



# International Seed Testing Association

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## Activity Report of the ISTA Committees 2010

This document was prepared by the Technical Committees and the Secretariat of the Association and endorsed by the ISTA Executive Committee to be submitted to the ISTA Ordinary Meeting 2011 for acceptance by the nominated ISTA Designated Members voting on behalf of their respective Government.

It is submitted to all ISTA Designated Authorities, ISTA Members and ISTA Observer Organizations for information two months prior to the ISTA Ordinary Meeting 2011.

It contains the Reports 2010 of the Executive Committee, of the Secretary General including the financial statements of the Association 2010, and of the Boards, Committees and Task Forces of the International Seed Testing Association.

It will be discussed and voted on at the Ordinary Meeting 2011 to be held on Thursday, June 16, 2011 at the Hotel Novotel Zurich Airport Messe, Glattpark (Zurich), Switzerland under Agenda points 5. *Report of the Executive Committee*, 6. *Report of the Secretary General* and 11. *Consideration and Adoption of Reports*.

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## A. Report of the Executive Committee (ECOM)

### 1. Composition of the Executive Committee

With the 29<sup>th</sup> ISTA Congress in June 2010 the triennium 2007-2010 was been finalized and the new triennium 2010-2013 under the leadership of the newly elected Executive Committee started.

Until June 2010 the Executive Committee was composed of the following members:

Officers:

President:	Katalin Ertsey	Hungary
1st Vice President:	John G. Hampton	New Zealand
2nd Vice President:	Udo von Kröcher	Germany
Members-at-large:	Mary Chipili	Zambia
	Joël Léchappé	France
	Susan Maxon	United States
	Alison A. Powell	United Kingdom
	Jorge Rosales King	Bolivia
	Grethe Tarp	Denmark
	Masatoshi Sato	Japan
	Rita Zecchinelli	Italy
Ex-Officio Members:	Attilio Lovato	Italy (Honorary President)
	Steve Jones	Canada (Rules Committee Chair)

From June 22, 2010 to November 04, 2010 the Executive Committee was composed as follows:

Officers:

President:	John G. Hampton	New Zealand
Vice President:	Joël Léchappé	France
Members-at-large:	Mary Chipili	Zambia
	Steve Jones	Canada
	Francisco Krzyzanowski	Brazil
	Alexander Malko	Russia
	Alison A. Powell	United Kingdom
	Masatoshi Sato	Japan
	Grethe Tarp	Denmark
	Kamil Yilmaz	Turkey
	Rita Zecchinelli	Italy
Ex-Officio Members:	Attilio Lovato	Italy (Honorary President)

As of November 12, 2010 the Executive Committee was composed as follows:

Officers:

President:	Joël Léchappé	France
Vice-President	vacant	
Officer:	Francisco Krzyzanowski	Brazil
Members-at-large:	Mary Chipili	Zambia
	Steve Jones	Canada
	Alexander Malko	Russia
	Alison A. Powell	United Kingdom
	Masatoshi Sato	Japan
	Grethe Tarp	Denmark
	Kamil Yilmaz	Turkey
	Rita Zecchinelli	Italy
Ex-Officio Members:	Attilio Lovato	Italy (Honorary President)

## 2. Meetings of the Executive Committee

In the year 2010, the Executive Committee met all together four times in different compositions.

The first meeting took place from February, 22 -27, 2010 in Bonn, Germany and was combined with a three day meeting with all chairpersons of the ISTA Technical Committees.

The second and the third meetings took place in conjunction with the 29<sup>th</sup> ISTA Congress in Cologne, Germany. The first meeting before the start of the ISTA Congress was held with the ISTA Executive Committee 2007-2010 and was the last meeting of that Executive Committee. The second meeting in conjunction with the Congress was held immediately after the ISTA Congress in Cologne and was the first meeting of the newly elected ISTA Executive Committee 2010-2013.

The last meeting was held at the premises of the ISTA Secretariat from November 9-11, 2010. This meeting was the first meeting after the resignation of the President 2010-2013 as per November 4, 2010. At this meeting the Executive Committee 2010-2013 was adapted to the new situation and it was the first meeting under the presidency of Joël Léchappé.

## 3. Discussion items of the Executive Committee

In the year 2010 the Executive Committee of ISTA focussed its activities on the one side on the development of an appropriate strategy for the Association, on the other side on the process management and the definition of roles and responsibilities of the different bodies. A key aim of the Association is to meet the needs of Governments and the seed industry on the one side and provide appropriate solutions for their needs on the other side within a reasonable timeframe. The Executive Committee has concluded that enhanced information transparency, enhanced project management and internal cross department management are focal points in that task.

Furthermore, the change of president, which on the routine basis requires already special efforts, has become even more challenging due to the withdrawal of John Hampton as ISTA President.

A document has been developed in close collaboration with the chairs of the Technical Committees defining better than before the role of the committees and providing guidance to the chairs on how to manage a committee.

An independent evaluation of the workload of the ISTA Secretariat has demonstrated clearly, that the workload has grown out of proportion and that urgent actions are indeed necessary.

Ambiguities of the role of Governments and the Seed Industries in developed countries and with that, a clear definition of the needs of stakeholders makes the strategic development difficult and complicated. Lacking infrastructure in developing countries and the reduction of financial aid for the developing world is making further progress in this part of the world not easy. Nevertheless, the increasing membership within the Association is a good signal for the need and importance of the Association.

In 2010 the Executive Committee was also confronted for the first time with a case of scientific misconduct in its journal *Seed Science and Technology*, leading to a change of the chief editor of the journal.

With the World Seed Project, which arose out of the 2<sup>nd</sup> World Seed Conference 2009, ISTA wants to strengthen its collaboration with its international partner organizations UPOV, OECD, FAO and ISF and hopes that within that forum and that project not only an active contribution can be achieved for developing countries, but also that the voice of the seed sector can be strengthened on the international level.

Proposals for discussions within the Executive Committee were drafted by the ISTA Secretariat and the seven Working Groups of the Executive Committee:

Working Group on Accreditation

Working Group on Certificates

Working Group on the updating of the Constitution and By-Laws

Working Group on Meetings

Working Group on Tropical Seeds

Working Group on Training & Education

Working Group on Finances

and four ECOM/TCOM Working Groups:

Working Group on TCOM Enhancement

Working Group on Seed Science

Working Group on Publications

Working Group on Workshops

#### **4. International representation**

An overall interest of the Executive Committee is ISTA's interaction with other important international organizations in the area of seed. It is essential for ISTA to provide relevant information to other organizations and to represent the interests of its members at meetings with these organizations.

The following table gives an overview of the meetings with official ISTA participation in 2010 [ECOM=Executive Committee, TCOM=Technical Committee; SG=Secretary General]:

Date	Meeting	ISTA Delegate(s)	Location
January 21-22	International Green Week	M. Muschick [SG]	Berlin, Germany
February 20-27	ISTA Executive Committee Meeting and joint Executive Committee/Technical Committee Chairs Meeting	ECOM Members, TCOM Chairs and M. Muschick [SG]	Bonn, Germany
March 1-6	AFSTA Annual Meeting	M. Muschick [SG]	Bamako, Mali
March 8-9	IPPC Fifth Session of the Commission on Phytosanitary Measures	T. Aveling [SHC Chair]	Rome, Italy
March 15	Meeting with the Millenium Seed Bank Project/Royal Botanical Gardens of Kew	A. Powell [ECOM Member], M. Muschick [SG]	Ardingly, United Kingdom
March 16	Meeting of the Organizing Committee of the 29th ISTA Congress 2010	U. von Kröcher [2nd Vice-President], M. Muschick [SG]	Bonn, Germany
March 22-26	Annual Meeting of the OECD Seed Schemes	J. Hampton [1st Vice-President]	Christchurch, New Zealand
April 1	Meeting with Dutch Seed Industry	J. Léchappé [ECOM Member], R. Don [Honorary Life Member], M. Muschick [SG]	Roelofarendsveen, The Netherlands
May 20-21	Meeting of the Organizing Committee of the 2nd Global Conference on GM Analysis	M. Muschick [SG]	Ispra, Italy
May 31-June 2	ISF Congress	K. Ertsey [President], M. Muschick [SG]	Calgary, Canada
June 7-10	AOSA/SCST Annual Meeting	J. Hampton [1st Vice-President]	St. Louis (MO), United States
June 29	Meeting with Dutch Vegetable Seed Industry (Plantum)	M. Muschick [SG]	Nunhem, The Netherlands
June 15	ISTA Executive Committee Meeting and ECOM / TCOM Chairs Meeting	ECOM Members, TCOM Chairs and M. Muschick [SG]	Cologne, Germany
June 16-18	Seed Symposium (29th ISTA Congress)	all	Cologne, Germany
June 19-22	29th ISTA Congress	all	Cologne, Germany
June 23	ISTA Executive Committee Meeting	ECOM Members, M. Muschick [SG]	Cologne, Germany
July 8	Farewell of Past-President Pieter Oosterveld	M. Muschick [SG]	Emmeloord, The Netherlands
July 28-31	Discussion with Phytosanitary Authorities in Indonesia	M. Muschick [SG]	Jakarta, Indonesia
August 4-6	XXII Seminario Panamericano	M. Muschick [SG]	Asuncion, Paraguay
September 10	Workshop on Seed Quality and Applied Seed Technology	M. Muschick [SG]	Beijing, China
September 12-15	Beijing Seed Conference	M. Muschick [SG]	Beijing, China
September 16-18	China Seed Expo	M. Muschick [SG]	Shenyang, China
September 28-29	Technical Working Group Meeting of the OECD Scheme for the Certification of Forest Reproductive Material Moving in International Trade	F. Gorian [FTS Chair]	Paris, France
September 30	Annual Meeting of the OECD Forest Seed and Plant Scheme	F. Gorian [FTS Chair]	Paris, France
October 11-12	ESA Annual Meeting	M. Muschick [SG]	Brussels, Belgium
October 20	Farewell of UPOV Vice-Secretary General, Dr. Rolf Jördens	M. Muschick [SG]	Geneva, Switzerland
October 21	UPOV Council	M. Muschick [SG]	Geneva, Switzerland

<b>Date</b>	<b>Meeting</b>	<b>ISTA Delegate(s)</b>	<b>Location</b>
October 22	World Seed Project Meeting	M. Muschick [SG]	Geneva, Switzerland
October 25	Meeting of the Organizing Committee of the 30th ISTA Congress 2013	K. Yilmaz [ECOM Member], M. Muschick [SG]	Istanbul, Turkey
October 27-30	2nd ECOSA Seed Conference	K. Yilmaz [ECOM Member], M. Muschick [SG]	Istanbul, Turkey
November 5	Meeting with Dutch Vegetable Seed Industry	J. Léchappé [President], R. Don [Honorary Life Member], M. Muschick [SG]	Amsterdam, The Netherlands
November 8	Officer's Meeting	J. Léchappé [President], M. Muschick [SG]	ISTA Secretariat
November 9-11	ISTA Executive Committee Meeting	ECOM Members, M. Muschick [SG]	ISTA Secretariat
November 15	Discussion with French Ministry of Agriculture	J. Léchappé [President], M. Muschick [SG]	Paris, France
November 16-17	10th Technical Working Group Meeting on Varietal Identity and Varietal Purity	J. Léchappé [President], M. Muschick [SG]	Paris, France
November 18-19	OECD Extended Advisory Group Meeting of Representatives of National Designated Authorities	M. Muschick [SG]	Paris, France
December 7-10	ASTA 65th Corn & Sorghum Seed Research Conference and Seed Expo	M. Muschick [SG]	Chicago, United States

OM approved 2011-06-16

## **B. Reports of the Secretary General, Proficiency Test Committee, Rules Committee and Editorial Board**

### **1. ISTA Membership**

#### **1.1 Developments in the number of voting countries**

In 2010, 71 members of the United Nations and 1 distinct economy held voting rights in ISTA.

