



“Further strengthening of capacities of phytosanitary sector in the fields of plant protection products, plant health and seeds and seedlings, including phytosanitary laboratories and phytosanitary inspections”
(TWINNING BA/12/IB/AG 01)

Component 3: Seeds and propagation materials

The ISTA Accreditation Programme

Rita Zecchinelli



Structure of this presentation



- Definitions and the benefits of Accreditation
- The ISTA Accreditation Programme
 - Membership
 - ISTA Proficiency Test Programme
 - Quality Management System
 - ISTA Audit
 - Granting Accreditation
 - Follow up Programme
- Maintaining Accreditation
- ISTA Certificates (seed production and ISTA Certificates, example of ISTA Certificate)

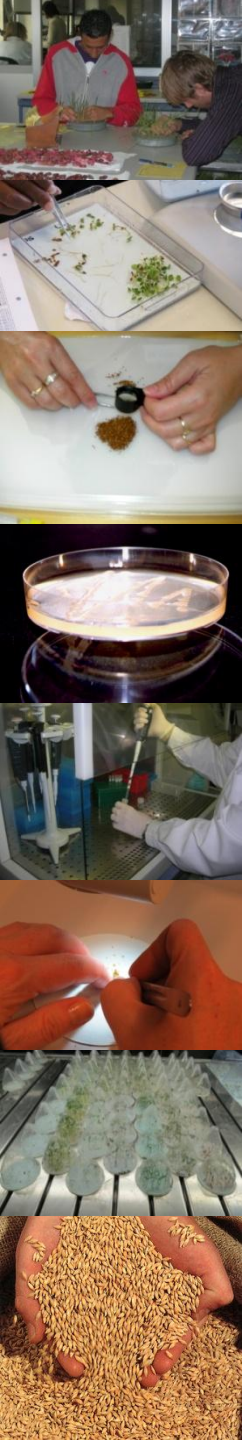


Definitions: what is Accreditation?

- Accreditation is granted by an accreditation body.
- Formal recognition of technical competence to carry out specific tasks. Verification by independent auditors.
- Objective: Reporting of accurate and precise (repeatable and reproducible) test results.

Repeatable: repeating the test with same equipment/operator will lead to the same result

Reproducible: retesting in a different location, by different persons, different equipment will lead to the same result





Benefits of ISTA Accreditation

- ✓ Possibility to issue ISTA Certificates
- ✓ Use of ISTA Certificates recommended by OECD and ISF (e.g. Common Appendix 4B Analysis results)
- ✓ Confidence in the laboratory's testing capability
- ✓ Technical Standardisation worldwide
- ✓ Add value to your process by ISTA audit
- ✓ Important marketing tool

ISTA Accreditation Programme

ISTA Membership

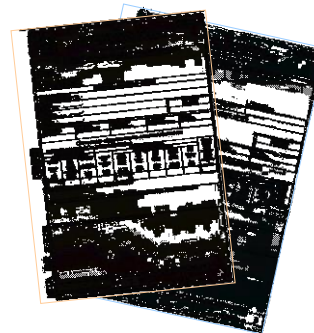
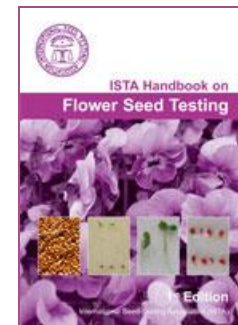
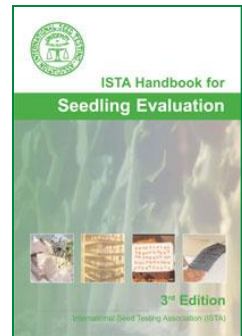
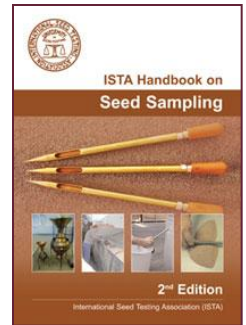
ISTA Proficiency Test Programme

Quality Management System

ISTA Audit

Granting Accreditation

Follow up Programme





ISTA Membership

Benefits:

- ISTA Rules
- Other publications, e.g. ISTA Handbooks, Scientific Journals
- Reduced prices for ISTA events (e.g. Annual Meeting, Seminars, Workshops)
- Prioritisation for ISTA events
- ISTA Proficiency Test Programme
- Involvement in seed testing methodology development

ISTA Membership

How to become a Member:

- Submit Application Form (ISTA website)
- Appoint a personal member and provide CV
- Membership fees
- Approval by the ISTA Executive Committee

➔ **Listed on website as
ISTA Member
Laboratory**



INTERNATIONAL SEED TESTING ASSOCIATION (ISTA)

Secretariat, Zürichstrasse 50, 8303 Bassersdorf, CH-Switzerland
Phone: +41-44-838 60 00, Fax: +41-44-838 60 01, Email: ista.office@ista.ch, <http://www.seedtest.org>

Application for Membership of ISTA

These Application for Membership of ISTA documents conform with the ISTA Constitution, Article IV, clause '(c)', '(d)', '(e)', '(f)' and '(g)'.

To apply for membership, please choose one of the following four Membership categories:



A **Member Laboratory** is a laboratory engaged in the testing of seed which supports the Association and its objectives and is admitted by the Association.

The Member Laboratory can participate in the ISTA Proficiency Test Programme, and once accredited by ISTA, be authorised to issue ISTA International Seed Analysis Certificates.

Once admitted as a member, the Member Laboratory receives, through its Personal Member, a copy of the *'International Rules for Seed Testing'* and subsequent updates, ISTA Handbooks and proceedings published after admission and the magazine *'Seed Testing International'*. Additional ISTA publications can be purchased at the member's reduced price.

A Member Laboratory membership also includes that for one Personal Member / Laboratory Representative, whose postal address has to be the same as that of the laboratory. A Member Laboratory nominates the Personal Member to be its representative in the affairs of the Association. The Personal Member / Laboratory Representative may be designated as a Designated Member by the Designated Authority of the country, and be authorised to exercise the country's voting right on behalf of its Government at ISTA Ordinary Meetings.

