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Biotechnology — Biobanking — Requirements for the biobanking of plant biological material for research and development

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National foreword

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 General requirements **3**
5 Biological material collection **3**
5.1 General 3
5.2 Collection procedure 3
5.3 Preparation of collection containers, tools, supplies, reagents and consumables 4
5.4 Biological material traceability 6
5.5 Collection 6
6 Transport of biological material and associated data **7**
7 Preparation and preservation of biological material **8**
7.1 General 8
7.2 Cutting, cleaning and bagging 8
7.3 Desiccation 9
7.4 Snap freezing and cryopreservation 9
7.5 Fast or rapid drying 9
7.5.1 General 9
7.5.2 Drying with dried spots card 10
7.5.3 Air-dried or oven-dried 10
7.6 Grinding 10
7.7 Biological material preservation in protective solution 10
8 Storage of biological material **10**
8.1 General 10
8.2 Storage temperature 11
8.3 Biological material multiplication 11
8.4 Monitoring of biological material 12
9 Distribution and disposal of biological material **13**
10 Information collection **13**
Annex A (informative) **Typical biological material storage temperatures and storage durations** **14**
Annex B (informative) **Exemplary information table for plant biological material** **15**
Bibliography **19**

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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).

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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 276, *Biotechnology*.

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.

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Introduction

Biobanking of plant biological materials is fundamental for botanical and agro-ecosystem research, sustainable crop development and production, ensuring genetic diversity and conservation. Biobank biological material collection and accession management are strategic to optimizing plant genetic resources. A plant biobank obtains its accessions in different ways, e.g. from donors (principally researchers or breeders), by collecting the biological material from the field and by exchange with other plant biobanks. Biological collections encompass numerous biological material types, including frozen plant tissues, fluid preserved plant tissues or associated extracts or some or all of them. These collections often require specialized experts to curate and assemble the collection. Appropriate biological material processing and storage conditions are also needed to maintain high-quality collections and maximize the potential of positive outcomes. This document provides guidance on how to collect, process, store, track and distribute plant biological materials.

Standards are needed for the collection, preparation, preservation, transportation and storage of plant biological materials for academic institutions, non-profit organizations and commercial agronomic businesses. This document provides the specific requirements, guidelines and effective practices for biobanking plant biological materials based on the current and available technological and scientific knowledge.

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TECHNICAL SPECIFICATION **ISO/TS 23105:2021**

Biotechnology — Biobanking — Requirements for the biobanking of plant biological material for research and development

1 Scope

This document specifies requirements for the collection, preparation, preservation, transportation, storage, distribution and disposal of plant biological materials and associated data.

This document is applicable only to biological material that can be used for further processing of biomolecules, e.g. nucleic acids, proteins and metabolites.

This document is applicable to all organizations performing plant biobanking for research and development.

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 20387:2018, *Biotechnology — Biobanking — General requirements for biobanking*

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
associated data
any information affiliated with *biological material* (3.4) including but not limited to research, phenotypic, clinical, epidemiologic, phytosanitary certificate and procedural data

Note 1 to entry: Associated data can include metadata.

[SOURCE: ISO 20387:2018, 3.3, modified — "phytosanitary certificate" and Note 1 to entry have been added.]

3.2
biobank
legal entity or part of a legal entity that performs *biobanking* (3.3)

[SOURCE: ISO 20387:2018, 3.5]

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