##### **1.1.1 Members of the United Nations with voting rights in 2010**

Albania	Denmark	Lithuania	South Africa
Argentina	Egypt	Luxemburg	Spain
Australia	Estonia	Malawi	Sri Lanka
Austria	Finland	Mexico	Sweden
Bangladesh	France	Moldova	Switzerland
Belgium	Germany	Nepal	Syrian Arab Republic
Bolivia	Greece	Netherlands	Tanzania
Bosnia & Herzegovina	Hungary	New Zealand	Thailand
Botswana	India	Norway	Tunisia
Brazil	Iran	Pakistan	Turkey
Bulgaria	Ireland	Philippines	Uganda
Canada	Israel	Poland	Ukraine
Chile	Italy	Portugal	United Kingdom
China	Japan	Romania	United States
Colombia	Kenya	Russia	Uruguay
Croatia	Korea, Republic of	Serbia	Zambia
Cyprus	Kyrgyzstan	Slovakian Republic	Zimbabwe
Czech Republic	Latvia	Slovenia	

##### **1.1.2 Distinct economies with voting rights in 2010**

Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu

##### **1.1.3 Non-voting nations in 2010**

Armenia	Indonesia	Peru
Ghana	Paraguay	Tajikistan
Jordan	Iraq	

### 1.1.4 Governments

In 2010, the number of governments was 72, one fewer than 2009.

From 2005 to 2010, the numbers of governments with voting rights in ISTA were as follows:

2005: 71; 2006: 73; 2007: 72; 2008: 73; 2009: 73; 2010: 72.

## 1.2 Membership developments

### 1.2.1 Laboratory membership

In 2010, the number of Member Laboratories rose by six to **201**.

From 2005 to 2010, the numbers of Member Laboratories were as follows:

2005: 170; 2006: 174; 2007: 178; 2008: 182; 2009: 195; 2010: 201.

Each Member Laboratory includes one Personal Member/Laboratory Representative.

Membership was granted to seven new Member Laboratories, five in Asia Pacific, one in Eastern Europe and one in Western Europe (Table B.1.1).

Table B.1.1. New Laboratory Memberships from 1 January to 31 December 2010

Country	Member Laboratory (Personal Member)
China	Ningbo Entry-exit Inspection and Quarantine Bureau Technical Center of P.R.C. (Weijun Duan)
Germany	Deutsche Saatveredelung AG (Katrin Boedecker)
India	Rasi Seed (P) Ltd, HYVEG QA Laboratory (Charan Jeet Mehta)
India	Seed Testing Laboratory, Nagpur (M.S.) India (Archana Kadu)
India	Seed Testing Laboratory, Rasi Seeds (P) Ltd (S. Sambandhamani)
Iraq	State Board for Seed Testing and Certification (Mohammed Z.A. Raouf)
Ukraine	Ukrainian Laboratory of Quality and Safety of AIC Products (Sergiy Dmytrovich Melnychuk)

In 2010, one of the above-mentioned new Member Laboratories, Iraq (IQDL0100 State Board for Seed Testing and Certification), reapplied and was granted membership. Membership of Iraq had been terminated in 2004 due to the political situation.

At the end of 2010, two Member Laboratories in Tanzania remain suspended because of outstanding annual membership fees. The laboratory representatives are V. Mtobesya and Joseph I. Mallya.

The Secretariat received a formal request from a Member Laboratory in New Zealand (NZDL0400 AsureQuality Ltd, Lincoln). Membership shall lapse in January 2011.

There was one termination of a Laboratory Membership in 2010: VNDL0100 National Centre for Plant and Fertilizer Testing, in Ha-Noi, Vietnam, due to arrears in the annual membership fee for 2 years.

Table B.1.2 gives an overview of the distribution and status of the Member Laboratories in 2009 and 2010.

Table B.1.2. Regional distribution and status of Member Laboratories

	Private independent		Seed companies		Governmental		Total	
	2009	2010	2009	2010	2009	2010	2009	2010
Africa	0	0	4	4	14	14	18	18
Asia Pacific	4	4	15	17	38	40	57	61
East Europe	1	1	5	5	28	29	34	35
West Europe	4	4	16	16	41	42	61	62
North America	5	5	2	2	5	5	12	12
South America	0	0	2	2	11	11	13	13
<b>Total</b>	<b>14</b>	<b>14</b>	<b>44</b>	<b>46</b>	<b>137</b>	<b>141</b>	<b>195</b>	<b>201</b>

Changes in Laboratory Representatives/Personal Members between 1 January and 31 December 2010 are listed in Table B.1.3.

Table B.1.3. Changes of Laboratory Representatives/Personal Members in 2010

Country	Former members	New members
Austria	Elisabeth Gorgosilits	Martina Pommer
Canada	Janine Maruschak	Steve Jones
China	Jian-Guo Han	Pei-Sheng Mao
Egypt	Yehia I. Abdel Samie	Elsayed Sadek E. Nassar
France	Elisabeth Lasserre	Bruno Zacommer
Greece	Eftychia Andritsou	Byron Kamarados
India	S. C. Aswath Narayana	Ms. Reshma TK
Ireland	Thomas Cullen	David Cummins
Israel	Lea Mazor	Meriam Dekalo-Keren
Japan	Yasunobu Ohkawa	Makoto Kawase
Japan	Motoaki Okuma	Kazuo Suzuki
Korea, Republic of	Su-Jeong Kim	Yong-Too Jeon
Nepal	Mahesh Nath Shreshtha	Bimal Thapa Chhetri
Netherlands	Pieter Oosterveld	Eric Casteleijn
Russia	Marina Surtseva	Igor Blagivskiy
Serbia	Milka Vujakovic	Zorica Nikolic
Slovakia	Elena Foffova	Miriam Sušková
Slovakia	Jana Cervenakova	Monika Holubicová
Taiwan*	Ching-Te Chien	Jeng Chuann Yang
Thailand	Atcharee Pornpinitsuwan	Tudsanee Srisopha
United States	Drew Johnson	David Johnston

\* Abbreviation for 'Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu'

### 1.2.2 Personal Membership

In 2010, there was a net decrease of four Personal Memberships.

From 2005 to 2010, the numbers of Personal Members were as follows:

2005: 50; 2006: 46; 2007: 51; 2008: 56; 2009: 56; 2010: 52.

There were six new Personal Members: one from Africa, one from Eastern Europe, two from Western Europe and one from South America (Table B.1.4).

Table B.1.4. New Personal Members in 2010

Country	Personal Member
Brazil	Francisco Carlos Krzyzanowski
Germany	Karl-Hermann Freudenstein
South Africa	Joan Sadie
Ukraine	Frederic Chavigny
United States	Brad Storrs
United Kingdom	Lucy Fidler

Francisco Carlos Krzyzanowski was elected as a member of the Executive Committee at the Ordinary Meeting in Cologne in June 2010.

Five Personal Membership cancellations were received in 2010: one from Africa, three from Western Europe and one from North America (Table B.1.5).

Table B.1.5. Cancellations of Personal Membership in 2010

Country	Personal Member
Canada	Steve Jones
Germany	Katrin Neumann
South Africa	Chantal Arendse
United Kingdom	Peter Garth Gosling
United Kingdom	Roger Vickers

In 2010, Steve Jones cancelled his Personal Membership, because he became the laboratory representative of CADL0800 in Saskatoon, Canada.

Five Personal Memberships were terminated, due to arrears in membership fee for 2 years: four from Asia, one from Western Europe (Table B.1.6).

Table B.1.6. Terminations of Personal Membership in 2010

Country	Personal Member
China	Ming Yu
China	Xi-Wu Zhang
China	Zi-Xue Liu
Spain	Ernesto Rios Lopez
Korea, Republic of	Min-Hee Jeong

### 1.2.3 Associate Membership

In 2010, the number of Associate Members increased by nine to 42. From 2007 to 2010, the numbers of Associate Members were as follows:

2007: 22; 2008: 27; 2009: 33; 2010: 42.

There were 11 new Associate Members: five from Asia and Pacific, one from Eastern Europe, one from Western Europe and four from North America. (Table B.1.7).

Table B.1.7. New Associate Members in 2010

<b>Country</b>	<b>Associate Members</b>
Australia	Brett Ross
Canada	Glen Green
Czech Republic	Katerina Pazderu
India	Meena Kumari KVS Kota
India	Rajeswari Bodduluri
India	Sambasiva Rao Palaparthi
Jordan	Nezar Samarah
United Kingdom	Lindsay Robb
United States	Keting Chen
United States	Barbara Cleave
United States	Norman Hopper

Two of the new Associate Members have indicated an interest in joining an ISTA Technical Committee.

In 2010, two Associate Memberships were terminated due to arrears in the membership fee for 2 years: one from Asia and one from Western Europe (Table B.1.8).

Table B.1.8. Terminations of Associate Membership in 2010

<b>Country</b>	<b>Associate Members</b>
India	Ranganathan Umarani
France	Roland Cazalis

### 1.3 Honorary Members

According to the ISTA Constitution, Article IV (h):

“An Honorary Life Member is a person who in the opinion of the Association has made an outstanding contribution to the Association, and has been honoured by election to the status.”

In 2010, Julianna Bányai, Chair of the Statistics Committee for many years, was elected as Honorary Life Member.

Previously elected Honorary Life Members Norbert Leist (2007) and Ronald Don (2008).

Furthermore, Attilio Lovato was elected Honorary President at the Congress 2001.

### 1.4 Membership services

As part of the membership services, a free copy of the ISTA Rules (in the case of new members) or the Rules Amendments, a free online subscription to SST, and a free copy of all newly published Handbooks and Proceedings of the business year concerned is sent to each Personal Member/Laboratory Representative and Personal Member.

In 2010 these were:

International Rules for Seed Testing, Edition 2011 (Amendments)

Annexe to Chapter 7, Seed Health Testing, Edition 2011 (Amendments)

Online Internet Subscription to Seed Science and Technology (SST) Volume 38/2010, Numbers 1, 2 and 3

Seed Testing International (ISTA News Bulletin) April 2010 issue / No. 139

Seed Testing International (ISTA News Bulletin) October 2010 issue / No. 140

## 2. Report of the Rules Committee

The Rules Committee is composed of the Honorary President and the Chairpersons of the Technical Committees and the Editorial Board. As part of harmonization with AOSA, the AOSA Rules Committee Chair is an *ex-officio* member of the ISTA Rules Committee, and the ISTA Rules Chair is an *ex-officio* member of the AOSA Rules Committee. The Chair and Vice-chair are appointed by the ISTA Executive Committee (ECOM). For the period 2007 to 2010 the Rules Chair was an *ex-officio* member of the ECOM, but in 2010 Steve Jones was elected onto the ECOM as a Member-at-Large for the period 2010-2013.

Several Technical Committee Chairs changed at the 2010 meeting. For the period 2010–2011 (since the Ordinary Meeting 2010) the Rules Committee members are:

Chair:	Steve Jones	Canada
Vice-chair:	Craig McGill	New Zealand
Members:	Teresa A.S. Aveling (SHC)	South Africa
	Sylvie Ducournau (GER)	France
	Bert van Duijn (ATC)	Netherlands
	Adriel Garay (PUR)	United States
	Fabio Gorian (FTS)	Italy
	Christoph Haldemann (GMO)	Switzerland
	Berta Killermann (VAR)	Germany
	Stefanie Krämer (TEZ)	Germany
	Jean-Louis Laffont (STA)	France
	Attilio Lovato (Honorary President)	Italy
	Günter Müller (PTC)	Germany
	Harry Nijënstein (MOI)	Netherlands
	Leena Pietilä (BSC)	Finland
	Alison A. Powell (VIG & EDI)	United Kingdom
	Hugh W. Pritchard (STO)	United Kingdom
	John H. Wiersema (NOM)	United States
	Rita Zecchinelli (FSC)	Italy
<i>Ex-officio:</i>	Gilbert Waibel (AOSA)	United States

### 2.1 Activities

The Rules Committee is responsible for reviewing the annual Rules Proposals and ensuring that the proposals are technically consistent between the different Chapters. Rules proposals can come from anyone, but are usually made by the various Technical Committees. The procedures for submitting proposals and adding new species to the ISTA Rules are outlined in the Introduction to the Rules. The Rules Chair is responsible for editing the Rules and presenting the proposals for vote at the Ordinary Meeting on behalf of the Executive and Rules Committees.

