International Rules for Seed Testing, Introduction, i–I-6 (14)
https://doi.org/10.15258/istarules.2026.I

International Rules for Seed Testing 2026

Introduction to the ISTA Rules

Including changes and editorial corrections adopted at the Ordinary General Meeting 2025 in Christchurch, New Zealand

Effective from 1 January 2026

Note on the use of the translations

The electronic version of the International Rules for Seed Testing includes the English, French, German and Spanish versions. If there are any questions on interpretation of the ISTA Rules, the English version is the definitive version.

Published by
The International Seed Testing Association (ISTA)
Richtiarkade 18, CH-8304 Wallisellen, Switzerland

© 2026 International Seed Testing Association (ISTA)

Online ISSN 2310-3655

All rights reserved. No part of this publication may be reproduced, stored in any retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission in writing from ISTA.

Contents

Preface to the 2026 edition of the ISTA Rules v

Introduction to the ISTA Rules I-1
I-1 General information I-1
I-2 Guidelines for ISTA Rules proposals I-2
I-2.1 Proposals concerning test methods I-2
I-2.2 Proposals for new species I-2
I-2.3 Other proposals I-3
Form 1: Proposal for inclusion of new species in the ISTA Rules I-4

Preface to the 2026 edition of the ISTA Rules

Since 2014, the *International Rules for Seed Testing* (ISTA Rules) are primarily available in electronic format. The ISTA Rules can be downloaded as a complete PDF file or as individual chapters from:

www.ingentaconnect.com/content/ista/rules

If required, users of the ISTA Rules can print their own copies. For further information on the ISTA Rules, see:

www.seedtest.org/en/publications/international-rules-seed-testing.html

The electronic version includes the English, French, German and Spanish versions of the ISTA Rules. If there are any questions on interpretation of the ISTA Rules, the English version is the definitive version.

Seed health testing methods

Previously, the seed health testing methods were published as a separate Annexe to Chapter 7 of the ISTA Rules. They are now available as separate method sheets from the ISTA website at:

www.seedtest.org/en/international-rules-for-seed-testing-rubric-3.html

Details of changes

The 2026 changes are editorial corrections or Rules changes adopted at the Ordinary General Meeting held in Christchurch, New Zealand in May 2025. Edits were made in Adobe InDesign by Vanessa Sutcliffe of Heart-Wood Editorial (www.heartwoodeditorial.co.uk).

The changes in the text content from the previous edition of the ISTA Rules are listed below. They can be displayed with yellow highlight boxes as a ‘layer’ over the English version within the electronic copy, with comments on what has changed.

Jodi Keeling, ISTA Rules Committee Chair

Janek Bartel, ISTA Rules Committee Vice-Chair

ISTA Secretariat

Changes to the ISTA Rules for 2026

Chapter 1

1.3: Consequential change due to revision of sublot allowance for *Solanum lycopersicum* and other fleshy vegetable species. New species added to 20 sublot option; maximum seed lot size for 20 sublots restricted to 1000 kg. Proposal developed in consultation with Bulking & Sampling and Purity TCOMs and supported by new experimental data from testing of seed lots and species, with summary report and analysis supplied by Statistics TCOM. Approved by Statistics TCOM and majority vote of Bulking & Sampling TCOM and ECOM–Vegetable Seed Industry working group.

1.5.2.8: Consequential change due to change in minimum number of seeds required for tetrazolium test, taking account of species with large seeds and species for which it is challenging to obtain 400 seeds. New tolerance tables developed for new testing schemes by Statistics TCOM.

1.5.2.18: Consequential change due to complete revision of Chapter 16.

1.5.2.21.2, 1.5.2.21.3: Consequential change due to updates in Chapter 19, clarifying conditions under which GMO test results can refer to either seed lot or seed sample, and therefore are reported on either Orange or Blue International Certificates. Proposal discussed and finally approved by majority vote of GMO TCOM.

