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Traditional Chinese medicine — *Lonicera japonica* flower

Médecine traditionnelle chinoise — Fleur de Lonicera japonica

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Foreword

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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).

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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 249, *Traditional Chinese medicine*.

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

Lonicera japonica flower is the dried flower bud or flower starting to bloom of *Lonicera japonica* Thunb., which is recorded in the Chinese, South Korean, Japanese and United States Pharmacopeias. *Lonicera japonica* flower is internationally recognized as a traditional Chinese herbal medicine, and there is great demand for it in the international market. However, there are many problems seriously affecting the international trade of *Lonicera japonica* flower, including the following.

1) Quality requirements for *Lonicera japonica* flower are different among different countries and regions.

2) *Lonicera japonica* flower is often substituted with fake and inferior versions.

3) Different collecting times, processing methods, packaging, transportation and storage conditions often result in different qualities of *Lonicera japonica* flower.

Therefore, the establishment of an international standard for *Lonicera japonica* flower is necessary to guarantee the quality, safety and consistency of this valuable herbal medicine. This document includes sections on morphology evaluation, physicochemical indexes and heavy metals content.

As national implementation may differ, National Standards Bodies are invited to modify the values given in 5.4, 5.5, 5.6, 5.7, 5.9 and 5.10 in their national standards. Examples of national and regional values are given in Annex D.

Traditional Chinese medicine — *Lonicera japonica* flower

1 Scope

This document specifies minimum requirements and test methods for *Lonicera japonica* flower, which is derived from the plant *Lonicera japonica* Thunb. It is applicable to *Lonicera japonica* flower that is sold and used as traditional Chinese medicine.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1575, *Tea — Determination of total ash*

ISO 1577, *Tea — Determination of acid-insoluble ash*

ISO 1666, *Starch — Determination of moisture content — Oven-drying method*

ISO 18664, *Traditional Chinese Medicine — Determination of heavy metals in herbal medicines used in Traditional Chinese Medicine*

World Health Organization. 2011, *Quality control methods for herbal materials, General advice on sampling*

CODEX STAN 1: 1985, *Codex general standard for the labeling of prepackaged foods*

3 Terms and definitions

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

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

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

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

3.1
***Lonicera japonica* flower**
dried flower bud or flower starting to bloom of *Lonicera japonica* Thunb.

3.2
chlorogenic acid content
mass fraction of chlorogenic acid in the sample determined in accordance with Annex B