Staff at the ISTA Secretariat collate the Rules Proposals from the Technical Committees and prepare the Rules Proposal document. Following the

results of the voting meeting, they also ensure that the amended Rules are edited correctly, reprinted and distributed to the membership.

The Rules Chair regularly receives enquiries on a range of issues relating to the interpretation of the Rules, often as the result of accreditation audits. These queries are very useful, and can lead to changes to the Rules and new proposals to help improve the implementation and understanding of the Rules.

## 2.2 Rules Amendments 2010

At the 2010 meeting there was a major review of the Germination Chapter as well as more minor changes and corrections to other Chapters.

A complete reprint of the Rules is planned for the future, but before this is considered, a business case needs to be made and agreed by the Executive Committee. The business case will consider options for making the Rules available electronically and as separate sections, e.g. the sampling and reporting Chapters could be provided separately.

The Rules changes voted through at the 2010 Ordinary Meeting in Cologne are shown in Table B.2.1. For a history of amendments since the 2003 Edition of the Rules, see the annual prefaces posted on the ISTA web site.

Table B.2.1. Rules changes voted in at the 2010 ISTA Annual Meeting, effective 1 January 2011

Page number	Changes
1-2	Rule 1.3 c: correction of cross-reference
1-6	Clarification of Rule 1.5.2.1; editorial change to 1.5.2.2
1-8	Rule 1.5.2.3: harmonization with 1.5.2.2
1-9	Rule 1.5.2.6: correction of cross-reference
1-9	Synchronization with revision of Rule 5.9
1-10	Editorial changes to Rule 1.5.2.8
1-14	Editorial change to Rule 1.5.2.13
1-15	Rule 1.5.2.17–18: corrections of numbers
1-16	Rule 1.5.2.19: correction of number
2-5	Rule 2.5.1.3 e): restriction to small seeds removed
2-10	Rule 2.5.2.2.4: <i>Gossypium</i> added
2-13–2-22	Table 2A Part 1: harmonization of sample sizes
2-45	Clarification of Rules 2.9.1.4 and 2.9.1.5
2-47	Clarification of Rules 2.9.2.4 and 2.9.2.5
3-11	Rule 3.6.3.2 cross-reference corrected
3-14–3-22	Table 3B: updated to reflect previous name changes in Table 2A; redundant genera deleted, <i>Glandularia</i> and <i>Glebionis</i> added and table reformatted
5-1–5-78	Revision of Chapter 5
5-1	Rules 5.1, 5.2.1 amended; 5.2.4 renumbered and amended; new Rules 5.2.2, 5.2.3
5-2	New Rule 5.2.6; Rule 5.2.7 renumbered
5-3	Rule 5.2.7.1 renumbered
5-4	Rule 5.2.7.2 renumbered and amended; Fig. 5.1a caption amended

Page number	Changes
5-5	Rules 5.2.7.3, 5.2.8 renumbered and amended; Fig. 5.1.b caption amended
5-6–5-9	Rule 5.2.8.1 renumbered and amended
5-9	Rules 5.2.9, 5.2.10, 5.2.10.1 renumbered and amended
5-10	Rules 5.2.10.2–4, 5.2.11 renumbered and amended
5-11	“Phototropism” added
5-13	Rules 5.3, 5.4.1–2 amended
5-14	Rules 5.4.2–3 amended
5-15	Rules 5.4.4, 5.4.4.1, 5.4.5, 5.5.1, 5.5.2 amended
5-16	Rules 5.5.2, 5.5.2.1–2, 5.5.3.1–2 amended
5-17	Rules 5.6.1–2 amended
5-18	Rules 5.6.2.1.1–2 amended
5-19	Rules 5.6.2.2–3 amended
5-20	Rules 5.6.2.4–5, 5.6.3 amended
5-21	Rule 5.6.3.1 amended and paragraphs reordered
5-22	Rules 5.6.3.1–3 amended
5-23	Rules 5.6.4–5 amended
5-24	Rules 5.6.5.1, 5.6.5.3 amended
5-25	Rule 5.7 amended
5-26	Rules 5.8, 5.8.1 amended
5-27	Rules 5.8.1–2, 5.9 amended
5-28–5-29	Figure 5.2 added
5-30	Rules 5.9 amended; introduction to Table 5A renamed 5.10 and amended
5-31	Rule 5-10 amended
5-32–5-73	Table 5A revised: new temperature alternation symbols, separation of recommendations and directions
5-74	Rule 5.11 added
5-75–5-77	Tables 5B–D amended
5-78	Table 5E added
6-7	Editorial change to Rule 6.7
6-11	Table 6A: addition of <i>Chloris gayana</i>
7-4	Table 7a updated
7A-i	Preface updated
7A-ii	Contents table updated
7-009-1–7-009-8	Pathogen species renamed
7-022-1–7-022-8	Pathogen now two separate species
8-4	Rule 8.5.4: reference to ploidy level deleted
9-5	Rule 9.1.5.5 amended
9-8	Table 9A: moisture test duration for <i>Lolium</i> increased
11-1	Rule 11.1.1: correction of cross-references

Page number	Changes
11-2	Rule 11.2: correction of cross-references & re-ordering of subsections
11-4	Rules 11.3.5.1 & 11.3.6: correction of cross-references
11-6	Rule 11.4.6: correction of cross-reference
11-7	Rule 11.5.5: correction of cross-reference
11-9	Rule 11.10.2: correction of cross-reference
11-9	Rule 11.12 deleted
11A-1	Rule 11.2.A: correction of cross-references & re-ordering of subsections
11A-3	Rule 11.5.A: correction of cross-references
12-3	Editorial change to Rule 12-7
13-4–13-5	Table 13A reformatted to follow Table 5A
13-6	New separate heading (13.9) for Table 13C; Tables 13B, C reformatted to follow Table 5A
15-3	Table 15A: conductivity test validated for <i>Glycine max</i>
15-4	Rule 15.8.1.2: <i>Glycine max</i> added
15-5	Rule 15.8.1.4: amended for consistency with 15.8.2.4
17-1	Rule 17-3: correction of cross-reference
17-2	Rule 17.5: Table values amended to follow rounding procedure

### 2.3 Sales of the ISTA Rules

In 2010, 161 sets of the *International Rules for Seed Testing*, Edition 2010 and 262 copies of the ISTA Rules Amendments 2010 were sold, as well as 37 sets of the French translation.

The German translation is not currently produced by the ISTA Secretariat.

Table B.2.2. Sales of ISTA Rules (sets and amendments) for the period 2005–2010

Edition	2005	2006	2007	2008	2009	2010
ISTA Rules Sets	149	161	196	187	166	161
ISTA Rules (French)	–	–	–	–	99	37
ISTA Rules Sets (German)	43	26	12	22	–	–
ISTA Rules Amendments	221	203	207	216	325	262
ISTA Rules Amendments (German)	–	29	8	19	–	–
ISTA Rules Amendments (French)	–	–	–	–	–	18
ISTA Annexe to Chapter 7	–	–	6	2	8	9

### 3. Accreditation Programme

#### Report of the Proficiency Test Committee

##### 3.1 Proficiency tests 2010

In 2010, samples of three proficiency test (PT) rounds were dispatched to laboratories according to the 2008–2010 Programme Plan (see Table B.3.1).

Table B.3.1. List of species and test types for 2010

Dispatch date	Species	Test type	Number of participants
12 February 2010	<i>Festuca arundinacea</i>	P, OSD, G	124
12 May 2010	<i>Medicago lupulina</i>	P, OSD, G, TZ, OIC	123
9 September 2010	<i>Vicia faba</i>	G, M	140

P = purity, OSD = other seeds determination, G = germination, M = moisture determination, TZ = tetrazolium test, OIC = reporting on an ISTA Certificate

The Seed Health Committee organized two PT rounds on seed health methods.

The host-pathogen combination for the first round was *Microdochium nivale* and *Microdochium majus* on *Triticum aestivum* (ISTA Rules methods 7-022). The samples were dispatched in June 2010, and the deadline for reporting was 28 June 2010.

The host-pathogen combination for the second PT seed health round was *Drechslera oryzae*, *Pyricularia oryzae* or *Alternaria padwicki* on *Oryza sativa* (ISTA Rules methods 7-010, 7-011 and 7-012). The samples were dispatched in January 2010, and the deadline for reporting was 15 April 2010.

An additional PT round was organised for the laboratories applying newly for accreditation. This round included purity, other seed determination, germination and moisture testing on *Sinapis alba* and *Triticum aestivum*. Twelve laboratories participated in the round. Results of the performance were reported to participants in July 2010.

##### 3.2 Reporting of test results

In 2010, the test reports listed in Table B.3.2 were sent to the participants.

Table B.3.2. Final PT results reported in 2010

PT round	Test type	Date
09-3 <i>Oryza sativa</i>	P, OSD, G, OIC	10 March 2010
10-1 <i>Festuca arundinacea</i>	P, OSD, G	18 July 2010
10-2 <i>Medicago lupulina</i>	P, OSD, G, TZ, OIC	8 December 2010

P = purity, OSD = other seed determination, G = germination, M = moisture determination, TZ = tetrazolium test, OIC = reporting on an ISTA Certificate

The Seed Health Committee reported the results of two PT rounds.

The first round was for detection of *Alternaria dauci* and *Alternaria radicina* on *Daucus carota* (ISTA Rules method 7-001a,b and 7-002a,b). The samples were dispatched to 28 participants in August 2009, and the results were provided on 13 June 2010.

The second round was *Microdochium nivale* and *Microdochium majus* on *Triticum aestivum* (ISTA Rules methods 7-022). The samples were dispatched to 22 participants in November 2008. The results were provided on 9 November 2010.

### 3.3 Rating of laboratory performance

The numbers of test rounds for which the rating system applied were as follows:

- purity: 17;
- other seed determination: 16;
- germination: 23;
- moisture determination: 7;
- tetrazolium test: 6.

A total of 91 accredited laboratories received an overall performance rating for germination, 88 for other seed determination, 88 for purity, 50 for moisture determination and 29 for tetrazolium testing.

The Figures B.3.1–B.3.5 present an overall rating of accredited laboratories after participation in six **obligatory** test rounds, for the three-year period.

The accredited laboratories that have not yet participated in six **obligatory** test rounds are not presented in the figures.

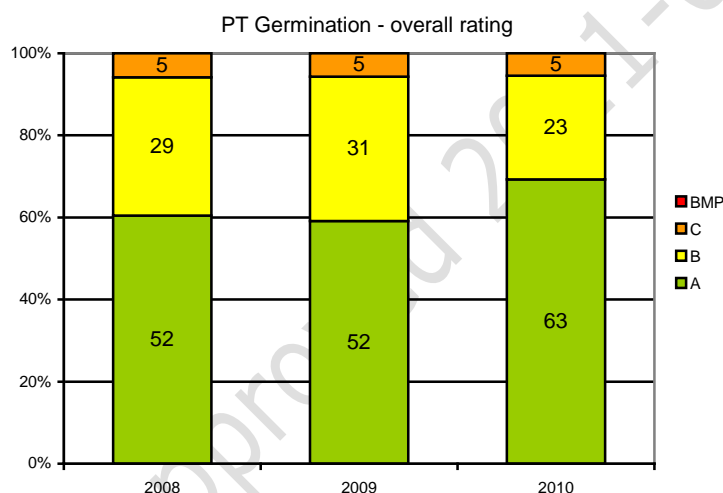


Figure B.3.1. Comparison of overall PT performance of accredited laboratories in germination testing