All staff members of the Member Laboratory are not subjected to page charges for publishing in the journal *'Seed Science and Technology'*, receive priority for any ISTA event and can benefit from the reduced membership registration fees for ISTA Congresses, Ordinary Meetings, Symposia, Workshops and ISTA Publications. A Member Laboratory is entitled to a free online subscription to *'Seed Science and Technology'*.

ISTA Accreditation Programme



ISTA Membership

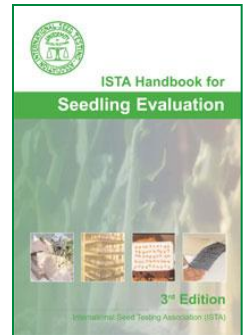
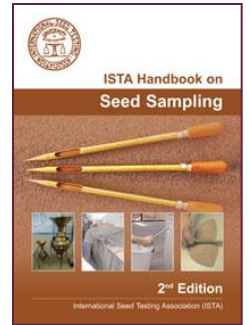
ISTA Proficiency Test Programme

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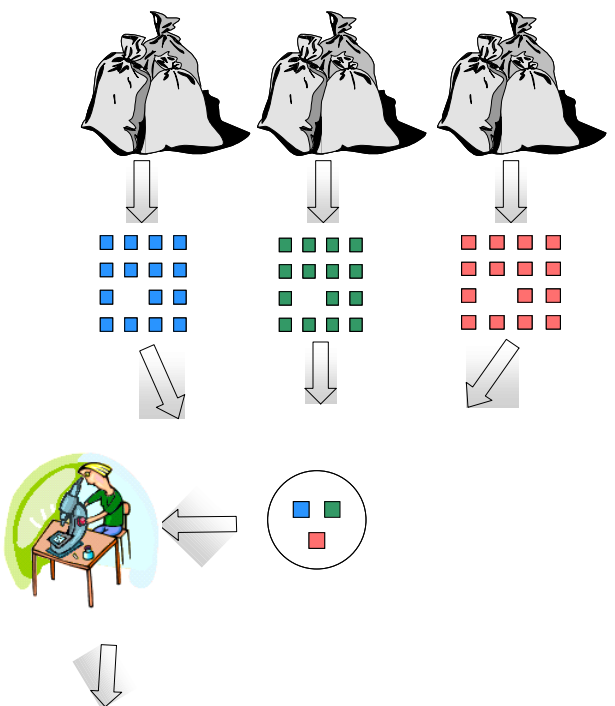


The ISTA Proficiency Test Programme

- Proficiency Test fee is covered in yearly Membership fee
- Participation is mandatory for accredited laboratories, for the tests/crop group/events they are accredited for
- Voluntary participation possible for all member laboratories, regardless if accredited or not
- Non members are welcome to participate (service will be charged)

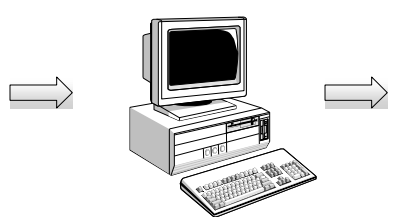
Goal: measure and monitor laboratory's proficiency

The ISTA Proficiency Test Programme



- ✓ Testing of samples in accordance with determined methods
- ✓ Statistical evaluation
- ✓ Evaluation of the laboratory's proficiency
- ✓ Detection of systematic errors
- ✓ Detection of trends in performance
- ✓ Results of mandatory laboratories influence their accreditation status

1001 - IMPURITY TESTING - PROCEDURE - PROCEDURE 1 - PROCEDURE 1	
PROCEDURE 1 - PROCEDURE 1	
Method	...
Apparatus	...
Reagents	...
Procedure	...
Results	...

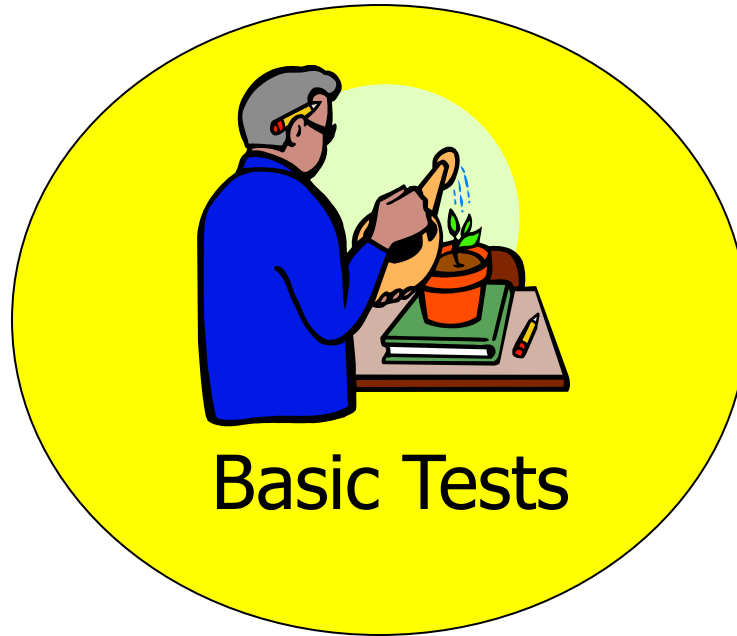


INTERNATIONAL LABORATORY ORGANIZATION	
INTERNATIONAL ORGANIZATION OF STANDARDS	
INTERNATIONAL ORGANIZATION OF STANDARDS	
Proficiency Test Report - Test result 1001 - PROCEDURE 1 - PROCEDURE 1	EXAMPLE
Sample	...
ISTA Code	...
Method	...
Result	...
Reference	...
Remarks	...

Accreditation maintained?



