Milk and milk products - Guidance on sampling

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 707:2008 sisaldab Euroopa standardi EN ISO 707:2008 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 707:2008 consists of the English text of the European standard EN ISO 707:2008.
Standard on kinnitatud Eesti Standardikeskuse 25.09.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 25.09.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.08.2008.	Date of Availability of the European standard text 15.08.2008.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 67.100.01

Võtmesõnad:

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 707

August 2008

ICS 67.100.01

Supersedes EN ISO 707:1997

English Version

Milk and milk products - Guidance on sampling (ISO 707:2008)

Lait et produits laitiers - Lignes directrices pour l'echantillonnage (ISO 707:2008)

Milch und Milcherzeugnisse - Leitfaden zur Probenahme (ISO 707:2008)

This European Standard was approved by CEN on 14 August 2008.

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Ref. No. EN ISO 707:2008: E

Foreword

This document (EN ISO 707:2008) has been prepared by Technical Committee ISO/TC 34 "Agricultural food products" in collaboration with Technical Committee CEN/TC 302 “Milk and milk products - Methods of sampling and analysis” the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2009, and conflicting national standards shall be withdrawn at the latest by February 2009.

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Endorsement notice

The text of ISO 707:2008 has been approved by CEN as a EN ISO 707:2008 without any modification.

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Introduction

Sampling is an operation that requires most careful attention; emphasis cannot be too strongly laid on the necessity of obtaining a properly representative sample. Written sampling procedures are demanded by ISO/IEC 17025[6] if sampling is performed by laboratories. Written procedures are also required for subsampling steps in the laboratory, e.g. the preparation of test portions. The sampling procedure is part of the measurement procedure, but not of the measurement itself. It therefore does not contribute to the measurement uncertainty. Variations resulting from sampling procedures handled by the laboratory contribute to the uncertainty of the reported result and have therefore to be added to the measurement uncertainty. Reference [10] is a guidance document on this issue.

The procedures described in this International Standard are recognized as good practice to be followed whenever practicable. However, it is impossible to lay down fixed rules to be followed in every case, and, however explicit, they cannot fully take the place of judgement, skill and experience. In particular, unforeseen circumstances may render some modifications desirable. Whenever special requirements are given for sampling and/or arise from a specific analysis to be performed, these requirements should be followed.

Heterogeneity in cheese provides particular challenges for sampling. Sampling uncertainty is mainly influenced by the heterogeneity of the sample, the sample size and the sampling method.

There are significant consequences for both microbiological as well as for chemical analyses in cheese. Normally the cheese curd is moulded into a specific shape and dimensions and this can affect the development. During ripening of the moulded cheese curd under regular conditions or in environments in which the humidity, temperature, and possibly composition of the atmosphere are controlled, the outside of the cheese will develop into a semi-closed layer with a lower moisture content, the rind, often initiated by brining. Due to the influence of the salt gradient in the brine, of oxygen, of drying out and of other reactions, the rind successively becomes of a somewhat different composition than the interior of the cheese.

Rennet and microorganisms, added as selected cultures or naturally available, by enzymatic and microbiological activity, change the structure and composition of the inner zone of the cheese. Moreover, microorganisms are often not homogeneously distributed throughout the cheese.

Ripening is influenced by storage temperature, time, humidity, and salt gradients. During or after ripening, the cheese rind can be treated or can be naturally colonized with desired cultures of microorganisms. The resulting layer, in the latter case referred to as smear, will have further influence on the ripening of the border zone. To be able to make correct decisions on the sampled material, specific knowledge of cheese ripening is necessary. Depending on the desired conclusion, it has to be decided where a sample is to be taken and how many samples are necessary.

For these reasons, ISO 707 | IDF 50 has been written in the form of guidance rather than as an “imperative” standard.

The test samples obtained by the methods described in this International Standard are “laboratory samples” as defined in ISO 78-2:1999[1], 3.1. The “test portion” obtained by the methods described is also defined in ISO 78-2:1999[1], 3.3.

Milk and milk products — Guidance on sampling

1 Scope

This International Standard gives guidance on methods of sampling milk and milk products for microbiological, chemical, physical and sensory analysis, except for (semi)automated sampling.

NOTE See also Reference [9].

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7002, *Agricultural food products — Layout for a standard method of sampling from a lot*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7002, and the following, apply.

3.1
laboratory sample
sample as prepared for sending to the laboratory and intended for inspection or testing

[ISO 78-2:1999[1], 3.1]

3.2
test portion
quantity of material drawn from the laboratory sample on which the test or observation is actually carried out

[Adapted from ISO 78-2:1999[1], 3.3]

NOTE It is possible that test portions of milk and milk products may require further processing, e.g. removal of parts that impair the test result, aseptic extraction of parts or grating.

4 General arrangements

This International Standard is not suitable as a basis for formulating legal obligations between contracting parties. In such cases, additional written requirements are necessary.

The number of units to be selected for sampling by inspection by attributes may be determined according to ISO 5538 | IDF 113[3]. Sampling for inspection by variables may be determined according to ISO 8197 (IDF 136A)[5].