

International Standard



5564

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Black pepper and white pepper, whole or ground — Determination of piperine content — Spectrophotometric method

Poivre noir et poivre blanc, entier ou en poudre — Détermination de la teneur en pipérine — Méthode spectrophotométrique

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5564 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in February 1981.

It has been approved by the member bodies of the following countries :

Austria	Italy	Portugal
Canada	Kenya	Romania
Czechoslovakia	Korea, Dem. P. Rep. of	South Africa, Rep. of
Egypt, Arab Rep. of	Korea, Rep. of	Spain
Ethiopia	Malaysia	Sri Lanka
France	Netherlands	Thailand
Germany, F. R.	New Zealand	Turkey
Hungary	Peru	United Kingdom
India	Philippines	USSR
Ireland	Poland	Yugoslavia

No member body expressed disapproval of the document.

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0 Introduction

The method described in this international Standard is based on a number of international collaborative studies carried out over a long period of time. Necessarily, the method seeks to optimize a number of variables in an attempt to define procedures and provide a common measure of the pungency of pepper.

1 Scope and field of application

This International Standard specifies a spectrophotometric method for the determination of the piperine content of black or white pepper (*Piper nigrum* L.), in whole or in ground form.

2 References

ISO 939, *Spices and condiments — Determination of moisture content — Entrainment method*.

ISO 948, *Spices and condiments — Sampling*.

ISO 2825, *Spices and condiments — Preparation of a ground sample for analysis*.

3 Definition

3.1 piperine content : The quantity of pungent compounds (piperine and its analogues) in the product, determined by the procedure specified in this International Standard, and expressed as a percentage by mass.

4 Principle

Extraction of the pungent compounds with ethanol and spectrophotometric measurement at 343 nm.

5 Reagent

5.1 Ethanol, 96 % (V/V).

6 Apparatus

Usual laboratory equipment, and in particular

6.1 Extraction apparatus, comprising the following components joined together by means of ground-glass joints.

6.1.1 Flask, round-bottomed, of capacity 100 ml.

6.1.2 Reflux condenser.

6.1.3 Anti-bumping granules : glass beads.

6.2 One-mark volumetric flasks, of capacities 25, 50 and 100 ml, complying with the requirements of ISO 1042, and wrapped in aluminium foil or black tape (6.4).

6.3 Filter paper.

6.4 Aluminium foil or black tape.

6.5 Pipettes, one-mark, of capacity 5 ml, complying with the requirements of ISO 648.

6.6 Spectrophotometer, capable of accurately measuring absorbances at 343 nm, and provided with a pair of matched silica cells, or cells transparent to ultraviolet radiation, of optical path length 1 cm.

6.7 Analytical balance.