Chapter 2

2.2.2: Revision of sublot allowance for *Solanum lycopersicum* and other fleshy vegetable species. New species added to 20 sublot option; maximum seed lot size for 20 sublots restricted to 1000 kg. Proposal developed in consultation with Bulking & Sampling and Purity TCOMs and supported by new experimental data from testing of seed lots and species, with summary report and analysis supplied by Statistics TCOM. Approved by Statistics TCOM and majority vote of Bulking & Sampling TCOM and ECOM–Vegetable Seed Industry working group.

2.5.2.2.4: Editorial change to remove erroneously added genus *Juglans* from list of tree and shrub genera for which hand halving is allowed under ISTA Rules.

2.5.4.2.1: Nomenclature changes according to *ISTA List of Stabilised Plant Names*, 8th edition (2026). Proposal submitted by Nomenclature TCOM and approved by ISTA Rules TCOM.

Table 2C: Nomenclature changes according to *ISTA List of Stabilised Plant Names*, 8th edition (2026). Proposal submitted by Nomenclature TCOM and approved by ISTA Rules TCOM.

Table 2C: Addition of new species to ISTA Rules. *Diplotaxis tenuifolia* (L.) DC. belongs to Brassicaceae family, traded as a vegetable (wild rocket). ISTA Certificates necessary for trade. Validation study done for germination test. Calculator for adding new species used for working weight; calculator results checked by Statistics TCOM. Proposal discussed and voted in Purity TCOM with majority vote; proposal submitted by Germination TCOM and supported by method validation report and vote within Germination TCOM.

Table 2C: Maximum seed lot size for *Solanum lycopersicum* (and linked *Lycopersicon* group of species) reset to 10 000 kg. Proposal developed in consultation with Bulking & Sampling and Purity TCOMs and supported by new experimental data from testing of seed lots and species, with summary report and analysis supplied by Statistics TCOM. Approved by Statistics TCOM and majority vote of Bulking & Sampling TCOM and ECOM–Vegetable Seed Industry working group.

Chapter 3

Table 3B Part 1: Nomenclature changes according to *ISTA List of Stabilised Plant Names*, 8th edition (2026). Proposal submitted by Nomenclature TCOM and approved by ISTA Rules TCOM.

Table 3B Part 1: Addition of new species to ISTA Rules. *Diplotaxis tenuifolia* (L.) DC. belongs to Brassicaceae family, traded as a vegetable (wild rocket). ISTA Certificates necessary for trade. Validation study done for germination test. Calculator for adding new species used for working weight; calculator results checked by Statistics TCOM. Proposal discussed and voted in Purity TCOM with majority vote; proposal submitted by Germination TCOM and supported by method validation report and vote within Germination TCOM.

Chapter 5

5.6.3.1: Change to allow solutions up to 0.2 % potassium nitrate (KNO_3) to be used in germination test to break physiological dormancy. Laboratories will state percentage KNO_3 used on ISTA Certificates. Proposal originates from question asked by ISTA Accreditation and Technical department and is supported by Germination TCOM.

5.6.4: Wording updated, clarifying that first count can be postponed or omitted. Paragraph split for readability. Proposal originates from ISTA Accreditation and Technical department and is supported by Germination TCOM.

5.10: Consequential change due to update of 5.6.4, clarifying that first count can be postponed or omitted. Proposal originates from ISTA Accreditation and Technical department and is supported by Germination TCOM.

5.10: Consequential change due to update of 5.6.3.1 to allow solutions up to 0.2 % potassium nitrate (KNO_3) to be used in germination test to break physiological dormancy. Proposal originates from ISTA Accreditation and Technical department and is supported by Germination TCOM.

Table 5A Part 1: Addition of new species to ISTA Rules. *Diplotaxis tenuifolia* (L.) DC. belongs to Brassicaceae family, traded as a vegetable (wild rocket). ISTA Certificates necessary for trade. Validation study done for germination test. Calculator for adding new species used for working weight; calculator results checked by Statistics TCOM. Proposal discussed and voted in Purity TCOM with majority vote; proposal submitted by Germination TCOM and supported by method validation report and vote within Germination TCOM.