The ISTA Proficiency Test Programme



Seed Health Tests



GMO Tests



ISTA PT – Basic Tests

Tests:

- Germination
- Purity
- Other Seed Determination
- Moisture Determination
- Tetrazolium
- Vigour
- (Certificate issuance)

Crop groups:

Group 1: Grasses

Group 2: Cereals

Group 3: Small legumes

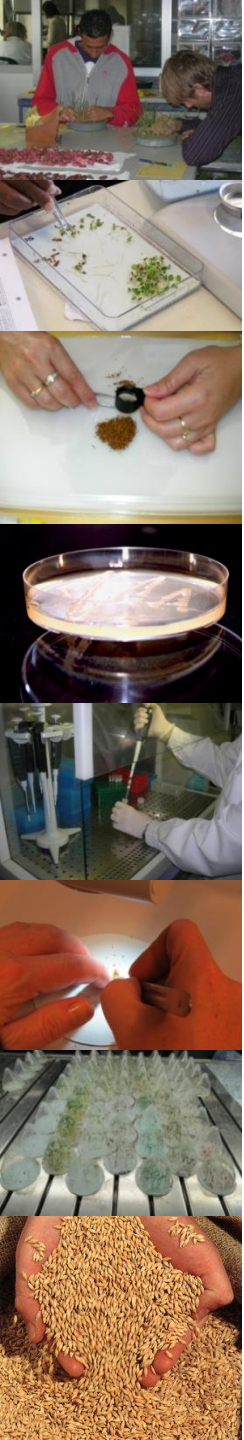
Group 4: Pulses

Group 5: Other agricultural crops

Group 6: Vegetables

Group 7: Forest species

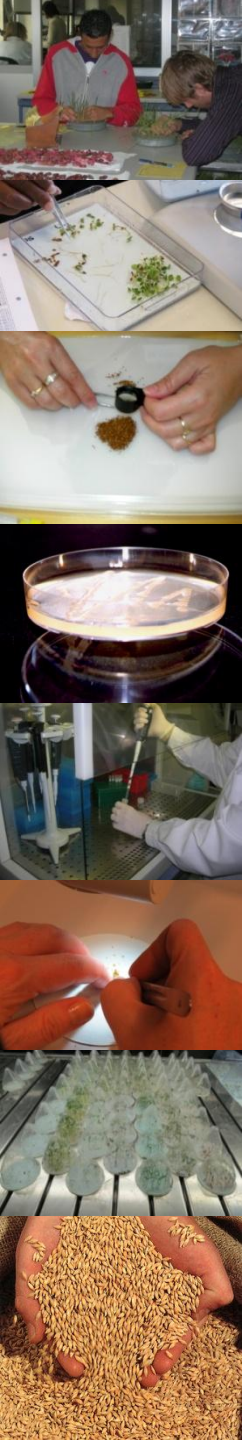
Group 8: Flower species



ISTA PT – Basic Tests

Your laboratory tests tomato seed sample:

- Crop group 6: Vegetables
- Crop group includes: *Lycopersicon*, *Cichorium*, *Atropa*, *Allium*, *Asparagus*, *Capsicum*, *Solanum*, *Spinacia*, *Cucurbita*, *Lepidium*, *Fragaria*, *Melissa*, *Ocimum*, etc.
- Participation is obligatory for all species included in this crop group



ISTA PT – Basic Tests

ISTA PROFICIENCY TEST PROGRAMME PLAN 2014-2016

Round #	Dispatch Date	Crop group	Species	Test round scope*
14-1 <u>P.sat</u>	February 2014	4	<u>Pisum sativum</u>	G, M, V
14-2 <u>T.aes</u>	June 2014	2	<u>Triticum aestivum</u>	P, OSD, G, TZ, OIC
14-2 <u>C.chi</u>	June 2014	8	<u>Callistephus chinensis</u>	G

Laboratory receives:

14-3 F

15-1G

15-1F

15-2 T

15-3 C

16-1 C

16-2 E

16-3 A

✓ Three samples of *Triticum aestivum*: Purity, Other seed determination, Germination, Tetrazolium

✓ One OIC specimen: to report the test results of all tests obtained from one of the samples

✓ In total 12 test for this round

* p=p

OIC=r

✓ **For 2014–2016: 99 basic tests are offered (excluding issuance of ISTA Certificate (OIC))**



ISTA PT – Basic Tests Plan 2014-2016

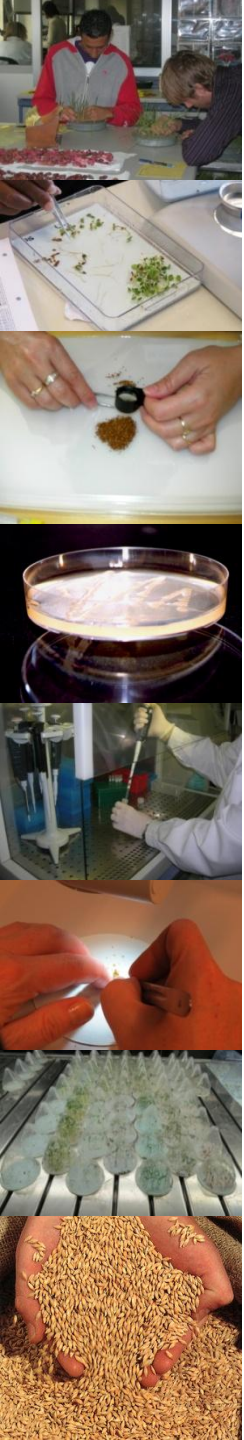
PTround	Date	Species	Test leader
14-1	01.02.14	<i>Pisum sativum</i>	<i>Mari Jürmann</i>
14-1	01.02.14	<i>Pisum sativum</i>	<i>Gillian McLaren</i>
14-2	01.06.14	<i>Callistephus chinensis</i>	<i>Zita Ripka</i>
14-2	01.06.14	<i>Triticum aestivum</i>	<i>Gisela Wustmann</i>
14-3	01.10.14	<i>Poa pratensis</i>	<i>Ruojing Wang</i>
14-3	01.10.14	<i>Poa pratensis</i>	<i>Günter Müller</i>
15-1	01.02.15	<i>Fagus sylvatica</i>	<i>Fabio Gorian</i>
15-1	01.02.15	<i>Glycine max</i>	<i>Laura Carlson</i>
15-2	01.06.15	<i>Trifolium pratense</i>	<i>Sinikka Köylijärvi</i>
15-3	01.10.15	<i>Oryza sativa</i>	<i>Rita Zecchinelli</i>
15-3	01.10.15	<i>Oryza sativa</i>	<i>Günter Müller</i>
16-1	01.02.16	<i>Helianthus annuus</i>	<i>Didier Demilly</i>
16-2	01.06.16	<i>Brachiaria brizantha</i>	<i>Benno Voit</i>
16-3	01.10.16	<i>Allium cepa</i>	<i>Sharon Davidson</i>
16-3	01.10.16	<i>Allium cepa</i>	<i>Günter Müller</i>



