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Tea — Classification of tea types

Thé — Classification des types de thé

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Foreword

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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.

Introduction

Tea (*Camellia sinensis*) is an important agricultural crop that is grown in the tropical and sub-tropical regions of the world. The tender shoots and leaves of the plant are processed and used to prepare an aromatic infusion which is consumed globally as a beverage. Tea is known to be one of the most popular beverages in the world and it is thought to be the most widely consumed non-alcoholic drink after water.

There are many different types of tea. The most common are black tea, green tea, white tea, oolong tea, dark tea and yellow tea.

International Standards for the preparation of tea are based on processing fresh tea leaves and aeration. The basic tea types are black tea (see ISO 3720), green tea (see ISO 11287), white tea (see ISO/TR 12591), oolong tea (see ISO 20716), dark tea and yellow tea. These six tea types can be reprocessed or further-processed to create products such as scented tea, compressed tea and instant tea.

This document outlines principles and a classification of the six tea types. The classification will allow consumers, world tea traders and governments to have a clear understanding of the different types of tea through their processing techniques.

Tea — Classification of tea types

1 Scope

This document establishes a classification for the types of tea produced from the plant *Camellia sinensis* (L.) O. Kuntze.

It is applicable to the production, scientific research, teaching, trade and inspection of tea.

It does not apply to the infusions from herbs or fruits other than *Camellia sinensis* (L.) O. kuntze referred to as "tea".

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
fresh tea leaf
material plucked from the tender leaves, buds and shoots of the varieties of *Camellia sinensis* (L.) O. Kuntze by hand or by using machinery

3.2
tea
products processed by characteristic techniques exclusively using *fresh tea leaves* (3.1) and known to be suitable for consumption

3.3
shaping
process to press the soft and pliable *fresh tea leaves* (3.1) into a particular shape such as flat, strip, hemispherical, round, spiral, etc. by hand or mechanical forces during processing

3.4
withering
process by which *fresh tea leaves* (3.1) lose moisture through evaporation at a certain temperature and humidity

Note 1 to entry: At the end of this process, the fresh tea leaves become flaccid, limp and pliable, and suitable for the next process.

3.5
enzyme inactivation
fixing
process by which the key enzymes polyphenol oxidase (PPO) and peroxidase (POD) in tea leaves are inactivated by heating, including steaming and pan frying

3.6
tumbling
process by which *fresh tea leaves* (3.1) are agitated by hand or mechanical bruising/shaking (turn over) resulting in partial aeration at the edges of the leaves

Note 1 to entry: This process is specific to oolong- tea processing.

3.7
rolling
process of macerating withered or enzyme-inactivated tea leaves using hand or rolling machines to mix cell juices and allow polyphenols to mix with enzymes, enabling their aeration or preliminary shaping

3.8
aeration
oxidation
fermentation
process that allows polyphenols in fresh leaves after cell disruption to engage in chemical oxidation and enzyme oxidation reactions when exposed to oxygen in the air

3.9
drying
process that reduces the moisture content of tea leaves

3.10
yellowing
process of piling or sweltering the enzyme-inactivated fresh leaves in a covered container to allow the leaves to turn yellow gradually by gentle heating

Note 1 to entry: This process is specific to yellow-tea processing.

3.11
piling fermentation
post-fermentation
process of piling and damping the enzyme-inactivated fresh leaves or green tea to allow microbial activity and promote the polymerization of polyphenols

Note 1 to entry: The process is unique to dark-tea processing.

3.12
black tea
tea (3.2) derived solely and exclusively, and produced by acceptable processes, notably withering, rolling or leaf maceration, aeration and drying, from the tender shoots of varieties of the species *Camellia sinensis* (L.) O. Kuntze, known to be suitable for making tea for consumption as a beverage

[SOURCE: ISO 3720:2011, 3.1, modified — "rolling or" added.]

3.13
green tea
tea (3.2) derived solely and exclusively, and produced by acceptable processes, notably enzyme inactivation and commonly rolling, shaping or comminution, followed by drying, from the tender leaves, buds and shoots of varieties of the species *Camellia sinensis* (L.) O. Kuntze, known to be suitable for making tea for consumption as a beverage

[SOURCE: ISO 11287:2011, 3.1, modified — "shaping" added.]

3.14
white tea
tea (3.2) derived solely and exclusively, and produced by acceptable processes, by harvesting and a single withering/drying stage of the bud or bud and tender shoots (one to three leaves) of varieties of the species *Camellia sinensis* (L.) O. Kuntze, known to be suitable for making tea for consumption as a beverage

[SOURCE: ISO/TR 12591:2013, 2.1]

3.15
oolong tea
blue tea
tea (3.2) derived solely and exclusively, and produced by acceptable processes, notably withering, tumbling and aeration (partial aeration/oxidization), enzyme inactivation, rolling/shaping and drying, from the moderately matured new shoots of varieties of the species *Camellia sinensis* (L.) O. Kuntze, known to be suitable for making tea for consumption as a beverage

[SOURCE: ISO 20716:2022, 3.1, modified — The definition has been reordered for consistency with the other definitions. Notes 1 and 2 to entry deleted.]