Table 5A Parts 1 and 2: Nomenclature changes according to *ISTA List of Stabilised Plant Names*, 8th edition (2026). Proposal submitted by Nomenclature TCOM and approved by ISTA Rules TCOM.

Chapter 6

6.5.1, 6.7, 6.9: Change in minimum number of seeds required for tetrazolium test, taking account of species with large seeds and species for which it is challenging to obtain 400 seeds. New tolerance tables developed for new testing schemes by Statistics TCOM.

6.6.1 (new section): Addition of section on rounding results. Proposal developed by Tetrazolium TCOM with scope of aligning rounding results of viability test with categories of germination test.

Figures 6.3a,b: Editorial change submitted by Tetrazolium TCOM to add 'with seminal roots' to evaluation guide for cereals.

Table 6A Parts 1 and 2: Nomenclature changes according to *ISTA List of Stabilised Plant Names*, 8th edition (2026). Proposal submitted by Nomenclature TCOM and approved by ISTA Rules TCOM.

Tables 6B–6D: Change in minimum number of seeds required for tetrazolium test, taking account of species with large seeds and species for which it is challenging to obtain 400 seeds. New tolerance tables developed for new testing schemes by Statistics TCOM.

Chapter 7

Method 7-034: New method for detection of *Fusarium oxysporum* f.sp. *lycopersici* in *Solanum lycopersicum* (tomato) seed, including a plating method with a molecular detection PCR and an optional test to confirm pathogenicity of isolates.

Chapter 9

9.2.5.1: Clarification of appropriate period between sampling and moisture testing. Problem mentioned by an ISTA auditor; proposal developed and approved by Moisture TCOM.

9.2.5.2: Editorial change to correct diameter of 8 cm screen from 'greater than' to 'greater than or equal to'. Change submitted by Moisture TCOM.

Table 9A: Alignment with Table 2C, as master table for ISTA Rules. Only species listed in Table 2C should be included. Nomenclature updated according to *ISTA List of Stabilised Plant Names*, 8th edition (2026); proposal submitted by Nomenclature TCOM and approved by ISTA Rules TCOM. Inconsistencies between tables found and mentioned by ISTA members; proposal developed and approved by Moisture TCOM.

Chapter 13

Table 13A: Nomenclature changes according to *ISTA List of Stabilised Plant Names*, 8th edition (2026). Proposal submitted by Nomenclature TCOM and approved by ISTA Rules TCOM.

Chapter 15

15.3: Addition of *Glycine max* and *Brassica* spp. as species to which radicle emergence test can be applied. Editorial change to put list in alphabetical order. Proposals submitted by ISTA Rules TCOM Chair and Vigour TCOM, supported by validation report.

15.8.1.7: Correction of text regarding tolerances for conductivity test. Change submitted by Vigour TCOM.

15.8.2.5.1: Precision of temperature for accelerated ageing chambers. Change submitted by Vigour TCOM.

15.8.2.6.2: Addition of ±0.5 g to give accuracy to non-acceptable seed weights after ageing. Change submitted by Vigour TCOM.

Table 15B: Addition of *Brassica* spp. as species to which radicle emergence test can be applied, with specification for *B. napus*. Proposal submitted by Vigour TCOM and supported by validation report.

Chapter 16

Complete revision of chapter including deletion of requirement for airtight bag for sample submitted for analysis; revision and more detailed description of procedure; harmonisation with other chapters of ISTA Rules.

Chapter 19

19.2.15, 19.7.2, 19.7.3: Clarification on conditions under which GMO test results can refer to either seed lot or seed sample, and therefore are reported on either Orange or Blue International Certificates. Proposal discussed and finally approved by majority vote of GMO TCOM.