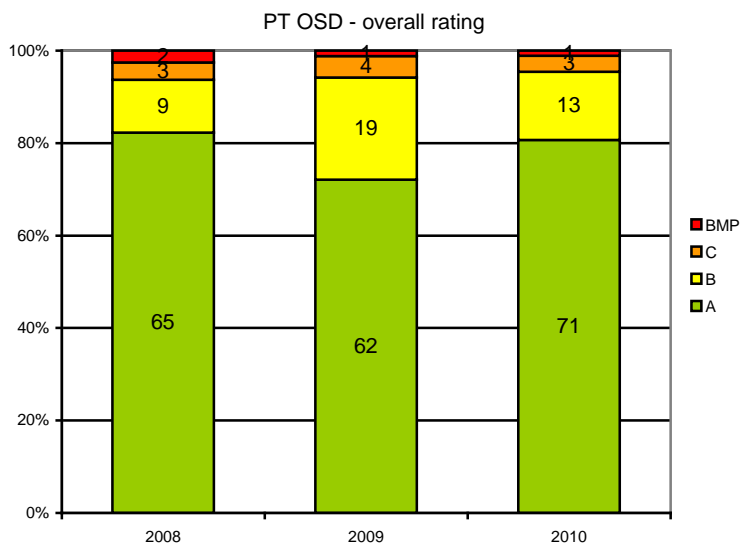


Figure B.3.2. Comparison of overall PT performance of accredited laboratories in other seed determination

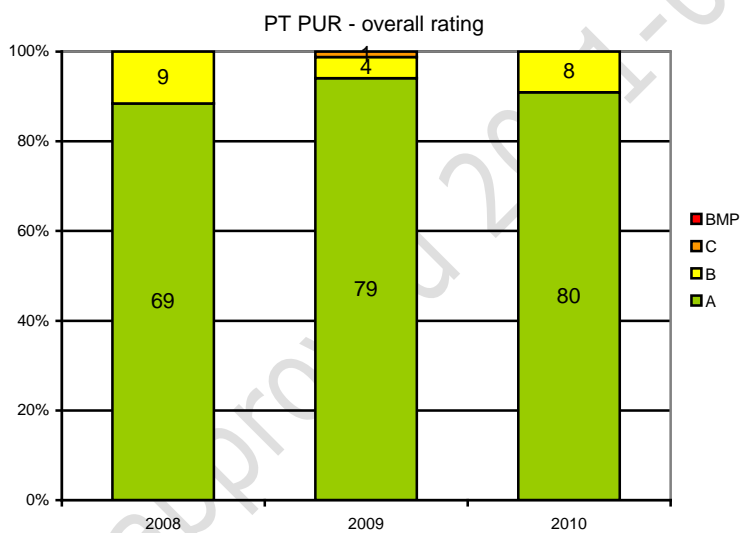


Figure B.3.3. Comparison of overall PT performance of accredited laboratories in purity testing

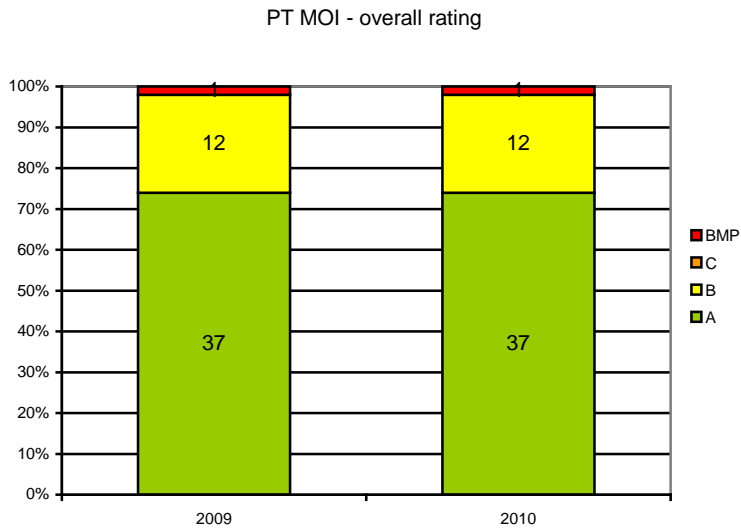


Figure B.3.4. Comparison of overall PT performance of accredited laboratories in moisture testing

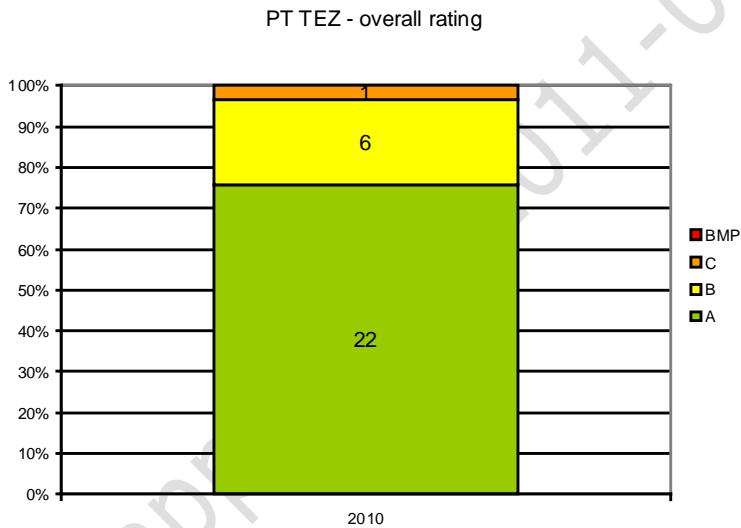


Figure B.3.5. Comparison of overall PT performance of accredited laboratories in tetrazolium testing

In Figures B.3.5 to B.3.14, the ratings are given for the last 12 test rounds for germination, other seed determination and purity, and the last 6 for moisture determination and tetrazolium testing. The ratings are given for the test rounds for which the rating system was applied.

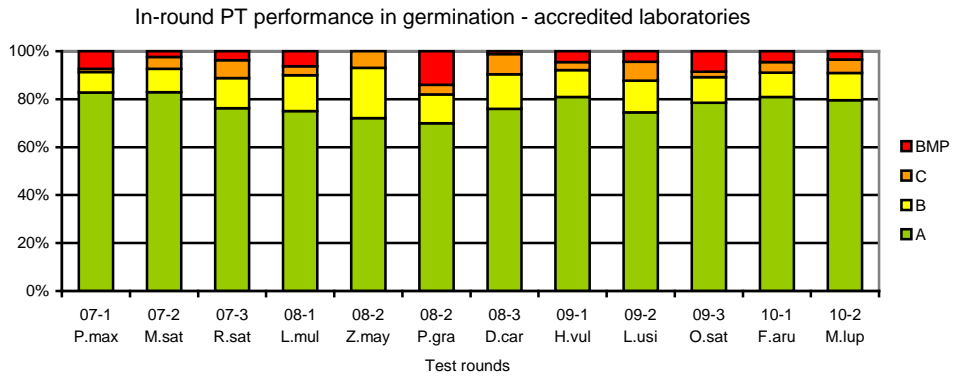


Figure B.3.5. PT performance in germination per test round (accredited laboratories)

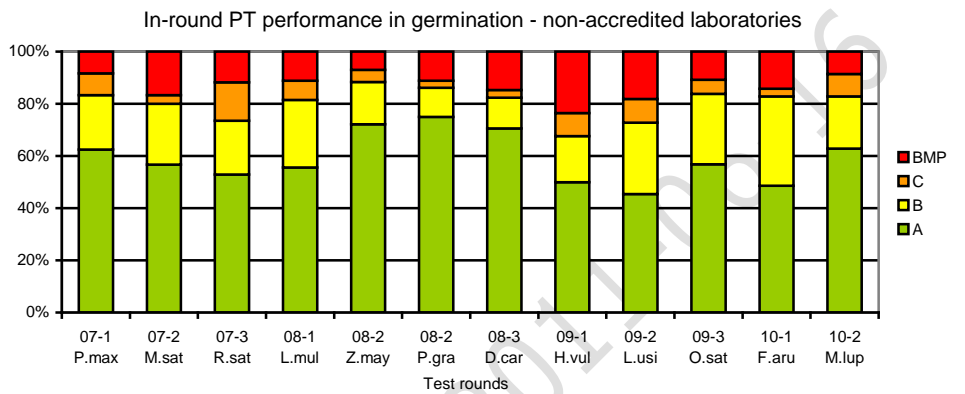


Figure B.3.6. PT performance in germination per test round (non-accredited laboratories)

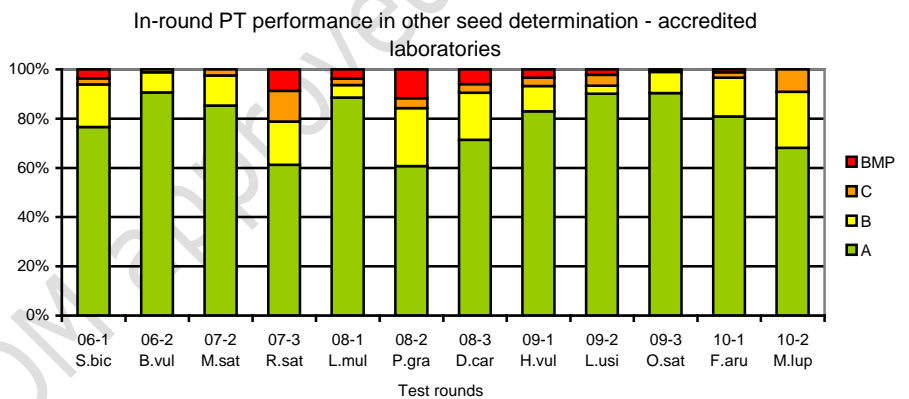


Figure B.3.7. PT performance in other seed determination per test round (accredited laboratories)

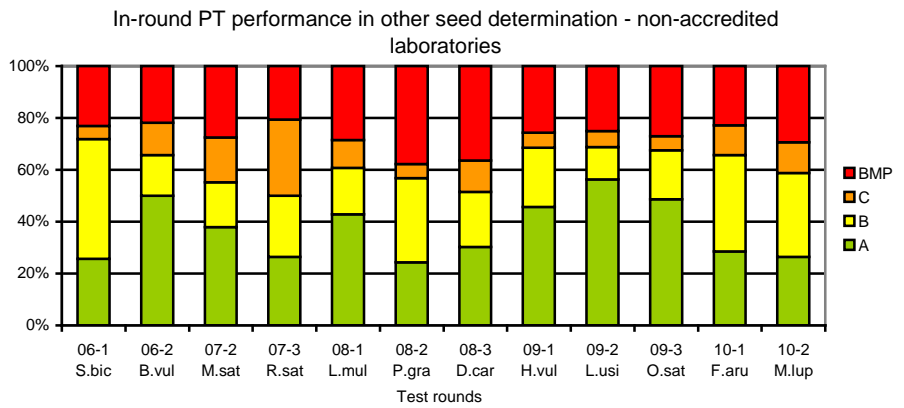


Figure B.3.8. PT performance in other seed determination per test round (non-accredited laboratories)

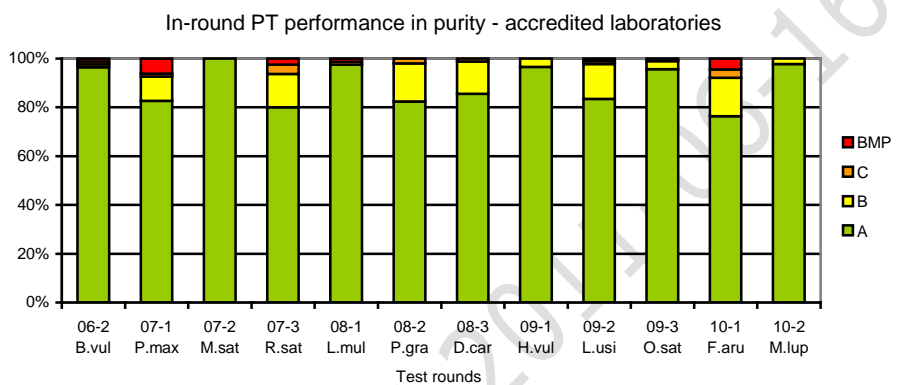


Figure B.3.9. PT performance in purity per test round (accredited laboratories)

