INTERNATIONAL STANDARD

ISO 4134

Second edition
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Meat and meat products — Determination of L-(+)-glutamic acid content — Reference method

Viande et produits à base de viande — Détermination de la teneur en acide L-(+)-glutamique — Méthode de référence

Reference number
ISO 4134:1999(E)

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 3.

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.

International Standard ISO 4134 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Subcommittee SC 6, *Meat and meat products*.

This second edition cancels and replaces the first edition (ISO 4134:1978), which has been technically revised.

Annex A is a normative part of this International Standard. Annexes B and C are for information only.

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Meat and meat products — Determination of L-(+)-glutamic acid content — Reference method

1 Scope

This International Standard specifies a reference method for the determination of the L-(+)-glutamic acid content of meat and meat products, including poultry.

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 648, *Laboratory glassware — One-mark pipettes.*

ISO 835-2, *Laboratory glassware — Graduated pipettes — Part 2: Pipettes for which no waiting time is specified.*

ISO 1042, *Laboratory glassware — One-mark volumetric flasks.*

ISO 1442, *Meat and meat products — Determination of moisture content (Reference method).*

3 Terms and definitions

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

3.1
L-(+)-glutamic acid content of meat and meat products
mass fraction of L-(+)-glutamic acid determined according to the procedure described in this International Standard

NOTE The L-(+)-glutamic acid content is expressed in percent.

4 Principle

The L-(+)-glutamic acid present in a test portion is extracted with perchloric acid solution at a temperature of 0 °C. The extract is centrifuged, decanted and filtered and the pH is adjusted to 10,0. Nicotinamide adenine dinucleotide (NAD) is reduced by the L-(+)-glutamic acid in the presence of glutamate dehydrogenase [equation (1)]. The resultant reduced nicotinamide adenine dinucleotide (NADH) is reacted with iodonitrotetrazolium chloride in the presence of diaphorase [equation (2)]. The resulting formazane is measured at a wavelength of 492 nm and the L-(+)-glutamic acid content is calculated.