International Standard

ISO 19015

Traditional Chinese medicine — *Glycyrrhiza uralensis* and *Glycyrrhiza glabra* seeds and seedlings

Médecine traditionnelle chinoise — Graines et plants de Glycyrrhiza uralensis *et de G*lycyrrhiza glabra

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Foreword

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This document was prepared by Technical Committee ISO/TC 249, *Traditional medicine*, Subcommittee SC 1, *Traditional Chinese medicine*.

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Introduction

Liquorice is one of the most frequently used medicinal plants and has been used as a traditional Chinese medicine (TCM) for more than 4 000 years. It is widely used in medicine, food and cosmetics industry worldwide. It is rich in triterpenoids and flavonoids, such as ammonium glycyrrhizinate, glycyrrhizin, liquiritin, liquiritigenin, isoliquiritigenin, isoliquiritin, glabridin, and has antitumor, antimicrobial, antiviral, antiinflammatory, immunoregulatory, antioxidant and other effects. It is included in the Pharmacopoeia of the People's Republic of China, European Pharmacopoeia, Japanese Pharmacopoeia, Korean Pharmacopoeia and United States Pharmacopoeia. It is also used as a sweetener, an antioxidant, an antibacterial agent, a foaming agent and a flavour enhancer. Meanwhile, it is a food additive approved by the European Union, the United States, China and other countries (or regions). Glabridin is recognized as a safe whitening agent because it has a significant inhibitory effect on tyrosinase activity and has low toxicity to melanocytes. Between 2019 and 2021, a total of 119 countries (or regions) engaged in international trade of liquorice products. 3 countries (or regions) only exported and 60 countries (or regions) only imported liquorice products. 56 countries (or regions) both exported and imported liquorice products. It is ranked no. 1 in the priority list of single herbal medicines for developing standards in ISO/TR 23975.

Three original plants, *Glycyrrhiza uralensis* Fisch., *Glycyrrhiza glabra* L. and *Glycyrrhiza inflata* Bat. are defined as liquorice in the Pharmacopoeia of the People’s Republic of China, European Pharmacopoeia and Korean Pharmacopoeia. Due to high-intensity anthropogenic activities that cause habitat destruction and uncontrolled exploitation, liquorice resources have become increasingly limited. With the development of artificial cultivation technology geared towards meeting the growing market demands, cultivated varieties of liquorice have become the primary source of liquorice products. At present, only *G. uralensis* and *G. glabra* have realized the large-scale cultivation. High quality seeds and seedlings are the assurance of the efficacy and safety of clinical drug use. In the production of *G. uralensis* and *G. glabra*, the problems of confusion, heterozygosity and uneven quality of seeds and seedlings often occur. At present, an international standard for *G. uralensis* and *G. glabra* seeds and seedlings is absent. Therefore, it is urgent to formulate an international standard for *G. uralensis* and *G. glabra* seeds and seedlings. It is the requirement of the global trade and production. It can ensure the higher productivity and better product quality from origin and benefit seed or seedling trading, plantation and the related pharmaceutical industry.

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Traditional Chinese medicine — *Glycyrrhiza uralensis* and *Glycyrrhiza glabra* seeds and seedlings

1 Scope

This document specifies the requirements and test methods of *Glycyrrhiza uralensis* and *Glycyrrhiza glabra* seeds and seedlings.

This document is applicable to *Glycyrrhiza uralensis* and *Glycyrrhiza glabra* seeds and *Glycyrrhiza uralensis* seedlings that are sold for the production of *Glycyrrhiza uralensis* and *Glycyrrhiza glabra* root as natural medicines in international trade including Chinese materia medica (whole medicinal materials) and decoction pieces.

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 21371, *Traditional Chinese medicine — Labelling requirements of products intended for oral or topical use*

ISO 22217, *Traditional Chinese medicine —Storage requirements for raw materials and decoction pieces*

International Seed Testing Association (ISTA), *International Rules for Seed Testing*

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
seed lot
specified quantity of the *seed* (3.7) that is physically and uniquely identifiable

[SOURCE: ISO 17217-1:2014, 3.1]

3.2
primary sample
portion taken from the *seed lot* (3.1) during one single sample action

[SOURCE: ISO 17217-1:2014, 3.2]

3.3
composite sample
sample formed by combining and mixing all the *primary samples* (3.2) taken from the *seed lot* (3.1)

[SOURCE: ISO 17217-1:2014, 3.3]

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