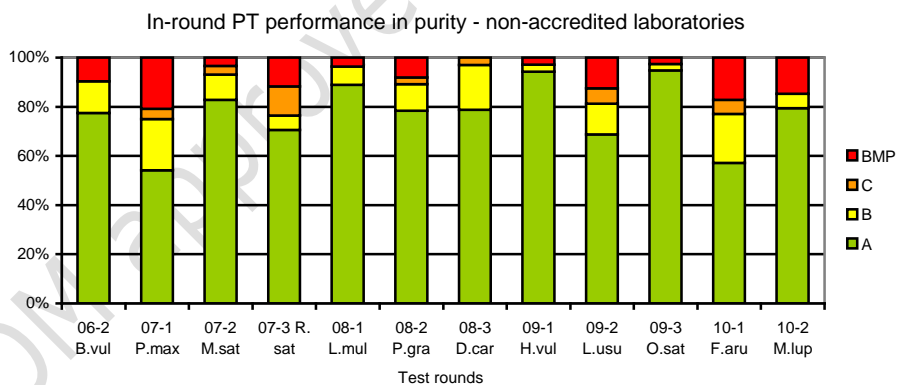


Figure B.3.10. PT performance in purity per test round (non-accredited laboratories)

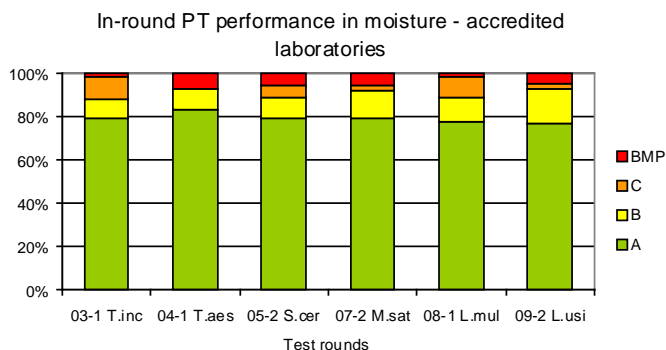


Figure B.3.11. PT performance in moisture per test round (accredited laboratories)

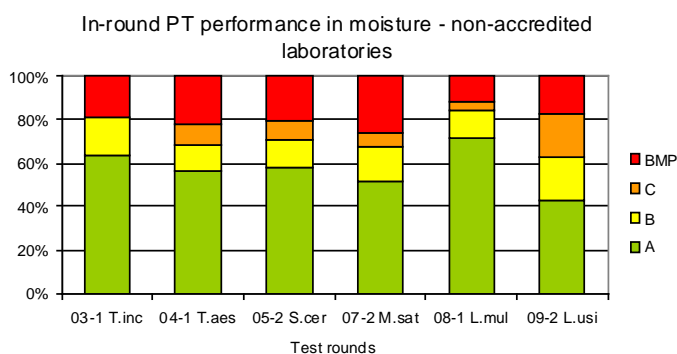


Figure B.3.12. PT performance in moisture per test round (non-accredited laboratories)

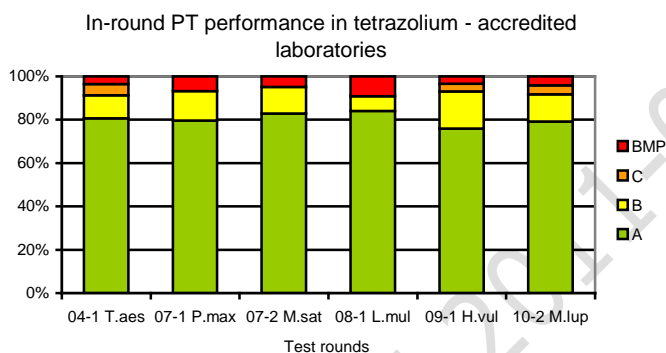


Figure B.3.13. PT performance in tetrazolium per test round (accredited laboratories)

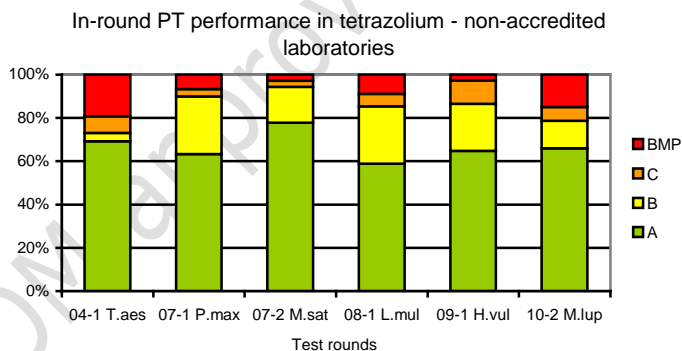


Figure B.3.14. PT performance in tetrazolium per test round (non-accredited laboratories)

### 3.4 Audit programme

During the ISTA Congress, as in previous years, the ISTA auditors held a meeting on 16 June 2010, at which the changes of documents related to accreditation were presented. The auditors discussed concerns of possible conflicts of interest and agreed to compile a clear guideline to be distributed among the audit team. At the audits performed in 2010, it was noticed that the audit timetable did not reflect the real audit time needed. The audit time was in general longer than the proposed schedule. A new audit timetable should therefore be presented to the auditors.

A major topic was also related to the timelines needed to report back to laboratories once the corrective actions were submitted to the Accreditation Department. The feedback received by the laboratories indicated that this area has potential for improvement.

A summary meeting report was published in Seed Testing International 140.

### **3.5 Accreditation under the Performance-Based Approach**

The accreditation scheme for laboratories testing for specified traits was implemented in 2006. By the end of 2010, 12 laboratories were accredited under the principles of the Performance-Based Approach:

Argentina (AR01)

Austria (AT03)

Belgium (BE02)

Germany (DE04 and DE18)

Italy (IT01 and IT03)

Japan (JP01 and JP03)

Serbia (YU02)

Slovenia (SI01)

United States (US06)

### **3.6 Accreditation administration**

In 2010, the ISTA Secretariat announced one Quality Assurance Workshop.

The 8<sup>th</sup> Quality Assurance Workshop was held from 29 September 2010 to 1 October 2010. The host was the Saskatoon laboratory of the Canadian Food Inspection Agency. Presentations were given by Rasha El Khadem with the support of Joanne Hinke. 28 participants from five different countries attended the workshop. The workshop topics were selected to give both experienced laboratory staff and quality managers the opportunity to improve their quality assurance system. The workshop covered the challenging part of quality assurance, such as the quality control procedures stipulated in the current ISTA Laboratory Accreditation Standard. The participants had the opportunity to perform a check on the selectivity of sample dividers using a sample mixture of different sized species. The results obtained and discussed and the experience to perform this check in the hosting laboratory were found to be beneficial. One focus during the lecture was on the process of internal audits, and the participants could perform in groups internal audits on several different processes.

### **3.7 Document updates**

The following is a list of relevant ISTA accreditation documents, including version number and year of approval:

ISTA Accreditation Standard, 5.0, 2007

**Acc-G-01 ISTA Accreditation Guidelines, 2.4, 2010**

Acc-G-02 Explanatory Note ISTA Certificates, under revision

**Acc-G-03 Q-Documentation Guide, 1.2, 2010**

**Acc-G-05 How to Respond to Audit Findings, 2.2, 2010**

**Acc-D-01 Termination – Suspension – Withdrawal, 2.3, 2010**

Acc-D-02 Use of ISTA Logo, 1.0, 2003

Acc-D-03 Appeals and Complaints Procedure, 1.0, 2005  
 Acc-D-04 Accreditation under the PBA, 2.1, 2006  
 Acc-D-05 Performance Data Evaluation\_1, 2.1, 2006  
 Acc-D-05 Performance Data Evaluation\_2, 1.1, 2006  
 Acc-D-06 Multiple-site Laboratory Accreditation, 1.0, 2006  
 Acc-D-07 Scope of Accreditation Policy, 1.2, 2009  
**Acc-F-09 Application Form for Accreditation, 4.5, 2010**  
**PT-G-01 Proficiency Test Programme, 3.2, 2010**  
**PT-G-02 Sample Preparation Instruction, 3.2, 2010**

Documents in **bold** were updated in 2010.

### 3.8 Accreditation figures

In 2010, 46 accreditation audit visits were carried out (see Table B.3.3). For seven laboratories, it was their first accreditation audit.

A complete list of accredited ISTA laboratories is shown in Table B.3.4. The regional distribution of the accredited laboratories is given in Figure B.3.15.

Table B.3.3. Audits in 2010

	Country	Laboratory code
First audit (n = 7)	Hungary	HU03
	Indonesia	ID01
	South Korea	KR02
	Moldova	MD01
	Russian Federation	RU01
	Russian Federation	RU03
	Tajikistan	TJ01
Second audit (n = 3)	France	FR07
	Hungary	HU02
	Sweden	SE09
Third audit (n = 1)	Bolivia	BO01
Fourth audit (n = 32)	Chile	CL02
	Germany	DE10
	Germany	DE13
	Germany	DE15
	Germany	DE17
	Egypt	EG01
	Spain	ES01
	France	FR02
	Ireland	IE01
	Israel	IL01
	Japan	JP01
	South Korea	KR01
	Lithuania	LT01
	Malawi	MW01
	Netherlands	NL02
Netherlands	NL03	
Norway	NO01	

	Country	Laboratory code
	Portugal	PT01
	Romania	RO05
	Romania	RO02
	Sweden	SE02
	Sweden	SE07
	Slovenia	SI01
	Slovakia	SK02
	Turkey	TR01
	Taiwan*	TW01
	United States	US01
	United States	US03
	Uruguay	UY02
	South Africa	ZA01
	Zambia	ZM01
	Zimbabwe	ZW01
Fifth audit (n = 3)	Canada	CA04
	Canada	CA08
	Hungary	HU01

\* Abbreviation for 'Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu'

Table B.3.4. Complete list of accredited laboratories 2010

Country	Laboratory code
Argentina	AR01
Austria	AT03
	AT04
Australia	AU01
	AU02
	AU06
	AU07
	AU09
Belgium	BE02
	BE03 new as of 04.02.2010
Bulgaria	BG01
Bolivia	BO01
Brazil	BR07
	BR08
Canada	CA04
	CA08
	CA10
Switzerland	CH01
Chile	CL02
Czech Republic	CZ02 cancelled as of 19.11.2010
	CZ03
Germany	DE03
	DE04
	DE05
	DE06
	DE07
	DE09
	DE10

Country	Laboratory code
	DE13
	DE15
	DE16
	DE17
	DE18
Denmark	DK01
	DK03
	DK04
	DK05
	DK06
Estonia	EE01
Egypt	EG01
Spain	ES01
Finland	FI01
France	FR02
	FR06
	FR07
	FR08
	FR09
United Kingdom	GB01
	GB04
	GB06
Greece	GR01
Croatia	HR03
Hungary	HU01
	HU02
Ireland	IE01
Israel	IL01
India	IN04
	IN05
	IN06
	IN07
	IN12
	IN14 new as of 16.07.2010
Italy	IT01
	IT03
	IT06
	IT07
Japan	JP01
	JP03
	JP05
	JP06
Kenya	KE01
Kyrgyzstan	KG01
South Korea	KR01
	KR02 new as of 15.12.2010
Lithuania	LT01
Luxembourg	LU01
Latvia	LV01
Moldova	MD01 new as of 09.04.2010
Malawi	MW01
Netherlands	NL02

Country	Laboratory code
	NL03
	NL05
Norway	NO01
New Zealand	NZ01
	NZ02
	NZ03
	NZ04 cancelled as of 31.12.2010
Poland	PL05
	PL07
Portugal	PT01
Romania	RO02
	RO05
	RO06
Russian Federation	RU01 new as of 15.12.2010
	RU03 new as of 08.09.2010
Sweden	SE02
	SE07
	SE09
Slovenia	SI01
	SI04
Slovakia	SK01
	SK02
Thailand	TH03
Turkey	TR01
Taiwan*	TW01
Ukraine	UA01
Uganda	UG02
United States	US01
	US03 suspended on 21.12.2010
	US04
	US05
	US06
	US07
Uruguay	UY02
Serbia	YU01
	YU02
	YU03
South Africa	ZA01
Zambia	ZM01
Zimbabwe	ZW01

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Total number of accredited laboratories 120

\* Abbreviation for 'Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu'

There were 56 countries with at least one ISTA-accredited laboratory.