Introduction to the ISTA Rules

I-1 General information

The International Seed Testing Association (ISTA) was established in 1924 to work towards a vision of uniformity in seed testing internationally. ISTA's current mission is to develop, adapt and publish standard procedures for sampling and testing seeds, and to promote uniform application of these procedures for evaluation of seeds moving in international trade. The need for seed testing methods that are reliable and reproducible among its accredited member laboratories is therefore a basic need for ISTA. This is achieved through the publication of the *International Rules for Seed Testing* (hereafter 'ISTA Rules'). The primary aim of the ISTA Rules is to provide testing methods for seeds designated for growing of crops or production of plants. In addition, most of the testing methods can also be applied for evaluation of the quality of seeds used as food or for technical purposes.

ISTA's seed sampling and testing methods have been developed by its members since its formation in 1924. Methods have gone through appropriate validation studies to ensure that test procedures give reliable and reproducible results. Following agreement between ISTA's member countries, the validated methods have been included in the ISTA Rules.

Seed quality testing therefore requires test methods and equipment that have been tested to ensure they are fit for purpose, i.e. validated. The ISTA Method Validation Programme (see section I-2) provides the mechanism for the inclusion of test methods in the ISTA Rules. New methods and modifications to existing methods need to be validated through the ISTA Method Validation Programme. Equipment needs to be fit for the purpose described in each chapter, and not influence the accuracy or reliability of results. Rules proposals can include the use of technologies new to the ISTA Rules, whether these are the basis of new methods or new tools within existing methods, provided they meet these requirements.

Seed is a living biological product, and its behaviour cannot be predicted with the certainty that characterises the testing of inert or non-biological material. The test methods used must be based on scientific knowledge and the accumulated experience of those working in seed testing and quality control. This expertise is provided largely by the members of ISTA's Technical Committees.

The ISTA Rules contain 19 chapters, 17 of which provide internationally accepted test methods for various attributes of seed quality. Chapter 2 (Sampling) provides the required methods for sampling of seed lots, because for ISTA, a direct connection between the seed lot from which the sample was drawn and the results of quality tests conducted on that seed lot must always be evident. The 'end product' for an accredited ISTA laboratory following quality tests on a seed lot is an ISTA Certificate. Information on how to use ISTA Certificates is presented in Chapter 1.

Each of the 17 chapters on test methods includes sections on the Object (of the test), Definitions (of terms used in the chapter), General Principles (for the test), Apparatus (required for the test), Procedure (how to conduct the test), Calculation and Expression of Results (specific to each test), Reporting Results (how to report results correctly on an ISTA Certificate), and Tolerances (statistical tables for use in determining whether test results are acceptable or not acceptable). Note that where, to provide adequate guidance, it has been necessary in the Apparatus section to refer to a particular manufacturer's piece of equipment, this should not be construed that ISTA endorses that piece of equipment in preference to, or to the exclusion of, equivalent products from other manufacturers.

The ISTA Rules are designed for the principal crop species of the world. Species are broadly classified as agricultural and vegetable, tree and shrub, and flower, spice, herb and medicinal. ISTA encourages proposals for the addition of new species to the ISTA Rules.

ISTA Certificates can only be issued by ISTA accredited laboratories. For seed quality test results to be reported on an ISTA Certificate, it is mandatory that all the requirements of the ISTA Rules are strictly followed.

ISTA also recommends that the ISTA Rules be used by all seed testing laboratories (including non-ISTA member laboratories) when testing seed for trade transactions which do not require the use of an ISTA Certificate (e.g. within a country), and for the enforcement of national laws for the control of seed quality.

Users of the ISTA Rules are responsible to comply with the Health and Safety Requirements for the jurisdiction in which they operate. ISTA does not audit or accept any responsibility for compliance to Health and Safety Regulations. Any statements relating to Health and Safety in the ISTA Rules are for guidance only.

For further information on the ISTA Rules and their use, please contact:

ISTA Secretariat
Richtiarkade 18
CH-8304 Wallisellen
Switzerland

Phone +41 44 838 6000
Fax +41 44 838 6001

or visit the ISTA website: www.seedtest.org

I-2 Guidelines for ISTA Rules proposals

Proposals to amend the ISTA Rules or to introduce new species are welcomed from any source. ISTA operates an open system, and proposals are not restricted to ISTA members only. Any external proposal needs to have been submitted to the ISTA Secretariat by 1 November.