ISTA PT – Basic Tests

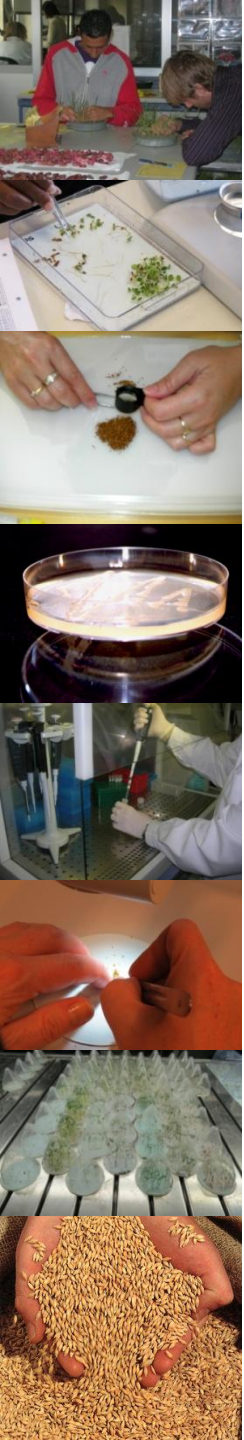
Why voluntary participation?

- Gain experience with other species
- Compare your laboratory's testing performance with the performance of accredited laboratories
- Your participation will be rated, but the rating has no influence on your accreditation



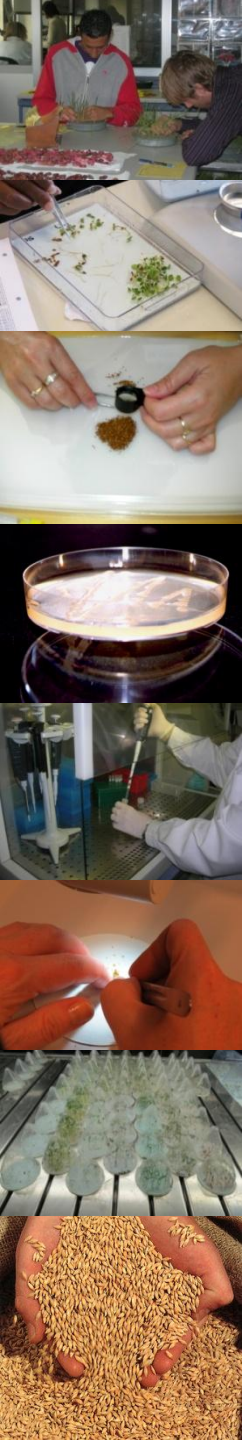
ISTA PT – Basic Tests - Rating

- Ratings are assigned: **A**, **B**, **C** and **BMP** (Below Minimum Performance) for each test in each round
- After six rounds of participation calculation of overall rating
- Only mandatory test results are included in overall rating
- Performance of a laboratory influences their accreditation:
 - Overall rating of **C** → warning letter
 - Overall rating of **BMP** → suspension
 - Not participated in 2 rounds out of 6 → suspension