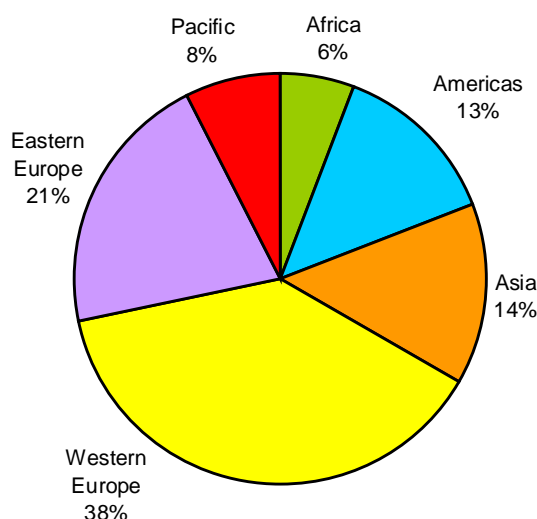


Figure B.3.15. Regional distribution of the 120 ISTA accredited laboratories

Table B.3.5. Accreditation status changes from 2009 to 2010

	2009	2010
Accredited laboratories	114	120
Thereof first accreditations	10	6
Cancellations and withdrawals	2	2
Suspensions	0	1
Re-instatements	2	0
New applications for following year	6	3

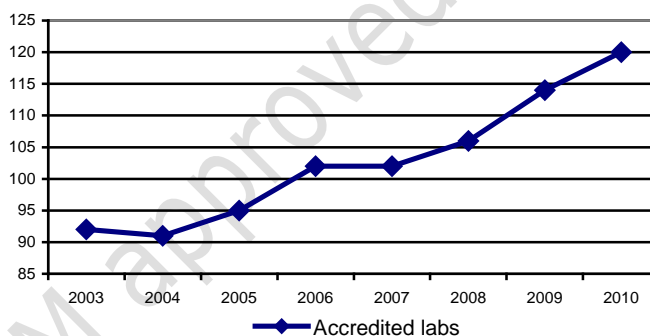


Figure B.3.16 Number of accredited laboratories since 2003

### 3.9 Sales of ISTA Certificates

The number of ISTA Certificates sold increased in 2010 by 19.4 % compared to the previous year. A total number of 138 650 certificates were sold by the end of the year (Table B.3.6).

Table B.3.6. Sales of ISTA Certificates 2002–2010

Type	2002	2003	2004	2005	2006	2007	2008	2009	2010
Orange	95 700	81 950	123 880	70 300	116 000	124 270	110 517	110 700	132 200
Blue	6 070	6 950	6 060	2 412	5 090	6 800	6 050	5 400	6 450
Total	101 770	88 900	129 940	72 712	121 090	131 070	116 567	116 100	138 650

## 4. ISTA Publications and Products

### 4.1 ISTA Handbooks and Proceedings

In 2010, total sales of publications amounted to 449, excluding copies of the International Rules for Seed Testing and Amendments and subscriptions for Seed Science and Technology.

Table B.4.1 gives an overview on the total sales of ISTA publications (handbooks, proceedings and working sheets) for 2005 to 2010. Table B.4.2 gives an overview of the sales figures of the newly published handbooks in the ring binder format.

Table B.4.1. Total sales of ISTA publications 2005–2010

	2005	2006	2007	2008	2009	2010
Copies	366	375	541	313	338	449

Table B.4.2. Sales of ring binder handbooks

	2005	2006	2007	2008	2009	2010
Handbook on Seed Sampling (2nd edition, 2004)	48	70	22	39	20	70
Handbook on Seedling Evaluation (2003 & 2006+ updates 2009)	85	92	291	56 (+45 updates)	50 (+103 updates)	74 (+55 updates)
ISTA Working Sheets on Tetrazolium Testing Vol. I (2003)	55	16	17	18	17	18
ISTA Working Sheets on Tetrazolium Testing Vol. II (2003)	16	9	10	10	12	4
Handbook on Moisture Determination (2007)	–	–	–	26	18	20
Handbook on Flower Seed Testing	–	–	–	25	11	10
Other books	X	X				

### 4.2 Calibration Samples

The Secretariat offers calibration samples of the grass species *Dactylis glomerata* (3.0 g) and *Poa pratensis* (1.0 g) for General Seed Blowers.

In 2010, 6 calibration samples of *Dactylis glomerata* and 1 of *Poa pratensis* were sold.

## 5. ISTA Training and Education Programmes

### 5.1 ISTA Workshop overview

In 2010, eight workshops were held on various seed testing subjects (Table B.5.1).

Table B.5.1. ISTA workshops and seminars held in 2010

Country	Date	ISTA Event
France	March	ISTA Seed Health Workshop
India	April	ISTA Workshop on Variety Testing - an introduction, using protein electrophoresis and Polymerase Chain Reaction (PCR) for GMO Detection
Germany	June	ISTA Workshop on Viability and Germination Testing
Germany	June	ISTA Workshop on Species and Variety Testing / Proteinelectrophoresis
Germany	June	ISTA Workshop on GMO Testing
Canada	Sept/Oct	ISTA Quality Assurance in Seed Testing Workshop
France	October	ISTA Workshop "Water activity measurement applied to seed testing"
Kenya	November	ISTA Workshop on Germination, Tetrazolium, Sampling and Statistics

## 6. Scientific Journal 'Seed Science and Technology': Report of the Editorial Board, 2010

Chief Editor:

Anne Bülow-Olsen (Denmark), (1 January–14 June 2010)

Alison A Powell (United Kingdom), (as of 22 July)

Associate Editors:

Christophe Bailly (France)

Physiological and biochemical aspects of seed germination, dormancy, ageing and development

Mark A. Bennett (United States)

Seed enhancements, vigour, vegetable seed production, and germination

Charles Block (United States)

Pathology, non-bacterial (also bacteria)

Antonio Dell'Aquila (Italy)

Innovative techniques in assessing seed germination and quality Seed storage aspects applied to germplasm conservation in a gene bank

Ibrahim Demir (Turkey)

Germination, vegetables, field production

Ronald Don (United Kingdom) (appointed November 2010)

Germination, tetrazolium

Brigitte Hamann (Switzerland)

Germination, vigour and seed quality

John G. Hampton (New Zealand) (resigned June 2010)

Vigour, tetrazolium, germination, quality seed production

Fiona Hay (Philippines)

Seed development; seed storage behaviour; seed longevity; viability equations; germination; priming. rice

Stan Matthews (United Kingdom) (appointed November 2010)

Vigour, storage, priming, deterioration, seed treatment

Julio Marcos-Filho (Brazil)

Seed vigour testing (grain crops and vegetables) maturation, priming and deterioration

Athole Marshall (United) Kingdom)

Germination, field results

David Mycock (South Africa)

Storage, cryopreservation, physiology and micropropagation

Zdenka Procházková (Czech Republic)

Forest seeds

Moctar Sacandé (United Kingdom)

Tropical tree seed physiology, seed storage longevity, desiccation tolerance and seed conservation, biophysics of seed storage, tropical dry land species, silviculture of tropical trees

Norm W. Schaad (United States)

Plant health, bacteria

Michael Sussman (United States)

GMO and related methods

Christopher Wood (United Kingdom)

Seed storage (especially palms and orchids), seed cryopreservation, screening for desiccation sensitivity

## 6.1 Editorial figures for 2010

Papers received:	260
Papers accepted for publication:	56
Papers rejected:	211
Papers published in 3 issues:	28 + 26 + 28 = 82
Full papers in 3 issues:	19 + 21 + 21 = 61
Research Notes in 3 issues:	9 + 5 + 7 = 21
Pages published in 3 issues (incl. content lists etc.):	256 + 266 + 264
Average number of pages per paper:	9.4
Issues published:	38-1, 38-2, 38-3

## 6.2 Sales of 'Seed Science and Technology'

In 2010, 410 copies of Volume 38/1, 410 copies of Volume 38/2 and 400 copies of Volume 38/3 were printed. The numbers of subscriptions sold were 248 for the print edition, 9 for the individual online and print edition, 10 for the individual online edition, 3 for the institutional online and print edition, and 6 for the institutional online edition. In addition, all ISTA Personal Members and staff of ISTA Member Laboratories are entitled to free online subscriptions: 202 institutional subscriptions to laboratory members, 57 individual subscriptions to Personal Members and 37 individual subscriptions to Associate Editors of the journal were released. 22 back issues were sold.

## 7. Report of the ISTA Secretariat

### 7.1 Secretariat staff

In 2010, the ISTA Secretariat was not confronted with any staff changes.

However, the vacancy of the Technical Committee Coordinator position at the Secretariat could not be filled throughout the year. Opportunely Honorary Life Member Ronnie Don was able to provide valuable assistance to the Secretariat, mainly trying to cover duties of a Technical Committee Coordinator by temporary working periods at the Secretariat and also from home, answering requests by external access to Secretariat mails.

Still the Secretariat had to fulfil all its tasks with only 8.2 full-time equivalents available.

The search for qualified new staff was an additional working load on the Secretariat resources.

A workload evaluation by external experts at the Secretariat revealed an unsustainably high workload particularly on the management positions of the Secretariat, even considering the Technical Committee Coordinator position filled. The Executive Committee has been informed and is discussing options to resolve this situation.

Secretariat staff (1 January–31 December 2010):

Secretary General	Michael Muschick	full-time
Senior Executive	Patricia Muschick	full-time
Head of Accreditation Department	Rasha El-Khadem	full-time
Technical Committee Coordinator	vacant	
Publication Specialist	Jonathan Taylor	full-time
System Auditor	Mary Jane Kelly	full-time
System Auditor/Accreditation Administration	Branislava Opra	full-time
Publication Sales/TCOM Administration	Agnes Hegedüs	part-time
Event Organizer	Nadine Ettel	full-time
Membership and Financial Administration	Cannice Gubser	part-time

### 7.2 Tasks

In 2010, the ISTA Secretariat was responsible for:

Contributing to the development of strategies for all areas of the Association (for the Executive Committee)

International presentation and representation of the Association among partner organizations

Collaboration with partner organizations on the global, political and technical levels (on request of the TCOMs), in particular on seed health, sampling and GMO issues

Overall finances of the Association (investment planning, budgeting, accounting)

Human resource planning and recruiting of staff

Governing of the Secretariat of the Association (overall administration, back-office, IT systems maintenance)

Administration of all ISTA members (membership applications, cancellation processes, maintenance of membership database)

Handling, administration and enforcement of the ISTA voting rights

Administration of and collaboration with the Executive Committee, Rules Committee and Technical Committees

Administration and coordination of the Method Validation Programme

Administration of the Seed Analyst Training Programme

Planning and organization of the next Annual Meetings of the Association

Planning, organisation and execution of the 29th ISTA Congress (programme development, venue planning, publication of Congress documents, registration of participants, coordination with local organisers)

Collating, editing and publishing of the magazine "Seed Testing International"

Operation, administration, database maintenance and information updating of the ISTA web site

Operations of the ISTA Accreditation Body (strategy, administration of the audit programme, auditing of laboratories, organisation and travel arrangements for audit assessments with laboratories and external auditors)

Administration, sample distribution, entering of results for all the ISTA Proficiency Tests

Administration, sales, distribution and production of ISTA Orange and Blue Certificates

Operations of the ISTA publishing house (editing and printing of publications, presentation and production of publications catalogue, publication sales, invoicing and dispatching of book, stock management)

Handling of subscriptions and page charges for the scientific journal Seed Science and Technology (SST), marketing, sales and publishing process online and print

Support, announcement, coordination and administration of the ISTA workshops

Process operation, database maintenance and administration of the ISTA GMO Proficiency Tests

Administration and addressing of requests from international bodies

Handling and administration of general requests from members and non-members

Support of the Technical Committees and Working Groups in management, administration and representational tasks

Enforcement, administration and handling of requests related to ISTA copyrights

Conception, design and maintenance of assorted ISTA information, documents and marketing pamphlets in print and electronically

Planning, formulation, transmission and administration of ISTA electronic newsletters

Participation in interviews / writing of articles on ISTA related issues

In addition to these tasks, the Secretariat was heavily involved in the following important projects:

ISTA representative in the World Seed Project in collaboration with FAO, OECD, UPOV and ISF as a follow-up on the 2nd World Seed Conference

Participation as ISTA speaker at various international conferences, meetings, seminars and workshops

ISTA representative in the organizing committee of the 2nd Global Conference on GMO Analysis

Structuring of the processes of the Method Validation Programme

Handling of an accusation for scientific misconduct including legal clarifications on international level

Resignation of the Chief Editor of the journal *Seed Science and Technology*

Successful execution of the 29th ISTA Congress in Cologne, Germany

International registration ensuring protection of the ISTA logo

Legal clarifications with regards to the legal status of the Association

Efforts to evaluate the Accreditation System as requested by the Ordinary Meeting 2010

Recruiting efforts to fill Technical Committee Coordinator vacancy

Resignation of the President of the Association

Contributing to the workload evaluation by external experts

As per decision of the Executive Committee, the role of the ISTA Secretariat has been enlarged in the area of the ISTA Congresses. Starting with the 2010 Congress, the ISTA Secretariat has taken over a big part of the organization and the entire pre-congress registration process.