Following receipt, the ISTA Secretariat may send the proposal to the relevant ISTA Technical Committee or directly to the ISTA Rules Committee, which will review all the proposals received. The ISTA Executive Committee will then either approve a proposal for consideration by the ISTA membership or request further work on the proposal. All approved Rules proposals are then sent to the ISTA membership two months before the Ordinary Meeting. At the Ordinary Meeting, the ISTA voting delegates may vote to accept a proposal (which will then be implemented in the ISTA Rules, effective 1 January of the following year), to withdraw a proposal (for further consideration), or to reject a proposal.

I-2.1 Proposals concerning test methods

All seed quality test methods proposed for inclusion in the ISTA Rules must have gone through the ISTA Method Validation Programme. This is required for both new test methods (i.e. not currently in the ISTA Rules) and modifications to existing methods already included in the ISTA Rules. A four-step process is involved:

1. method selection and development;
2. validation through comparative testing;
3. review of comparative test results and preparation of a Method Validation Report;
4. approval of validation status by the relevant ISTA Technical Committee and preparation and of an ISTA Rules proposal for the method.

Final acceptance of the proposal by vote of the ISTA membership at an Ordinary Meeting will allow publication of the validated method in the ISTA Rules.

Further information on the ISTA Method Validation Programme can be obtained from the ISTA Secretariat.

I-2.2 Proposals for new species

For a proposal to introduce a new species, Form 1 on pages I-4 to I-6 may be used. The following information must be supplied by the applicant:

1. **Names of species.** The scientific name (including author) plus common names and synonyms must be given. The common names will be used by the ISTA Nomenclature Committee to update the *Multilingual Glossary of Common Plant Names*. The ISTA Nomenclature Committee will stabilise the scientific name for at least six years so that laws and trade agreements do not have to be altered frequently. For assistance in determining the correct scientific name and its author, the ISTA Nomenclature Committee may be contacted.

2. **Maximum lot size and sample sizes.** Proposals for maximum lot size should take into account the general principles that have been applied to species already in the ISTA Rules and to the feasibility of achieving reasonably homogenous seed lots. Seed size is generally the significant factor in determining maximum lot size, but this is also influenced by whether the species is for agriculture or horticulture use, a tree or shrub species, or a flower, spice, herb or medicinal species. When possible, proposals for maximum lot size and submitted sample size should be based on similar species already to be found in Table 2C. For agricultural and horticultural species, the submitted sample is larger in relation to the purity working sample, based on the weight of 2500 seeds, than for the other species, to allow for determination of other species by number based on 10 times the purity weight. To determine the weight of the purity and other seed determination (OSD) working samples for a new taxon (or a group of taxa) to be added to Table 2C, conduct and analyse an experiment for assessing multiple sources of variation of 100-seed unit weights. Guidelines for the experimental design and data analysis for deriving the minimum 2500 or 25 000 seed weight are provided in the 'Calculator for adding working weights to Table 2C', available on the ISTA website.

3. **Pure Seed Definition.** The ISTA Rules and the *ISTA Handbook on Pure Seed Definitions* already list many pure seed definitions. The appropriate one should be given. If none of them apply, a proposal for a new definition should be submitted.

4. **Validated germination test methods.** The methods proposed must have been validated, either by multi-laboratory collaborative testing or peer validation (see ISTA Method Validation Programme). Advice as to requirements can be obtained from the ISTA Germination Committee. Please specify the data as required for insertion in Table 5A.

5. **Validated tetrazolium test procedures.** Procedures for tetrazolium testing should be given if known. A proposal to amend Chapter 6 may be submitted following the appropriate method validation.

6. **Validated moisture content determination methods.** A validated method for moisture determination must be provided if the method is different to the reference (i.e. low-constant-temperature) method.