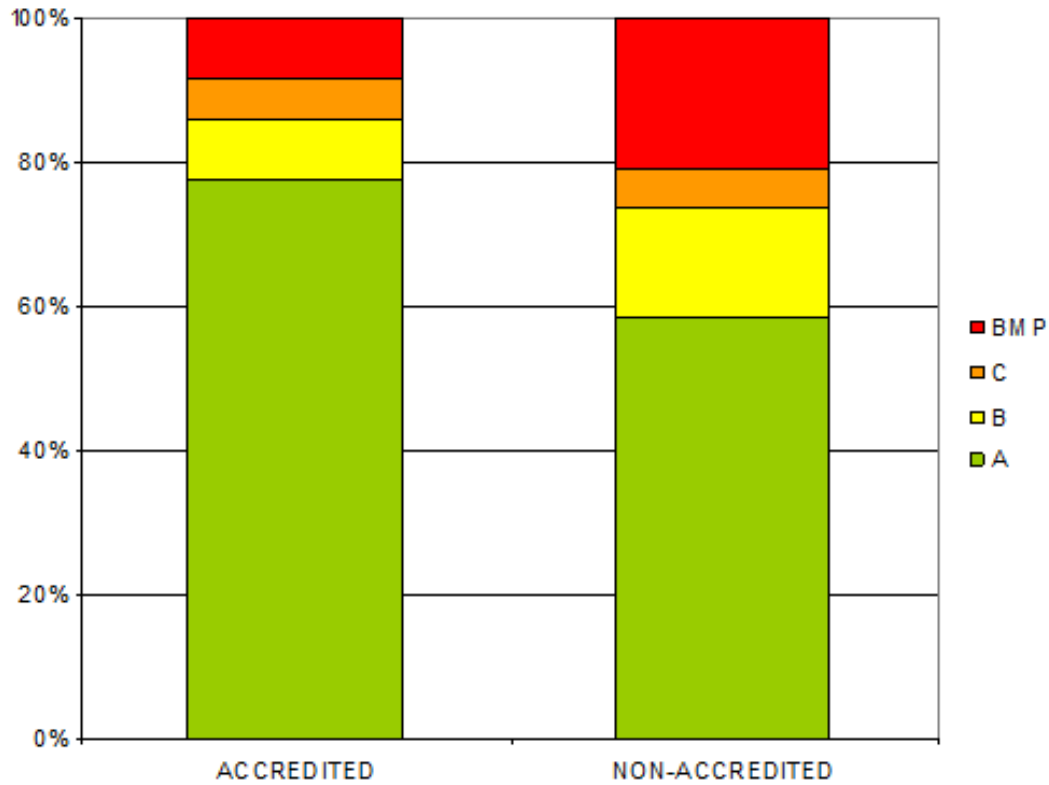


ISTA PT – Basic Tests

Report with ratings



PT 14-2 C.chi



The ISTA Proficiency Test Programme



Basic Tests



Seed Health Tests



GMO Tests



ISTA PT – Seed Health Tests

- Planning and execution depending on availability of infected seed samples / possibility of producing artificially infected samples
- Two Proficiency Test rounds per year
- Ratings are provided to laboratories showing if their performances are satisfactory
- Project ongoing to optimise evaluation and rating system



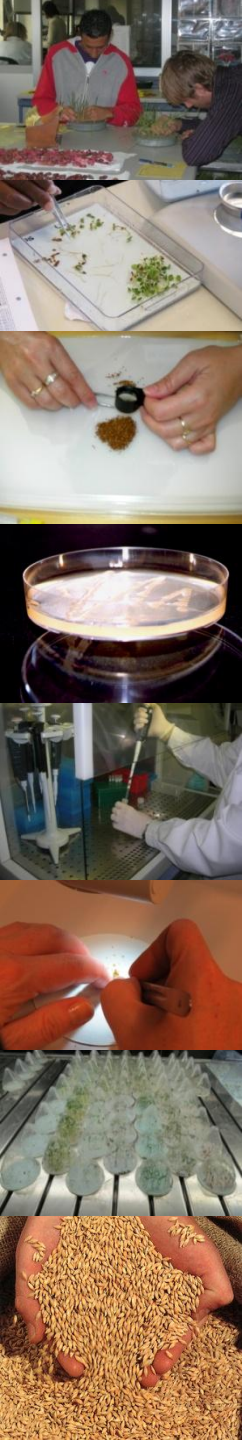
ISTA PT – Seed Health Tests

Plan for 2015–2016

Round #	Pathogen***	Host
15-SH-7-013	<i>Ustilago nuda</i>	<i>Hordeum vulgare</i>
15-SH-7-026	Cucurbits viruses <i>Xanthomonas axonopodis</i> pv. <i>Phaseoli</i>	<i>Cucurbit</i> sp.
16-SH-7-013	& <i>Xanthomonas axonopodis</i> pv. <i>Phaseoli</i> var. <i>fuscans</i>	<i>Phaseolus vulgaris</i>
16-SH-7-019	<i>Pseudomonas savastanoi</i> pv. <i>phaseolicola</i>	<i>Brassica</i> spp.

*** Preliminary schedule, final schedule is dependent on availability of seed material
for the species and host of interest

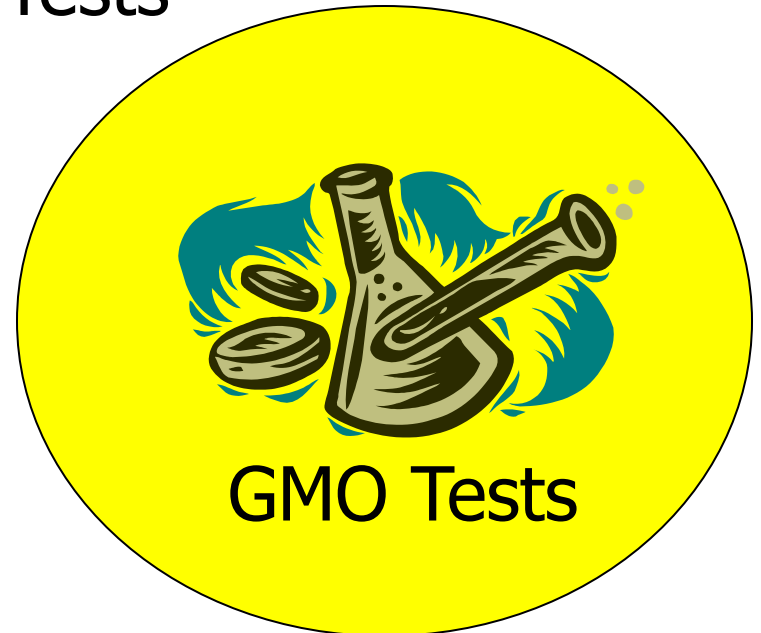
The ISTA Proficiency Test Programme



Basic Tests



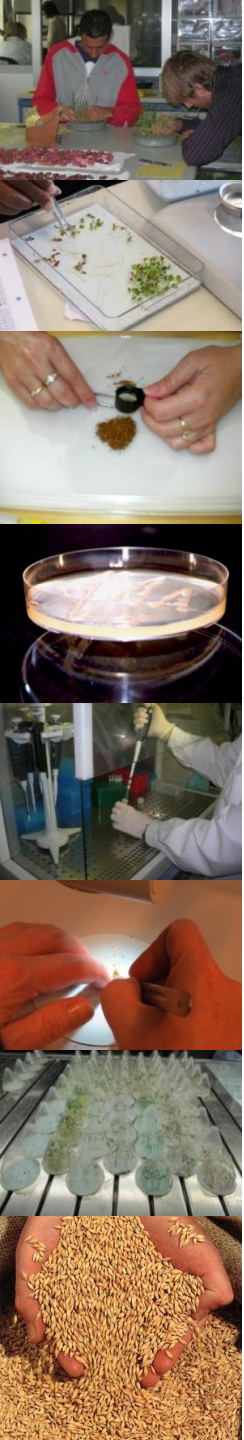
Seed Health Tests



GMO Tests

ISTA PT – GMO Tests

- Two test rounds per year
- Most important/common crops
- One or more events, GM purity, stacked genes
- Qualitative and a quantitative determination
- Ratings for detection and ratings for quantification (A, B, C, BMP)