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## 8. Finances of the Association

The total turnover increased to a total of CHF 2 497 412.39 for 2010 (CHF 2 440 203.03; 2009), which is an increase by 1.93 % (14.88%; 2009) compared to the year before. The financial result for the year 2010 is positive, with an unexpected profit of CHF 28 037.49 (CHF 3°235.24; 2009).

In January 2011, the ISTA accounts were audited by financial auditors of BDO AG, who found them to be in order. The report of the financial auditors is included after the presentation of the financial figures.

On the income side, more income than expected could be gained from member subscriptions due to the affiliation of more member laboratories and some unexpected payments of outstanding membership fees from former years. Furthermore only about half of the carefully budgeted extraordinary losses on subscriptions had to be applied.

The income from Congress activities was also much higher than expected, however, so where the expenses for this position, and therefore overall, the income was only a third of the expected amount.

Regarding income from Technical Committees, which is mainly income from non-member participants in the ISTA Proficiency Test on GMO testing. thanks to an adjustment in the participation fees for non-members, the income was somewhat higher than expected although only one Proficiency Test round could be executed in comparison with 2009.

With satisfaction a steady increase on the income side for *Seed Testing International* which is achieved by the sales of commercial advertisement placements in the magazine.

The sales figures for ISTA Rules and ISTA Handbooks (the latter one mainly owed to Seedling Evaluation and Sampling handbook sales) both made a considerable rise, thanks to more marketing efforts and collaboration with other international organisations supporting the spreading and further expansion for the recognition of the ISTA Rules and handbooks in the world.

Also the result for the Certificates sales was a positive one, both compared to budgets and accounts 2009, so that more Certificates had to be produced, explaining the higher accounts on the expenditure side as well.

The income shown for the Workshop activities is resulted from the QA training course which was performed by staff of the accreditation department in conjunction with audits in order to save travel costs.

The raise in income from accreditation is due to the applied fee increase for ISTA Audits as per January 1, 2010 and by the accreditation of 7 new laboratories over budget calculations.

Less income could be booked for the journal *Seed Science and Technology* which could be a sign for the world wide trend in cutting on costs invested in seed science and technology.

The bad news on the income side is definitely the high losses in interests, profit and loss on exchanges, unfortunately linked to the large amount on the postal account of currency in Euro, which has lost much of its value in 2010.

On the expenditure side, most of the accounts were in accordance with the budget figures.

The need for the Executive Committee increase their meetings from two to three meetings a year resulted in the increase in the costs for the Executive Committee's activities, as well as the joint meeting of the Executive Committee with the Chairs of the Technical Committees for the strategic planning of the new working period 2010-2013 at the beginning of the year.

The increase in the printing and material costs for the ISTA Rules as well as the ISTA Certificates was caused by the higher demand for the same.

Increased efforts were made in presenting ISTA with information booths at several big events on different continents, therefore investments in marketing costs for producing information material to be presented at these occasions were taken into account.

The detailed overview on the accounts is presented on the following pages and gives the concrete figures of the profit and loss accounts for the years 2008 to 2010, the budgeted figures for 2011, as approved by the Executive Committee, and the preliminary budget figures for the year 2012, as well as the balance sheet as per 31 December 2010.

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# Activity Report of the ISTA Committees 2010

Profit and Loss Account	Accounts 2008	Accounts 2009	Accounts 2010	Budget 2011	Budget 2012 (preliminary)
	CHF	CHF	CHF	CHF	CHF
<b>Income</b>					
<i>Subscriptions</i>					
Annual Membership Subscription	1 071 644.00	1 165 248.00	1 232 516.00	1 232 500.00	1 245 000.00
Extraordinary Income on Subscriptions	10 925.41	20 277.97	8 708.06	4 000.00	4 000.00
Extraordinary Losses on Subscriptions	-27 659.50	-1 696.50	-44 017.66	-60 000.00	-60 000.00
Website	0.00	0.00	0.00	0.00	0.00
Ordinary Meetings	129 976.57	130 755.66	42 288.20	101 000.00	101 000.00
Technical Committees	12 030.00	12 957.16	10 030.00	12 000.00	12 000.00
Seed Testing International	0.00	2 692.79	3 373.77	1 000.00	1 000.00
	<b>1 196 916.48</b>	<b>1 330 235.08</b>	<b>1 252 898.37</b>	<b>1 290 500.00</b>	<b>1 303 000.00</b>
<i>Service Centres</i>					
ISTA Rules	75 123.31	78 654.31	94 239.05	75 000.00	75 000.00
Accreditation	291 000.00	471 000.00	598 000.00	494 000.00	598 000.00
Workshops	38 115.40	12 039.17	5 824.20	0.00	0.00
Seed Science and Technology	132 978.75	141 013.54	132 252.06	135 000.00	135 000.00
Technical Publications	44 978.42	55 219.45	75 688.28	53 000.00	53 000.00
Certificates	323 733.99	348 156.48	415 950.00	330 000.00	330 000.00
Interests, Profit and Loss on Exchanges	29 976.51	13 885.00	-77 439.57	15 000.00	15 000.00
	<b>935 906.38</b>	<b>1 119 967.95</b>	<b>1 244 514.02</b>	<b>1 102 000.00</b>	<b>1 206 000.00</b>
	<b>2 132 822.86</b>	<b>2 450 203.03</b>	<b>2 497 412.39</b>	<b>2 392 500.00</b>	<b>2 509 000.00</b>
<b>Expenditures</b>					
<i>Direct Costs</i>					
Ordinary Meetings	116 532.12	123 138.23	33 658.42	97 000.00	97 000.00
Direct Costs Executive Committee	17 580.48	23 556.42	27 640.50	25 000.00	25 000.00
Direct Costs Technical Committees	46 302.54	139 258.70	141 841.14	80 000.00	80 000.00
Seed Testing International	36 792.35	32 301.43	31 790.61	35 000.00	35 000.00
	<b>217 207.49</b>	<b>318 254.78</b>	<b>234 930.67</b>	<b>237 000.00</b>	<b>237 000.00</b>
<i>Service Centres</i>					
ISTA Rules	39 223.88	38 274.01	53 450.74	40 000.00	40 000.00
Accreditation	417 691.81	585 381.21	545 576.99	500 000.00	500 000.00
Workshops	38 106.88	9 679.42	2 576.36	0.00	0.00
Seed Science and Technology	69 865.86	71 069.63	75 425.29	75 000.00	75 000.00
Technical Publications	50 197.86	52 363.06	46 031.71	53 000.00	53 000.00
Certificates	19 455.59	26 592.74	32 694.42	25 000.00	25 000.00
	<b>634 541.88</b>	<b>783 360.07</b>	<b>755 755.51</b>	<b>693 000.00</b>	<b>693 000.00</b>
<i>Operating Costs</i>					
Salaries and Social Charges	872 788.83	864 303.66	915 911.77	1 034 000.00	1 094 000.00
Office Costs	363 017.71	347 140.49	411 019.03	350 000.00	350 000.00
Travel Costs (Int'l Representation)	22 588.87	30 199.66	44 746.91	40 000.00	40 000.00
Marketing Costs	13 860.48	22 179.35	31 727.99	10 000.00	10 000.00
Website	8 721.20	81 529.78	75 283.02	25 000.00	85 000.00
	<b>1 280 977.09</b>	<b>1 345 352.94</b>	<b>1 478 688.72</b>	<b>1 459 000.00</b>	<b>1 579 000.00</b>
	<b>2 132 726.46</b>	<b>2 446 967.79</b>	<b>2 469 374.90</b>	<b>2 389 000.00</b>	<b>2 509 000.00</b>
<b>Result</b>	<b>96.40</b>	<b>3 235.24</b>	<b>28 037.49</b>	<b>3 500.00</b>	<b>0.00</b>

## Activity Report of the ISTA Committees 2010

Balance Sheet as per December 31 <sup>st</sup>	2008	2009	2010
<b>Assets</b>			
<b>Current Assets</b>			
<i>Cash</i>			
Petty cash	8 437.13	3 744.31	7 019.29
Postal account	36 842.72	14 605.28	955 773.09
Zürcher Kantonalbank, current account	145 636.53	342 312.77	230 903.50
Zürcher Kantonalbank, deposit account	174 411.09	133 201.44	389 131.00
Zürcher Kantonalbank, USD account	45 797.59	123 637.66	23 578.13
Zürcher Kantonalbank, EUR account	40 697.73	550 473.88	43 761.36
Zürcher Kantonalbank, short-term deposit account, EUR	325 501.00	0.00	0.00
Zürcher Kantonalbank, EUR account Meetings	0.00	6 990.50	2 247.46
	<b>777 323.79</b>	<b>1 174 965.84</b>	<b>1 652 413.83</b>
<i>Accounts receivable</i>			
Membership subscriptions, Certificates and Publications	105 745.27	76 151.68	156 654.37
./. Allowance on doubtful accounts	-28 100.00	-27 900.00	-59 400.00
	<b>77 645.27</b>	<b>48 251.68</b>	<b>97 254.37</b>
<i>Other accounts receivable</i>			
Other accounts receivable	23 430.00	7 825.70	158.30
Withholding tax	8 262.27	3 548.66	7 281.28
Value added tax	2 153.66	8 740.71	16 886.26
	<b>33 845.93</b>	<b>20 115.07</b>	<b>24 325.84</b>
Prepaid expenses	70 475.63	48 712.38	47 404.84
	<b>959 290.62</b>	<b>1 292 044.97</b>	<b>1 821 398.88</b>
<b>Noncurrent Assets</b>			
<i>Fixed Assets</i>			
Furniture, Computer	5 600.00	5 200.00	3 700.00
<i>Financial Assets</i>			
Securities	244 649.00	160 834.00	150 916.00
<i>Intangible Assets</i>			
ISTA Logo	35 600.00	0.00	0.00
	<b>285 849.00</b>	<b>166 034.00</b>	<b>154 616.00</b>
	<b>1 245 139.62</b>	<b>1 458 078.97</b>	<b>1 976 014.88</b>
<b>Liabilities</b>			
<i>Liabilities</i>			
Accounts payable	25 808.64	35 042.12	63 385.81
Other accounts payable	31 720.55	25 965.70	20 201.55
Advance payments	286 901.43	327 696.63	529 527.66
Accrued expenses	108 495.33	188 925.61	249 413.46
Accrued liabilities	143 000.00	228 000.00	433 000.00
	<b>595 925.95</b>	<b>805 630.06</b>	<b>1 295 528.48</b>
<b>Retained Earnings</b>			
Surplus as of January 1 <sup>st</sup>	649 117.27	649 213.67	652 448.91
Result	96.40	3 235.24	28 037.49
Surplus as of December 31 <sup>st</sup>	<b>649 213.67</b>	<b>652 448.91</b>	<b>680 486.40</b>
	<b>1 245 139.62</b>	<b>1 458 078.97</b>	<b>1 976 014.88</b>



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Report of the statutory auditors on the limited statutory examination  
to the Ordinary meeting of

ISTA International Seed Testing Association, Bassersdorf

As statutory auditors, we have examined the financial statements (balance sheet, income statement and notes) of ISTA International Seed Testing Association for the year ended Balance Sheet 31 December 2010.

These financial statements are the responsibility of the executive committee. Our responsibility is to perform a limited statutory examination on these financial statements. We confirm that we meet the licensing and independence requirements as stipulated by Swiss law.

