

Australian Standard™

Food microbiology

Method 12.2: Microbiology of food and animal feeding stuffs—Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species)—Technique using rabbit plasma fibrinogen agar medium

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee FT-004, Food Microbiology to supersede AS 1766.2.4—1994, *Food microbiology, Method 2.4: Examination for specific organisms—Coagulase positive staphylococci*.

This Standard is identical with and reproduced from ISO 6888-2:1999, *Microbiology of food and animal feeding stuffs—Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species)—Part 2: Technique using rabbit plasma fibrinogen agar medium* including Amendment 1:2003, which is added at the end of the ISO text.

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee FT-004. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to specify a horizontal method for the enumeration of coagulase-positive staphylococci in products intended for human consumption or feeding of animals by counting of colonies obtained on a solid medium (rabbit plasma fibrinogen medium) after aerobic incubation at 35°C or 37°C (see reference [2]).

As this Standard is reproduced from an International Standard, the following applies:

- (a) In the source text, ‘this part of ISO 6888’ should read ‘this Australian Standard’.
- (b) A full point substitutes for a comma when referring to a decimal marker.
- (c) Substitute ‘mL’ for ‘ml’ wherever it appears.

References to International Standards should be replaced by references to equivalent Australian Standards as follows:

<i>Reference International Standard</i>		<i>Australian Standard</i>	
ISO		AS	
6887	Microbiology of food and animal feeding stuffs—Rules for the preparation of test sample, initial suspension and decimal dilutions for microbiological examination	5013	Food microbiology
6887-1	Part 1: General rules for the preparation of the initial suspension and decimal dilutions	5013.11.1	Method 11.1: Microbiology of food and animal feeding stuffs—Preparation of test samples, initial suspension and decimal dilutions for microbiological examination—General rules for the preparation of the initial suspension and decimal dilutions

ISO		AS	
6888	Microbiology of food and animal feeding stuffs—Horizontal method for the enumeration of coagulase-positive staphylococci (<i>Staphylococcus aureus</i> and other species)	5013.12.1	Method 12.1 Microbiology of food and animal feeding stuffs—Horizontal method for the enumeration of coagulase-positive staphylococci (<i>Staphylococcus aureus</i> and other species)—Technique using Baird-Parker agar medium
6888-1	Part 1: Technique using Baird-Parker agar medium		
7218	Microbiology of food and animal feeding stuffs—General guidance for microbiological examinations	5013.14	Method 14: Microbiology of food and animal feeding stuffs—General rules for microbiological examinations

The laboratory should have a clearly defined quality control system to ensure that the apparatus, culture media, reagents and technique are suitable for the test. The use of positive controls is part of this system.

INTRODUCTION

0.1 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 part of ISO 6888 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 part of ISO 6888 so that eventually the only remaining departures from this horizontal method will be those necessary for well-established technical reasons.

0.2 ISO 6888 describes two horizontal methods (part 1 and part 2) for the enumeration of coagulase-positive staphylococci among which enterotoxinogenic strains are encountered. It is mainly concerned with *Staphylococcus aureus*, but also with *S. intermedius* and certain strains of *S. hyicus*.

In the general case, use part 1 of ISO 6888. However, it is preferable to use the procedure described in part 2 only for foodstuffs (such as cheeses made from raw milk and certain raw meat products) likely to be contaminated by:

- staphylococci forming atypical colonies on a Baird-Parker agar medium;
- background flora which can obscure the colonies being sought.

0.3 For the purposes of this part of ISO 6888, the characterization of staphylococci is based on a positive-coagulase reaction, but it is recognized that some strains of *Staphylococcus aureus* give weakly positive coagulase reactions. These latter strains may be confused with other bacteria but they may be distinguished from such other bacteria by the use of additional tests not included in this part of ISO 6888, such as the sensitivity to lysostaphin, the production of haemolysin, of thermostable nuclease and of acid from mannitol (see reference [1]).

1 Scope

This part of ISO 6888 describes a horizontal method for the enumeration of coagulase-positive staphylococci in products intended for human consumption or feeding of animals by counting of colonies obtained on a solid medium (rabbit plasma fibrinogen medium) after aerobic incubation at 35 °C or 37 °C (see reference [2]).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 6888. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 6888 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 — Rules for the preparation of the test samples, of initial suspension and of decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and of decimal dilutions.*

ISO 6888-1:1999, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase positive staphylococci (Staphylococcus aureus and other species) — Part 1: Technique using Baird-Parker agar medium.*

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

3 Terms and definitions

For the purposes of this part of ISO 6888, the following terms and definitions apply.

3.1

coagulase-positive staphylococci

bacteria which form typical colonies in a rabbit plasma fibrinogen selective agar medium when the test is carried out according to the method specified in this part of ISO 6888

3.2

enumeration of the coagulase-positive staphylococci

determination of the number of coagulase-positive staphylococci found per millilitre or per gram of sample when the test is carried out according to the method specified in this part of ISO 6888