ISTA Accreditation Programme



ISTA Membership



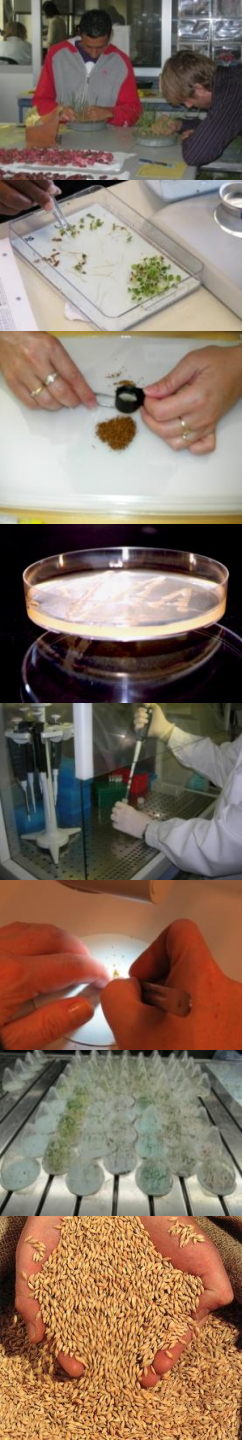
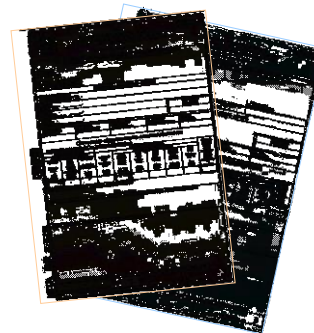
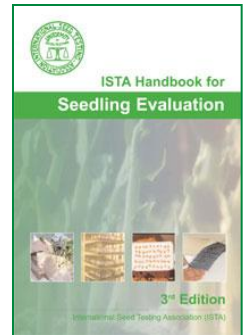
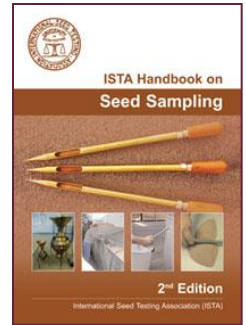
ISTA Proficiency Test Programme

Quality Management System

ISTA Audit

Granting Accreditation

Follow up Programme





Quality Management System

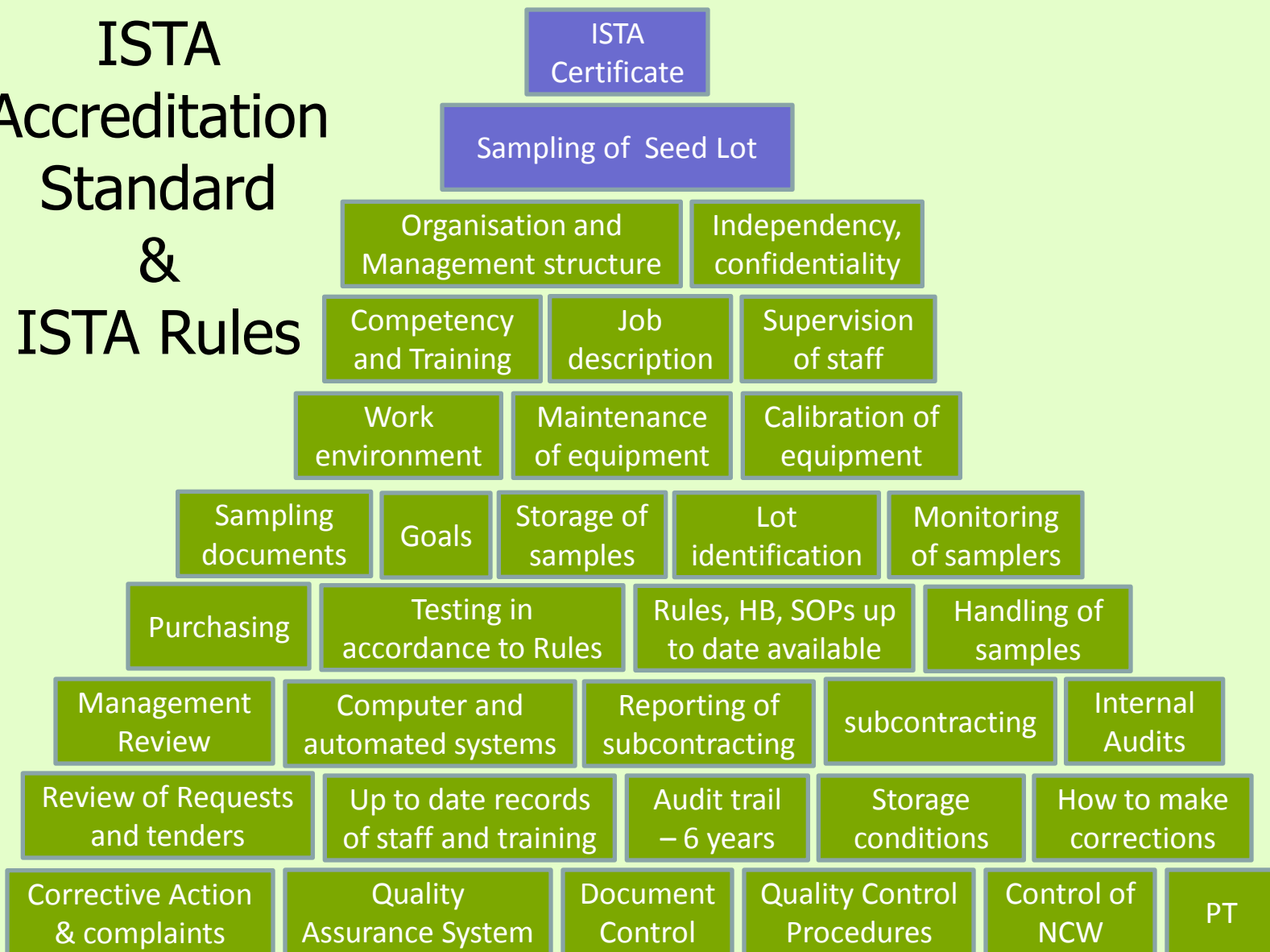
Testing laboratories ISO/IEC 17025

- ✓ Having **control** over what you are doing
- ✓ Having **transparency** over what you are doing
- ✓ Makes your processes measurable
- ✓ Creates confidence in test results (R&R)
- ✓ Enables evaluation of effectiveness and efficiency
- ✓ Customer satisfaction
- ✓ It clears the way „to do it right the first time“

Why to do things several times until it is „right“?

