

Microbiology of food and animal feeding stuffs — Carcass sampling for microbiological analysis

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National foreword

This British Standard is the UK implementation of ISO 17604:2003+A1:2009. It supersedes BS ISO 17604:2003 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AW/9, Microbiology.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Amendments/corrigenda issued since publication

Date	Comments
30 September 2009	Implementation of ISO amendment 1:2009. Text amended in and added to clause 1 and Annex D added

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INTERNATIONAL STANDARD

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Microbiology of food and animal feeding stuffs — Carcass sampling for microbiological analysis

*Microbiologie des aliments — Prélèvement d'échantillons sur des
carcasses en vue de leur analyse microbiologique*



Foreword

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ISO 17604 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 9, *Microbiology*.

This first edition of ISO 17604 cancels and replaces the second edition of ISO 3100-1:1991.

ISO 3100-2:1988 is under revision as ISO 6887-2.

Introduction

It is generally agreed that the determination of microbial counts and the prevalence of pathogenic microorganisms on carcasses is essential for monitoring and verification in risk-based slaughter hygiene assurance systems [e.g. those employing the hazard analysis critical control points (HACCP) principles and quality assurance systems].

Moreover, many institutes are involved in (international) surveillance programmes on the prevalence of pathogenic microorganisms.

The design of such monitoring and surveillance programmes will obviously benefit from the use of standardized and internationally accepted sampling procedures.

Microbiology of food and animal feeding stuffs — Carcass sampling for microbiological analysis

1 Scope

This International Standard specifies sampling methods for the detection and enumeration of microorganisms on the carcass surface of freshly slaughtered meat animals. The microbiological sampling can be carried out as part of

- the process control (and to verify process control) in slaughter establishments for cattle, horses, pigs, sheep, goats and game raised in captivity,
- risk-based assurance systems for product safety, and
- surveillance programmes for the prevalence of pathogenic microorganisms.

This International Standard includes the use of destructive and non-destructive techniques depending on the reason for the sample collection.

It does not consider the use of sampling plans.

When national legislation on the topic exists, this prevails over this International Standard.

Annex A shows sampling sites on the carcass, and Annex B gives requirements for microbiological examination. Annex C compares destructive and non-destructive methods. Annex D specifies methods for the sampling of poultry carcasses for microbiological analysis.

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 4833, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms — Colony-count technique at 30 °C*

ISO 5552, *Meat and meat products — Detection and enumeration of Enterobacteriaceae without resuscitation — MPN technique and colony-count technique*

ISO 6579, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.*

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

ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of presumptive Escherichia coli — Most probable number technique*

ISO 10272, *Microbiology of food and animal feeding stuffs — Horizontal method for detection of thermotolerant Campylobacter*

ISO 10273, *Microbiology of food and animal feedings stuffs — Horizontal method for the detection of presumptive pathogenic Yersinia enterocolitica*

ISO 13720, *Meat and meat products — Enumeration of Pseudomonas spp.*

ISO 16654, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli O157*

3 Sampling procedure

Both destructive and non-destructive methods may be used (see Annex C). Avoidance of adverse effects on the carcass value is the primary constraint on the use of destructive methods. Non-destructive techniques enable the examination of larger areas. Smaller areas targeted to proven areas of greatest contamination may be examined using either destructive or non-destructive methods (see C.2 and C.3).

4 Sampling frequency

The time and frequency of sampling is governed by

- the slaughterhouse practices for each animal,
- the design of risk-based process control assurance programmes,
- the production volume, and
- the epidemiological status of the region from where the animal originates.

In the case of process control, the time and frequency of sampling shall relate to the level of slaughter hygiene.

In the case of surveillance for pathogens, the sampling time, location on the carcass, and frequency should correspond to the greatest chance of isolating the pathogens sought.

5 Sampling points

5.1 Carcass selection

Every carcass should have an equal chance of being selected for sampling.

5.2 Process control

Sampling points in the slaughterhouse should relate to the slaughter practices used. They should be selected according to risk-based principles, and relate to identified problem areas in the process. Examples of control points are the following:

- after the carcass polishing machine (pig);