際に使用する飲用水

#### 3.2 許可原料

- ・無害な微生物（第2項で特定されているものを含む）のスターターカルチャー
  - ・塩化ナトリウム；及び
  - ・第2.3項に記載の非乳原料（フレーバードはっ酵乳）
  - ・ゼラチン及び澱粉：
    - －加熱処理はっ酵
    - －フレーバードはっ酵乳
    - －最終消費者への販売国の国内法規で許可されている場合、プレーンはっ酵乳
- これらの物質は第4項に記載の安定剤／増粘剤の使用を考慮し、GMPの範囲内で技術的な必要量のみ添加する。これらの物質は非乳原料の添加前又は後に添加してよい。

#### 3.3 組成

	はっ酵乳	ヨーグルト、カルチャー代替ヨーグルト及びアスト・フィルミル	ケフィア	クレーミス
乳蛋白質 <sup>a</sup> (%w/w)	2.7%以上	2.7%以上	2.7%以上	
乳脂肪(%w/w)	10%以下	15%以下	10%以下	10%以下
滴定酸度 (乳酸表示,%w/w)	0.3%以上	0.6%以上	0.6%以上	0.7%以上
エタノール (%vol/w)				0.5%以上
第2.1項で定義されるスターター微生物(cfu/g、合計)	10 <sup>7</sup> 以上	10 <sup>7</sup> 以上	10 <sup>7</sup> 以上	10 <sup>7</sup> 以上
表示微生物 <sup>b</sup> (cfu/g、合計)	10 <sup>6</sup> 以上	10 <sup>6</sup> 以上		
酵母(cfu/g)			10 <sup>4</sup> 以上	10 <sup>4</sup> 以上

a) 蛋白質含量はケルダール法で測定した全窒素量に6.38を乗じたものである。

b) スターターカルチャーの補足として加えた特徴的な微生物（第2.1項で規定されている以外の微生物）が存在することを表示中で言及する場合に適用する。

フレーバードはっ酵乳の場合は、はっ酵乳部分に上記の組成基準を適用する。はっ酵乳部分の微生物基準については、品質保持期限内において保証する必要がある。この規定は、発酵後加熱処理した製品には適用されない。

上記の微生物基準に準拠していることは、ラベル上に記載された保存条件で保存した製品を「品質保持期限日」まで分析検査することによって確認する。

#### 3.4 製造上の必須の特徴

濃縮はっ酵乳(第2.2項)を除き、はっ酵乳類の製造において発酵後のホエイ除去は認められない。



#### 4. 食品添加物

次の表に示した添加物クラスのみ各製品カテゴリーで利用できる。表中で許されている各添加物クラスについて、掲げられている個々の添加物を規定されている制限量で利用できる。

コーデックス食品添加物一般規格(CODEX STAN 192 Rev.2-1999)の前文の第 4.1 項に従って、フレーバードはっ酵乳中には、非乳原料由来のキャリーオーバーの結果として他の添加物が存在しうる。

添加物クラス	はっ酵乳		加熱処理はっ酵乳	
	プレーン	フレーバード	プレーン	フレーバード
着色料	—	×	—	×
甘味料	—	×	—	×
乳化剤	—	×	—	×
香味増進剤	—	×	—	×
酸	—	×	×	×
pH調整剤	—	×	×	×
安定剤	× <sup>1</sup>	×	×	×
増粘剤	× <sup>1</sup>	×	×	×
保存料	—	—	—	×
梱包ガス	—	×	×	×

× = この添加物クラスに属する添加物の使用は技術的な正当性がある。フレーバード製品の場合は、乳部分の添加物に技術的な正当性がある。

— = この添加物クラスに属する添加物の使用には技術的な正当性がない。

1 最終消費者への販売国の国内法規で許可されており、かつ、加水還元、組合せ還元の場合の使用に限定される。

#### 5. 汚染物質

本規格の適用を受ける製品は、コーデックス食品規格委員会が定める汚染物質の最大限度値及び農薬・動物用医薬品の最大残留限度値に従うこと。

#### 6. 衛生

6.1 本規格の適用を受ける製品は、勧告国際取扱実施規範：食品衛生一般原則(CAC/RCP 1-1969, Rev. 3-1997、食品規格集 Volume 1B)の該当項目及び衛生取扱実施規範や取扱実施規範等の関連する他のコーデックス文書の該当項目に準拠して製造し、取扱うことを勧告する。

6.2 本規格の適用を受ける製品は、原材料の生産段階から消費に至る段階まで、いくつかの管理方法（例えば殺菌等を含む）の組み合わせを適用すべきである。これらの管理方法は、公衆衛生保護の適切な水準の達成を示さなければならない。

6.3 本製品は、食品の微生物基準の設定と適用に関する原則(CAC/GL 21-1997、食品規格集 Volume 1B)に準じて制定される微生物基準に従うべきである。

#### 7. 表示

コーデックス包装食品表示一般規格(CODEX STAN 1-1985, Rev. 1-1991、食品規格集 Volume 1A)及び乳用語使用に係る一般規格(CODEX STAN 206-1999)の規定に加え、以下の特定の規定を適用する。

##### 7.1 食品の名称

7.1.1 食品の名称は適切にはっ酵乳又は濃縮はっ酵乳とすること。

ただし、これらの名称は、本規格に示したヨーグルト、アシドフィルスミルク、ケ