Quality Management System

ISTA
Accreditation
Standard
&
ISTA Rules



ISTA Accreditation Programme



ISTA Membership



ISTA Proficiency Test Programme

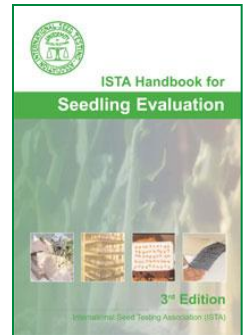
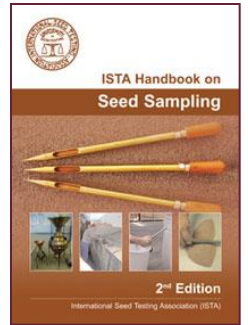


Quality Management System

ISTA Audit

Granting Accreditation

Follow up Programme





ISTA Accreditation Audit

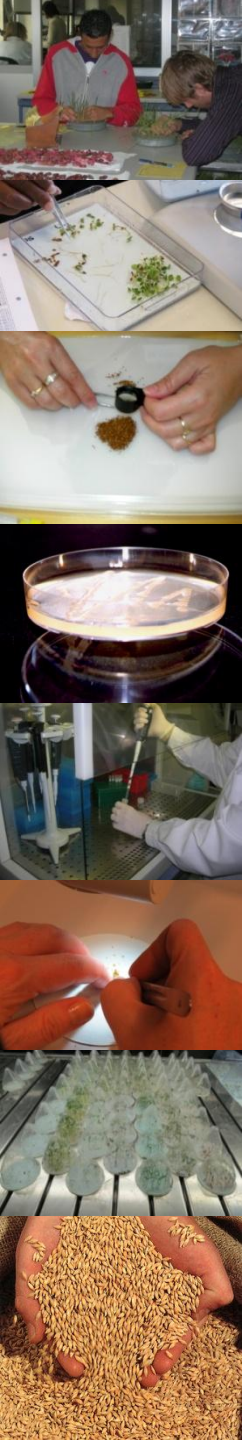
Before Audit:

- Submission of Quality documentation in English (e.g. Quality Manual, SOPs, policies, procedures, forms)
- Document review by auditors (request of additional documents)
- Review of Proficiency Test results
- If suitable: planning for Audit

ISTA Accreditation Audit

The ISTA Audit:

- Two auditors (System and Technical Auditor)
- Scheduled for 1 – 1.5 days (10 hours)
- Auditing of sampling, testing, Quality Management System, laboratory staff, laboratory premises, equipment, consumables, etc.
- Audit Detail Report with audit findings (non-conformities (NC), categorised substantial NC, non-substantial NC and recommendations)



ISTA Accreditation Audit

After Audit:

- Audit report and checklist
- Deadline to address the substantial NC
- Auditors will review the corrective actions and evidence provided to remove the substantial NC
- Possibly additional deadline to provide more data/evidence



ISTA Accreditation Programme



ISTA Membership



ISTA Proficiency Test Programme



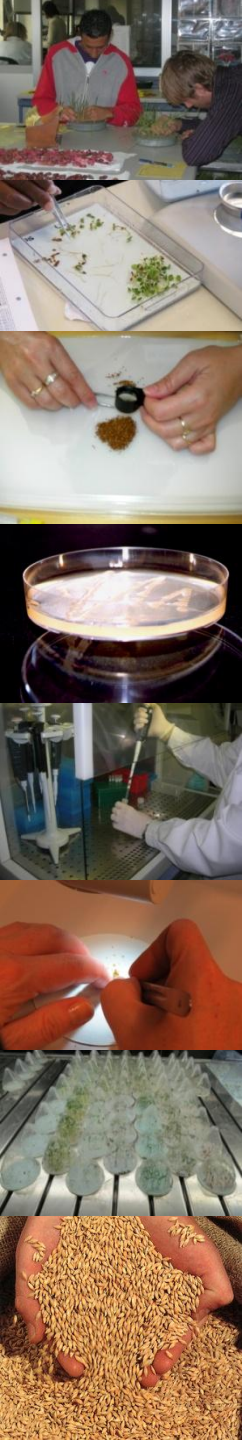
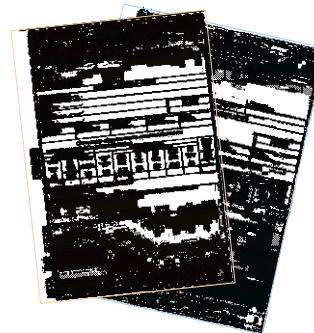
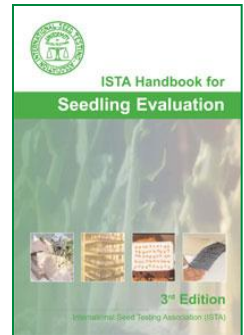
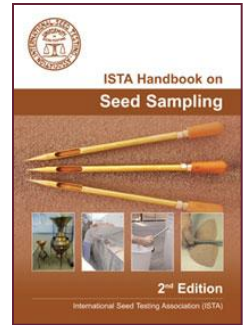
Quality Management System