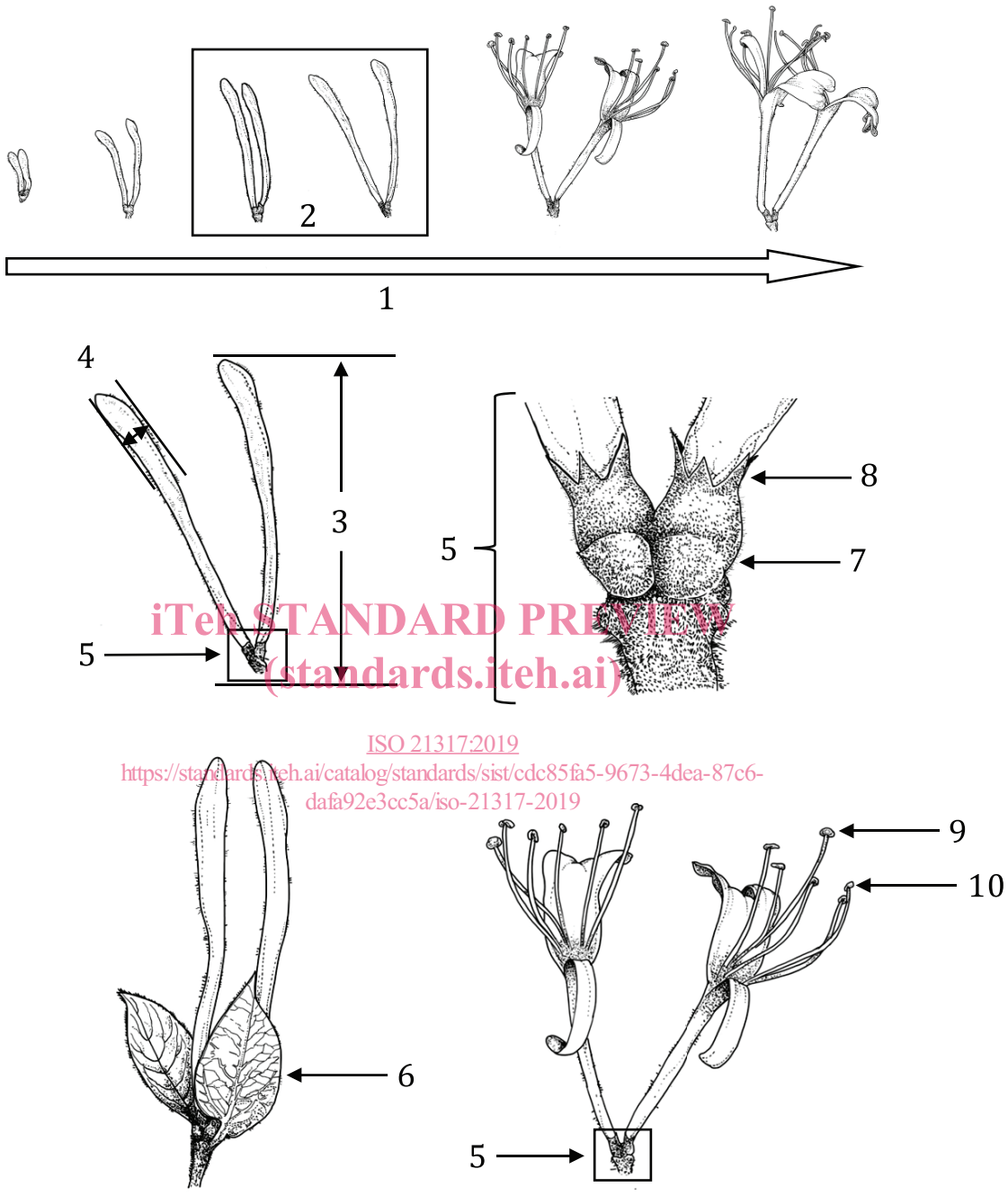
3.3
luteoloside content
mass fraction of luteoloside in the sample determined in accordance with Annex C

3.4
dilute ethanol-soluble extract
mass fraction of extract obtained from the sample using the method specified in 7.6

3.5
batch
samples collected from the same particular place at the same time

4 Descriptions

In this document, *Lonicera japonica* flower is the dried flower bud or flower starting to bloom of *Lonicera japonica* Thunb. It is externally yellowish-white, greenish-white to yellowish-green, gradually darkening over time to a golden colour (see Figure 1).



Key

1	*Lonicera japonica* flower in different flowering stages	6	bract (leaf-like)
2	*Lonicera japonica* flower selected for medicinal use	7	calyx tube
3	length	8	calyx lobes
4	diameter	9	pistil
5	calyx	10	stamen

Figure 1 — The structure of *Lonicera japonica* flower

5 Requirements

5.1 General characteristics

The following requirements shall be met before sampling.

a) *Lonicera japonica* flower shall be the dried flower bud or flower starting to bloom.

b) *Lonicera japonica* flower shall be clean and free from foreign matter except for a few leaf-like bracts.

