SLOVENSKI STANDARD
SIST EN ISO 21567:2005

01-januar-2005

Mikrobiologija živil in krme - Horizontalna metoda za ugotavljanje prisotnosti Shigelle spp. (ISO 21567:2004)

Microbiology of food and animal feeding stuffs - Horizontal method for the detection of Shigella spp. (ISO 21567:2004)

Mikrobiologie von Lebensmitteln und Futtermitteln - Horizontales Verfahren für den Nachweis von Shigella spp. (ISO 21567:2004)

Microbiologie des aliments - Méthode horizontale pour la recherche de Shigella spp. (ISO 21567:2004)

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Microbiology of food and animal feeding stuffs - Horizontal method for the detection of Shigella spp. (ISO 21567:2004)

Microbiologie des aliments - Méthode horizontale pour la recherche de Shigella spp. (ISO 21567:2004)

This European Standard was approved by CEN on 20 October 2004.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

This document (EN ISO 21567:2004) has been prepared by Technical Committee ISO/TC 34 "Agricultural food products" in collaboration with Technical Committee CEN/TC 275 "Food analysis - Horizontal methods", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 21567:2004 has been approved by CEN as EN ISO 21567:2004 without any modifications.

INTERNATIONAL STANDARD

ISO 21567

First edition
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Microbiology of food and animal feeding stuffs — Horizontal method for the detection of *Shigella* spp.

Microbiologie des aliments — Méthode horizontale pour la recherche de Shigella *spp.*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 21567 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 9, *Microbiology*.

Introduction

Because of the large variety of food and feed products, this horizontal method may not be appropriate in every detail for certain products. In this case, different methods which are specific to these products may be used if absolutely necessary for justified technical reasons. Nevertheless, every attempt should be made to apply this horizontal method as far as possible.

When this International Standard is next reviewed, account will be taken of all information then available regarding the extent to which this horizontal method has been followed and the reasons for deviations from this method in the case of particular products.

The harmonization of test methods cannot be immediate and, for certain groups of products, International Standards and/or national standards may already exist that do not comply with this horizontal method. It is hoped that when such standards are reviewed they will be changed to comply with this International Standard so that eventually the only remaining departures from this horizontal method will be those necessary for well-established technical reasons.

Microbiology of food and animal feeding stuffs — Horizontal method for the detection of *Shigella* spp.

WARNING — In order to safeguard the health of laboratory personnel, it is essential that the whole of this method is only carried out by skilled personnel using good laboratory practices and preferably working in a containment facility. Relevant national Health and Safety Regulations relating to this organism shall be adhered to. Care shall be taken in the disposal of all infectious materials.

1 Scope

This International Standard specifies a horizontal method for the detection of *Shigella* species.

Subject to the limitations discussed in the Introduction, this International Standard is applicable to

— products intended for human consumption and the feeding of animals, and

— environmental samples in the area of food production and food handling.

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 6887-1, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and decimal dilutions*

ISO 6887-2, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 2: Specific rules for the preparation of meat and meat products*

ISO 6887-3, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 3: Specific rules for the preparation of fish and fishery products*

ISO 6887-4, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 4: Specific rules for the preparation of products other than milk and milk products, meat and meat products, and fish and fishery products*

ISO 7218:1996, *Microbiology of food and animal feeding stuffs — General rules for microbiological examinations*

ISO 8261, *Milk and milk products — General guidance for the preparation of test samples, initial suspensions and decimal dilutions for microbiological examination*

ISO/TS 11133-1, *Microbiology of food and animal feeding stuffs — Guidelines on preparation and production of culture media — Part 1: General guidelines on quality assurance of culture media in the laboratory*

ISO/TS 11133-2, *Microbiology of food and animal feeding stuffs — Guidelines on preparation and production of culture media — Part 2: Practical guidelines on performance testing of culture media*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
Shigella
microorganisms which form colonies fitting the description of these species on the solid selective media used, and which display the biochemical and serological characteristics described when tests are carried out in accordance with this International Standard

3.2
detection of *Shigella* spp.
determination of the presence or absence of these microorganisms in a particular mass of product, when tests are carried out in accordance with this International Standard

4 Principle

4.1 General

The detection of *Shigella* necessitates four successive stages (see Annex A).

4.2 Enrichment in selective liquid medium

A test portion is inoculated into *Shigella* broth containing 0,5 µg/ml of novobiocin, then incubated anaerobically at (41,5 ± 1) °C for 16 h to 20 h.

4.3 Plating out and identification of colonies

From the enrichment culture obtained, three selective differential media are inoculated: MacConkey agar with low selectivity; XLD agar with moderate selectivity; and Hektoen enteric agar with the greatest selectivity. All are incubated at 37 °C for 20 h to 24 h.

4.4 Biochemical and serological confirmation

Typical and suspect colonies are selected from each of the three selective agars. The colonies are purified on nutrient agar, then biochemical and serological characterizations are carried out using the tests described.

5 Culture media, reagents and antisera

For current laboratory practices, see ISO 7218, ISO/TS 11133-1 and ISO/TS 11133-2 for the preparation, production and performance testing of culture media.

Use only reagents of recognized analytical grade, unless otherwise specified, and distilled or demineralized water or water of equivalent purity.

See Annex B for descriptions of all media, reagents and antisera.

Commercially available dehydrated media should give more consistent results than media prepared from their component parts in the laboratory. Follow the manufacturer's instructions exactly, as small changes in preparation can significantly change the performance of selective media. Excessive heating of the selective agars used in this International Standard by autoclaving, storage and then re-heating for use may result in loss of selectivity.