ISTA Audit

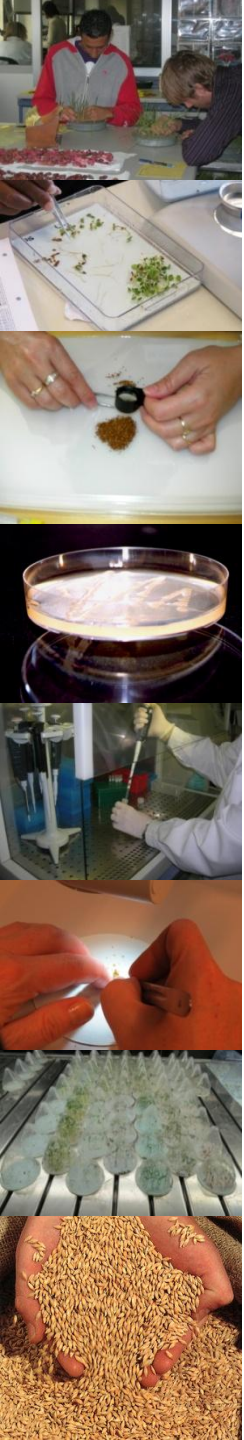
Granting Accreditation

Follow up Programme



Granting Accreditation

- All substantial NC must be addressed and evidence must be approved by auditors
- Accreditation Department will recommend granting accreditation
- Decision of the ISTA Executive Committee
- Once approved:
 - Certificate of Accreditation
 - Listed as accredited laboratory on ISTA website with Scope of Accreditation
- Proficiency test participation will be obligatory
- Issuance of ISTA Certificates possible



ISTA Accreditation Programme



ISTA Membership



ISTA Proficiency Test Programme



Quality Management System

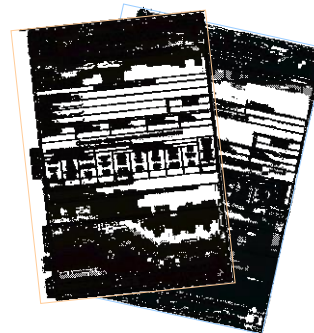
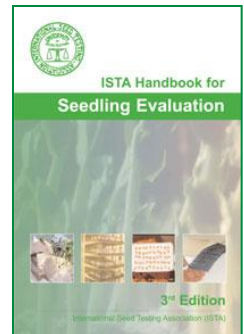
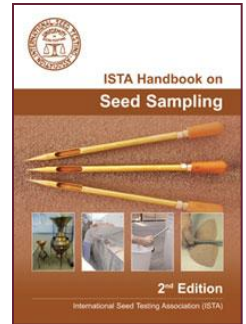


ISTA Audit



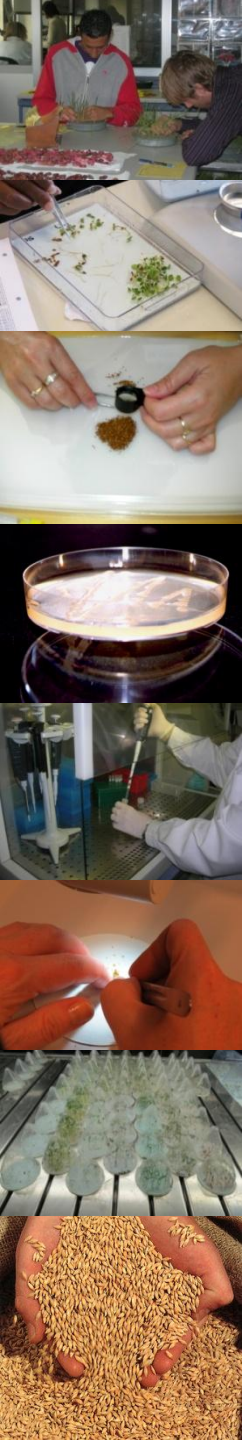
Granting Accreditation

Follow up Programme



Follow up Programme

- Stay „live“ with your Quality Management System (will be audited at next ISTA audit)
- Obligatory participation in the Proficiency Test Programme for the tests in the scope of Accreditation
- Continuation with training (workshops, other training)
- Update ISTA Rules / Accreditation Standard



Maintaining Accreditation



Membership (not accredited)

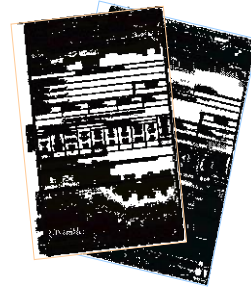
Proficiency Test Programme

ISTA Accreditation Audit

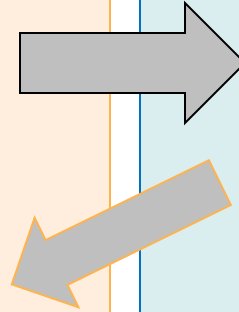
Accreditation

Proficiency Test Programme

Re-Accreditation Audit



ISTA Certificates



Orange International Seed Lot Certificate

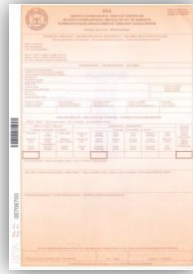
- ✓ Sampling and testing under responsibility of ISTA accredited laboratory



Blue International Seed Sample Certificate

- ✓ Testing under responsibility of ISTA accredited laboratory

Seed production and ISTA Certificates



ISTA ACCREDITATION OF SAMPLING ENTITIES

New version of "ISTA Accreditation Standard for Seed Testing and Seed Sampling" from 1. January 2016

- Covers all steps from sampling to issuance of ISTA certificates
- Applies also to entities performing sampling only



ISTA ACCREDITATION OF SAMPLING ENTITIES

Public and private entities (governmental bodies, companies etc.) performing seed sampling only are able to be accredited by ISTA

- Must ensure an audit trail
- ISTA are planning to provide an "ISTA Seed Sampling Certificate" to be used on a voluntary basis by June 2018



**Thank to:
Grethe Tarp
ISTA ECOM
ISTA Secretariat**

And to you for your attention!

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