7. **Thousand-seed weight**

8. **Varietal identification.** Using current techniques, it is possible to verify a descriptor to check varietal purity in some species. Please indicate validated techniques.

9. **Seed health tests.** The methods proposed must have been validated, either by multi-laboratory collaborative testing or peer validation (see ISTA Method Validation Programme). Advice as to requirements can be obtained from the ISTA Seed Health Committee.

I-2.3 Other proposals

Within a chapter of the ISTA Rules, a change to the existing text (e.g. amendment of a definition) or introduction of new text (e.g. introduction of a new definition) may be proposed. Providing the proposal does not directly involve a test method or new species, it should be sent directly to the ISTA Secretariat.

Thousand-seed weight of small-seeded varieties of *Poa pratensis*

Before a small-seeded variety can be included in Table 3A, a determination of the thousand-seed weight must be performed on at least 20 samples from different seed lots, representing seeds grown either in two different harvest years or in two different countries.

The determination of the thousand-seed weight must be carried out on pure seeds, obtained by blowing a 1 g sample of *Poa pratensis* using the standard blower setting (factor 1.00). Only seed remaining in the heavy fraction may be used for the thousand-seed weight. See Chapter 10 of the ISTA Rules for the weight determination procedure.

Results should be submitted to the ISTA Purity Committee with a request to change the ISTA Rules.

Form 1: Proposal for inclusion of new species in the ISTA Rules

Note: This form is also available on the ISTA website (www.seedtest.org/en/technical-committees/method-validation-programme.html)

1. Scientific name of proposed species

(Family)	Genus	Species	(Nominated Authority)

Genus and species names appear in *ISTA List of Stabilised Plant Names*: Yes/No
Known synonyms: _____
Common plant name: _____ in _____ (Member country)
(required for Multilingual Glossary)

2. Lot and sample weights

(Information as it should appear in Table 2C)

Species	Maximum weight of lot (kg)	Minimum submitted sample (g)	Minimum working samples (g) Use 'Calculator for adding working weights to Table 2C'	
			Purity analysis (3.5.1)	Count of other species (4.5.1)

3. Pure Seed Definition

(Table 3B Part 1)
The following Pure Seed Definition (PSD) covers the proposed species:

Genus	Family	PSD number	Chaffiness

No existing definition covers this species:	

Characteristics to support the PSD proposal:

(List distinguishing characteristics. Attach drawings, if available, and be prepared to send to the Secretariat five seed samples from well-processed, as well as from incompletely cleaned, seed.)

4. Validated working weight determinations

(Provided according to the guidelines and the experimental design of the ‘Calculator for adding working weights to Table 2C’)

YES	

5. Validated germination test method(s)

(Information as it should appear in Table 5A)

Species	Prescriptions for:				Additional directions incl. recommendations for breaking dormancy
	Substrate	Temperature (°C)	First count (d)	Final count (d)	

6. Validated tetrazolium test procedure

(Information as it should appear in Table 6A)

Species	Pretreatment: type/minimum time (h)	Preparation before staining	Staining solution (%)	Optimum staining time (h)	Preparation for evaluation	Permitted non-viable tissue	Remarks

(If no existing drawings apply, attach if available)

7. Validated moisture test methods

Specify appropriate methods or details for inclusion in Table 9A Part 1 or 2:

Species	Grinding/cutting (9.2.5.4, 9.2.5.5)	High temperature	Drying at high temperature (h)	Predrying requirement (9.2.5.6)	Remarks
(Part 1)					(Not applicable)
(Part 2)		(Not applicable)	(Not applicable)	(Not applicable)	

8. Thousand-seed weight = _____ g

9. Validated varietal identification method (attach separate sheet, if necessary)

_____

Supporting evidence for proposal

10. Number of national seed analysis certificates issued per year:

_____

11. Other countries or laboratories testing the proposed species:

_____ _____

_____ _____

Submitted by:

Signature:

Date: