PD ISO/TR 21380:2022
Incorporating corrigendum August 2022



BSI Standards Publication

Matcha tea — Definition and characteristics

bsi.

National foreword

This Published Document is the UK implementation of ISO/TR 21380:2022.

The UK participation in its preparation was entrusted to Technical Committee AW/8, Tea.

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

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2022
Published by BSI Standards Limited 2022

ISBN 978 0 539 23373 5

ICS 67.140.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 July 2022.

Amendments/corrigenda issued since publication

Date	Text affected
31 August 2022	Correction to cover page

PD ISO/TR 21380:2022

TECHNICAL REPORT

ISO/TR 21380

First edition
2022-04

Matcha tea — Definition and characteristics

Thé matcha — Définition et caractéristiques

Reference number
ISO/TR 21380:2022(E)

© ISO 2022



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

© ISO 2022 – All rights reserved

Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Origins of matcha tea **1**
4.1 Historical origins of matcha tea 1
4.2 Descriptive names — Matcha tea and green, black and white teas 2
4.3 Plant source, cultivation and harvest 2
4.3.1 Cultivation and harvest 2
4.3.2 Roof frame shading and harvest 2
4.3.3 Direct shading and harvest 3
4.4 Processing and production stages 3
4.4.1 Harvesting and processing 3
4.4.2 Dry leaf grinding 3
4.5 Sensory analysis 4
4.6 Shelf life 4
5 Characteristics **4**
5.1 General characteristics 4
5.2 Chemical characteristics 5
Annex A (informative) **Appearance of sub-types of matcha tea and tencha tea** **6**
Annex B (informative) **Cultivation and processing** **7**
Bibliography **11**

© ISO 2022 – All rights reserved

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 34 *Food products,* Subcommittee SC 8, *Tea*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

© ISO 2022 – All rights reserved

Introduction

Tea is grown and manufactured in numerous countries in the world and is blended and/or consumed in many more. There is some confusion as to the origins, cultivation, appearance and processing for matcha tea and how this can or does differ from green, black, white and other types of tea.

Matcha tea (see Figure A.1) is traditionally prepared with hot water as a beverage in the Japanese tea ceremony called “Chanoyu”. Matcha tea is now consumed as a tea beverage prepared with hot water worldwide. In modern usage, matcha tea is also an ingredient in food and beverages.

The desired characteristics of matcha tea and the resulting liquor infusion depend upon a number of factors including the tea plant cultivation and the unique processing method and manufacture using fresh tea leaves.

This document:

— specifies the plant source of matcha tea;

— explains the requirements for cultivation, processing (drying) and grinding;

— identifies the physical and chemical characteristics which, if met, identify that the tea has followed good manufacturing practice.

The cultivation and processing methods are presented as the typical examples which have been developed for the harvest of tencha tea leaves (see Figure A.2) and the production of matcha tea in Japan.

Matcha tea is a specific type of green tea prepared with plant cultivation using shading, leaf steaming and leaf grinding processes. An investigation of the levels of L-theanine, chlorophyll and catechins – including epigallocatechin gallate (EGCG) and epigallocatechin (EGC) – in matcha tea indicates that the levels can vary to those in green and black teas and shows they support the discrimination between matcha, green and black teas. It is possible that the differentiation between matcha, green and black teas needs the use of ratios of the various chemical components, among others.

© ISO 2022 – All rights reserved

Matcha tea — Definition and characteristics

1 Scope

This document contains information regarding the tea cultivation, manufacture (including processing and grinding) and sensory analysis of the tea referred to as "matcha tea" in international trade.

It provides an internationally agreed definition of matcha tea based on the plant source, cultivation and production methods used. These are important for the physical, chemical and sensory characteristics of matcha tea.

It does not apply to flavoured matcha tea, blended matcha tea, or decaffeinated or soluble extracts of matcha tea.

NOTE Images of matcha tea and the tencha tea leaf are given in Annex A. Images of the cultivation and processing of the tencha tea leaf are given in Annex B.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
matcha tea
tea derived solely and exclusively from harvested tender leaves, buds and shoots of varieties of the species *Camellia sinensis* (L.) O. Kuntze var. *sinensis* which are grown under shade, known to be suitable for making tea for consumption as a beverage, and produced by acceptable processes notably enzyme inactivation using a steaming process followed by a drying process, without rolling the leaves, and a fine grinding process for the leaf to make tea powder

4 Origins of matcha tea

4.1 Historical origins of matcha tea

Powdered tea was introduced into Japan in the late twelfth century, from its historical roots in China, and is produced using leaves of the *Camellia sinensis* (L.) O. Kuntze.

Tea plants were originally cultivated in open fields. By the sixteenth century, a cultivation method was developed covering the tea bushes with reed mats or rice straw mats which originally prevented the new shoots from having frost damage in late spring. The new shoots of the plants produced under the shade developed a deep green colour with a rich umami taste and unique aromas compared with the shoots produced in open-field environments. This cultivation method using an intensely shaded culture significantly improves the quality of matcha tea. Tea cultivation records show that the use of shading was initiated at the beginning of the sixteenth century in the Uji area of Kyoto. The noble class invited special guests to a tea ceremony called "Chanoyu" where high quality matcha tea was prepared. The

© ISO 2022 – All rights reserved