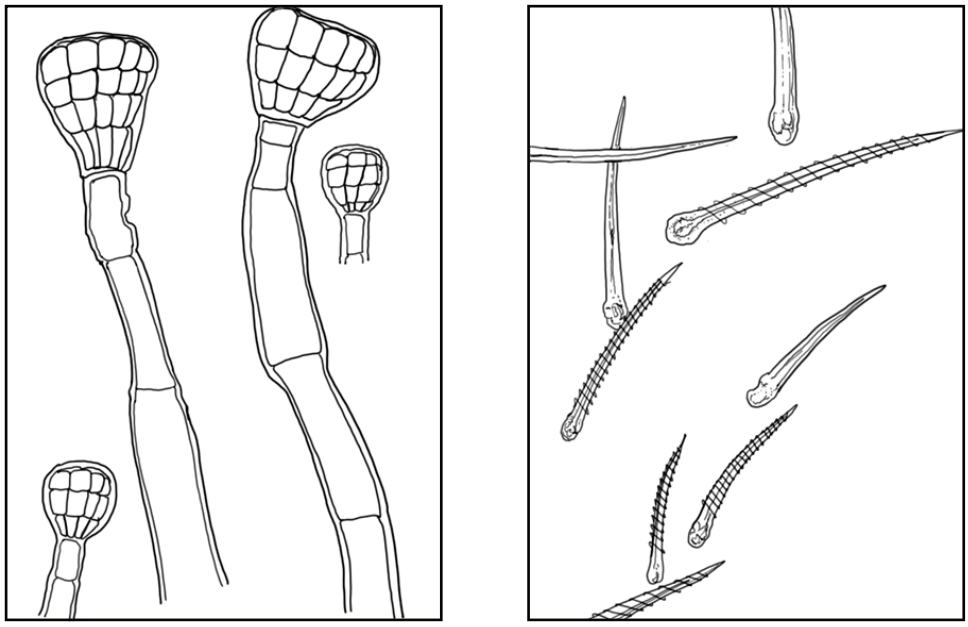
c) The presence of living insects, mould and external contaminants which are visible to the naked eye shall not be permitted.

5.2 Macroscopic characteristics

Flower buds are clavate, tapered downwards, slightly curved; 1,5 cm to 3,5 cm long, about 3 mm in diameter in the upper part and 1,5 mm in diameter in the lower part, with a densely pubescent surface; externally yellowish-white or greenish-white, gradually darkening over time to yellowish-brown. The foliaceous bracts are occasionally visible. The calyx is green, pubescent, five-lobed at the apex and about 2 mm long.

5.3 Microscopic characteristics

Lonicera japonica flower pedicels are covered with numerous glandular hairs and non-glandular hairs. The heads of glandular hairs are multicellular, turbinate, subround or slightly oblate, usually 30 μm to 70 μm in diameter, exceptionally up to 110 μm. The stalks of glandular hairs are unicellular or multicellular with up to five cells, usually 20 μm to 70 μm long, exceptionally up to 700 μm. There are two types of non-glandular hairs: (i) thick walls, unicellular, 45 μm to 900 μm long, 15 μm to 40 μm in diameter, with fine verrucae on the surface, some have a corneous spiral; (ii) thin walls, slender, curved or shrinkage, with fine verrucae on the surface (see Figure 2).



1 2

Key

1 glandular hairs
2 non-glandular hairs

Figure 2 — The structures of glandular hairs and non-glandular hairs

5.4 Moisture

The mass fraction of moisture should not be more than 15,0 %. See the values listed in Annex D, Table D.1 for additional information.

5.5 Total ash

The mass fraction of total ash should not be more than 10,0 %. See the values listed in Annex D, Table D.1 for additional information.

5.6 Acid-insoluble ash

The mass fraction of acid-insoluble ash should not be more than 3,0 %. See the values listed in Annex D, Table D.1 for additional information.

5.7 Dilute ethanol-soluble extract

The mass fraction of dilute ethanol-soluble extract should not be less than 16,0 %. See the values listed in Annex D, Table D.2 for additional information.

5.8 Identification of chlorogenic acid and luteoloside

The identification of chlorogenic acid and luteoloside with thin layer chromatography (TLC) shall present spots obtained from the test and reference solutions in the same positions with the same retention values and colour after evenly spraying the chromogenic agent.