3.16
yellow tea
tea (3.2) derived solely and exclusively, and produced by acceptable processes, notably enzyme inactivation, rolling/shaping, yellowing and drying, from the bud or bud and the tender shoots of varieties of the species *Camellia sinensis* (L.) O. Kuntze, known to be suitable for making tea for consumption as a beverage

3.17
dark tea
tea (3.2) derived solely and exclusively, and produced by acceptable processes, notably enzyme inactivation, rolling, piling fermentation and drying, from the tender shoots or mature new shoots of varieties of the species *Camellia sinensis* (L.) O. Kuntze, known to be suitable for making tea for consumption as a beverage

3.18
matcha tea
tea (3.2) derived solely and exclusively, and produced by acceptable processes, notably enzyme inactivation using a steaming process followed by drying, without rolling the leaves, and a fine grinding process for the leaf to make tea powder from harvested tender leaves, buds and shoots, which are grown under the shade, of varieties of the species *Camellia sinensis* (L.) O. Kuntze var. sinensis, known to be suitable for making tea for consumption as a beverage

4 Principle of tea classification

The basic tea types are classified based on the specific processing techniques used to control the extent of aeration and the characteristic quality features that are formed. The main processing chart for the six types of tea is shown in Figure 1.

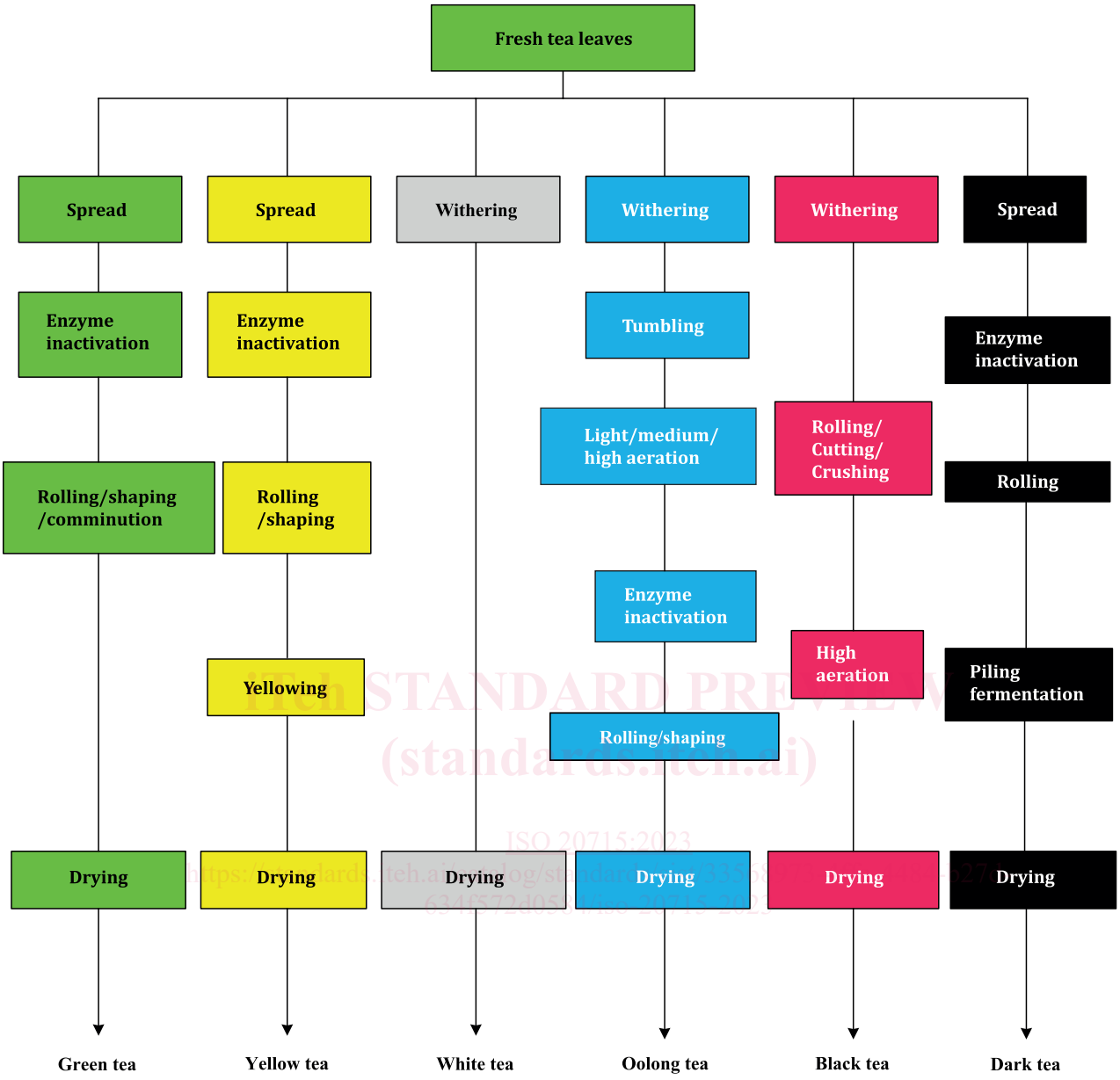

Figure 1 — Processing chart for the six tea types

5 Tea types

5.1 General

The six tea types can be differentiated as shown in 5.2 to 5.7.

5.2 Black tea

5.2.1 Orthodox black tea

Black tea where the maceration step involves the use of orthodox rolling machines. It comprises:

— a leaf with a twisted strip/wiry shape of various lengths;

— shotty, curly or semi curly Pekoe grades;