

**Microbiology of food and animal feeding
stuffs - Horizontal method for the detection
of Escherichia coli O157**

Microbiology of food and animal feeding stuffs -
Horizontal method for the detection of Escherichia
coli O157

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 16654:2003 sisaldab Euroopa standardi EN ISO 16654:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 16654:2003 consists of the English text of the European standard EN ISO 16654:2001.</p> <p>This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala: This standard specifies a horizontal method for the detection of Escherichia coli serotype O157</p>	<p>Scope: This standard specifies a horizontal method for the detection of Escherichia coli serotype O157</p>
--	--

ICS 07.100.30

Võtmesõnad: bioassay, coliform bacteria, food inspection, food products, investigations, meat, meat products, microbiological analysis, microbiology, microorganisms, microorganisms, micro-organisms, samples, sampling, sampling methods, specimen preparation, testing, verification

English version

Microbiology of food and animal feeding stuffs
Horizontal method for the detection of
Escherichia coli O 157
(ISO 16654 : 2001)

Microbiologie des aliments – Méthode
horizontale pour la recherche des *Es-*
cherichia coli O 157 (ISO 16654 : 2001)

Mikrobiologie von Lebensmitteln und
Futtermitteln – Horizontales Verfahren
für den Nachweis von *Escherichia*
coli 157 (ISO 16654 : 2001)

This European Standard was approved by CEN on 2001-05-01.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Management Centre: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 16654 : 2001 Microbiology of food and animal feeding stuffs – Horizontal method for the detection of *Escherichia coli* O 157,

which was prepared by ISO/TC 34 'Agricultural food products' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 275 'Food analysis – Horizontal methods', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by November 2001 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 16654 : 2001 was approved by CEN as a European Standard without any modification.

Contents

Page

Foreword	2
Introduction	3
1 Scope	4
2 Normative references	4
3 Term and definition	4
4 Principle	5
5 Culture media, reagents and antisera	5
6 Apparatus and glassware	10
7 Sampling	11
8 Preparation of test sample	11
9 Procedure (see annex A)	11
9.1 Test portion and initial suspension	11
9.2 Enrichment	11
9.3 Immunomagnetic separation (IMS)	11
9.4 Plating out onto selective agars and identification of <i>E. coli</i> O157 colonies	12
9.5 Confirmation	13
9.6 Further characterization	14
10 Quality assurance	14
10.1 Test strains for quality assurance purposes	14
10.2 Culture method	14
11 Expression of results	14
12 Test report	14
Annex A (normative) Diagram of procedure	15
Bibliography	16

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 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.

This document is a preview generated by EVS

WARNING — *Escherichia coli* O157 can cause severe life-threatening illness and has a low infective dose. Laboratory-acquired infections have been reported.

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

Care must be taken in the disposal of all infectious materials.

1 Scope

This International Standard specifies a horizontal method for the detection of *Escherichia coli* serogroup O157.

Subject to the limitations discussed in the introduction, this International Standard is applicable to products intended for human consumption or for animal feeding stuffs.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

3 Term and definition

For the purposes of this International Standard, the following term and definition applies.

3.1

***Escherichia coli* O157**

***E. coli* O157**

microorganisms which form typical colonies on the surface of the plating-out medium used in this International Standard, and which produce indole and agglutinate specifically with antiserum against the O157 antigen

NOTE 1 Sorbitol-positive *E. coli* O157 strains are not detected on CT-SMAC (5.2) media.

NOTE 2 Some indole-negative mutations have been found.