We conducted our examination in accordance with the Swiss Standard on the Limited Statutory Examination. This standard requires that we plan and perform a limited statutory examination to identify material misstatements in the financial statements. A limited statutory examination consists primarily of inquiries of company personnel and analytical procedures as well as detailed tests of company documents as considered necessary in the circumstances. However, the testing of operational processes and the internal control system, as well as inquiries and further testing procedures to detect fraud or other legal violations, are not within the scope of this examination.

Based on our limited statutory examination, nothing has come to our attention that causes us to believe that the accompanying financial statements do not comply with Swiss law and the articles of association.

Zurich, 24 January 2011

BDO AG

Jörg Auckenthaler

Licensed Audit Expert

ppa. Heinz Hanselmann

Auditor in Charge  
Licensed Audit Expert

Enclosures

Financial statements

## C. Reports of the Technical Committees

You will find on the following pages the reports of the Technical Committees for the calendar year 2009. These reports give an indication of progress towards achievement of the working programmes approved by the TCOM for the period up to June 2010.

Activity Working Programmes arranged in alphabetical order of Committee:

ATC	Advanced Technologies Committee
BSC	Bulking and Sampling Committee
FSC	Flower Seed Committee
FTS	Forest Tree and Shrub Seed Committee
GER	Germination Committee
GMO	GMO Committee
MOI	Moisture Committee
NOM	Nomenclature Committee
PUR	Purity Committee
SHC	Seed Health Committee
STA	Statistics Committee
STO	Storage Committee
TEZ	Tetrazolium Committee
VAR	Variety Committee
VIG	Vigour Committee

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## 1. ATC Advanced Technologies Committee

Chair:	Bert van Duijn	Netherlands
Vice:	Brigitte Hamman	Switzerland
Members:	Birte Boelt	Denmark
	Kent J. Bradford	United States
	Joost van der Burg	Netherlands
	Rukui Huang	China
	Bob Legro	Netherlands
	Harry Nijënstein	Netherlands
	Zhujun Zhu	China

### “Redefinition” of the aims and working programme of ATC

In view of the experience gained within ATC over the past two years the ATC functioning and value for ISTA can be improved. An important aspect in this is the “redefinition” of the aims and working program of ATC.

#### Aims

It is proposed to adopt the following aims for the ATC:

1. Be an bridge between the Research and Development World and the other research within TCOMs of ISTA.
2. Collect and interpret data and opinions on “advanced” technologies.
3. Provide information on “advanced” technologies to the ISTA community
4. Chair or participate in research/tests of “advanced” technologies in cooperation with other TCOMs and/or act as reviewers.
5. Formulate views on ongoing or future technological developments (e.g. nano-technology, micro electronics etc) from a seed testing perspective to aid the ISTA organization.

Note:

- ATC will **NOT** aim at developing “ISTA approved” or “ISTA advised” technologies.
- ATC will **NOT** aim at producing proposals for the ISTA rules.

Ad. 1. It is proposed that each TCOM appoints a contact person (ambassador link) for the ATC; this person is the gate-way between ATC and the other TCOMs. This person will participate in a special ATC meeting at the yearly congress and will be kept up to date on all ATC activities. They will also provide the ATC with requests from the TCOMs for actions within the ATC framework. ATC has a strong TCOM/ECOM supporting role, but can also take the lead in choosing and investigating advanced technologies.

Ad. 2 and 3: This requires publication of studies on the different technologies. This can be done on the ISTA web pages, in a report, a publication in Seed Testing International magazine and in scientific journals (preferably Seed Science and Technology). ATC can take the initiative and involve other TCOMs in such actions, but can also act in response to a request from another TCOM.

Ad. 4: If research/tests involving an advanced technology are performed in another TCOM the ATC members must be available to support this research (or even chair it if the initiative to the project was originated by the ATC and is beyond the remit of a specific TCOM). Point 1 should assure that this

really happens. ATC members could play a role as reviewers to aid activities in other TCOMs.

Ad. 5: The science field changes rapidly and is providing new possibilities in the field of seed testing in the short and long term. ATC must monitor these developments and provide a view on the consequences for seed testing. For this the ATC will report to the ECOM of ISTA..

### **(Internal) Rules**

With regard to the (proposed) aims and (future) working program of ATC it is not necessary to adopt/develop specific internal rules for the ATC. The ATC will work under the general ISTA rules for Technical Committees.

### **Working programme**

The current working programme of the ATC will still be followed for those tasks that are in agreement with the proposed aims of ATC.

In addition new tasks will be added to the working program. These will include:

- Organization of an ATC meeting at the next ISTA annual meeting (Japan) that includes participation of people from other TCOMs.
- Organization of workshops/sessions on ATC topics in ISTA congresses
- Aiding organizers of workshops/sessions that include ATC related topics
- Organizing specific ATC meetings/workshops on a specific technology or development

Existing working programme adapted to proposed adapted aims of ATC:

- Finding new technologies
- Publications & Communications
- (Short) reports of those technologies that should be communicated to other TCOMs, e.g.
  - Seed Analyser
  - SeedLife and Chemical loading
  - Oxygen sensor technology
  - Image Analysis
  - Chlorophyll fluorescence and germinating seeds

An update of the full working program including responsible ATC members for specific tasks and time lines will be made as soon as possible.

## 2. BSC Bulking and Sampling Committee

The list of committee members is part of the working programme; changes recorded for the Annual Report shall be highlighted and dated.

Chair:	Leena Pietilä	Finland	
Vice:	Max Soepboer	Netherlands	
Members:	Helena Blomqvist-Ljung	Sweden	
	Laura Carlson	United States	
	Lotta Claesson	Sweden	
	<b>Didier Demilly</b>	<b>France</b>	<b>22.6.2010 (resigned)</b>
	<b>Maria Duter</b>	<b>New Zealand</b>	<b>9.11.2010 (joined)</b>
	Eddie Goldschagg	South Africa	
	Fabio Gorian	Italy	
	Gerry Hall	United Kingdom	
	<b>Tine Vilbrad Jørgensen</b>	<b>Denmark</b>	<b>7.10.2010 (resigned)</b>
	Michael Kruse	Germany	
	<b>Andrei Mihalachi</b>	<b>Moldova</b>	<b>9.11.2010 (joined)</b>
	<b>Jette Nydam</b>	<b>Denmark</b>	<b>9.11.2010 (joined)</b>
	<b>Alfred Odindo</b>	<b>Kenya</b>	<b>22.6.2010 (resigned)</b>
	Dot Vittrup Pedersen	Denmark	
	Mable M. Simwanza	Zambia	
	<b>Jean-Claude Stephan</b>	<b>France</b>	<b>9.11.2010 (joined)</b>

## A Rules Development

### A.3 Introduction of Rules Changes

	Subject	Proposed finalisation	Progress report 14.1.2011
1	Cargo sampler for seeds of size <i>Triticum aestivum</i> and bigger	2010	Rule proposal accepted in 2010
2	Hand-halving for <i>Gossypium</i> seed not processed with delinting methods	2010	Rule proposal accepted in 2010
3	Harmonization of submitted sample sizes for agricultural and vegetable seeds (Table 2A Part 1)	2010	Rule proposal accepted in 2010

## B Publications

### B.2 Training publications on specific seed testing topics

	Publication title	Proposed finalisation	Progress report 14.1.2011
1	BSC Supporting materials for 'Train the trainers'	2013	Material in preparation
2	ISTA Handbook on Seed Sampling	2012	Work has been begun

## E Questions to the Committee

	Subject	Date	Country
1	Number of primary samples when seed is in small bags	13.1.2010	Israel
2	How to take a moisture sample in a special situation	20.1.2010	Sweden
3	Homogeneity of a seed lot	24.2.2010	Argentina
4	Request for clarification: <ul style="list-style-type: none"> <li>– uniformity of the composite sample/primary samples</li> <li>– sampling by hand</li> <li>– sampling for seed health purposes</li> <li>– sampling for moisture determination</li> </ul>	March and April 2010	Canada
5	Heterogeneity testing of multiple containers	29.4.2010	Nepal
6	Seed lot size and a species not covered by rules	12.5.2010	USA
7	Utilising the spoon method for groundnuts ( <i>Arachis hypogaea</i> ).	24.5.2010	South Africa
8	Size of triers	15.7.2010	Brazil
9	Submitted sample size	16.7.2010	Russia
10	Sampling from a silo	20.8.2010	Germany
11	Sampling workshops	30.8.2010	France
12	Mixture experiment	31.8.2010	South Africa
13	Literature request	14.9.2010	Canada
14	Addition of <i>Prunus persica</i> to ISTA Rules	11.10.2010	
15	Verification of dividers	25.10.2010	
16	Retention of samples	3.12.2010	Canada

**F Special Projects**

	<b>Project title/Subject and collaborating committees</b>	<b>Proposed finalisation</b>	<b>Progress report 14.1.2011</b>
1	Seed mixtures	2012	Possible Rules Proposal concerning sampling issue can be proposed at 2012 Annual Meeting
2	ISTA/ISF Herbage Seed Lot Size Experiment	2013	Final report in 2013 at the latest
3	Report concerning ISTA Orange Certificates for sub-lots	2010	
4	Revision of the protocol for automatic sampling and the accreditation of it	2011	Work in progress

OM approved 2011-06-16

### 3. FSC Flower Seed Committee

Chair:	Rita Zecchinelli	Italy
Vice:	Sharon K. Davidson	United States
Members:	Sylvie Ducournau	France
	Anton Grim	Netherlands
	Kumiko Jinnō	Japan
	Miriam Dekalo Keren	Israel
	Frikkie A. Marais	South Africa
	Aleta Meyr	United States
	Zita Ripka	Hungary
	Milka Vujakovich	Serbia
	Wen-shi Wu	Taiwan*

\* Abbreviation for 'Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu'

## A Rules Development

### A.2 Introduction of New Species

	Species and test	Proposed finalisation	Progress report
1	Felicia heterophylla	2011	Samples available, testing plan and selection of participants in progress

## B Publications

### B.1 Publications to accompany the Rules

	Publication title	Proposed finalisation	Progress report 2010
	ISTA Handbook on Flower Seed Testing		
1	Aster spp., Eschscholzia californica, Gypsophila spp., Portulaca grandiflora, Rudbeckia spp., Tropaeolum spp., Verbena spp.	2009	December 2010: gone into print
2	Abutilon hybridum, Alcea rosea, Althaea spp., Lavatera trimestris, Lunaria annua, Malope trifida, Alyssum spp., Arabis spp., Aubrieta deltoidea, Aurinia saxatilis, Erysimum spp., Hesperis matronalis, Iberis spp., Lobularia maritima	2010	Finalised work sheets circulated to PUR and GER for approval; finalised to print in February 2011
3	Campanula spp., Limonium spp.	2010	Finalised, before circulation to other ISTA TCOMs in January 2011
4.	Amaranthus spp., Aquilegia spp., Chrysanthemums, Ipomoea spp., Convolvulus tricolor, Lobelia spp., Papaver spp.	2011	Questionnaires circulated within FSC to collect data; draft will be ready to circulate January 2011

## D Proficiency Tests

	Subject	Proposed finalisation	Progress report Date:
1	PT 11-1 Lathyrus odoratus GER	2010	Samples prepared, homogeneity test completed, awaiting the result before posting to the Secretariat

OM approved 2011-06-16

## 4. FTS Forest Tree and Shrub Seed Committee

<b>Chair:</b>	<b>Fabio Gorian</b>	<b>Italy</b>	<b>2010</b>
<b>Vice:</b>	<b>Zdenka Prochazkova</b>	<b>Czech Republic</b>	<b>2010</b>
Members:	Heidi Rosok Bye	Norway	
	<b>Rosa Colomer</b>	<b>Spain</b>	<b>2010</b>
	Isolde Ferraz	Brazil	
	Robert P. Karrfalt	United States	
	Dave Kolotelo	Canada	
	Steffi Kraemer	Germany	
	<b>Efisio Mattana</b>	<b>Italy</b>	<b>2010</b>
	Beti Piotto	Italy	
	Hugh W. Pritchard	United Kingdom	
	Dale Simpson	Canada	
	Victor Vankus	United States	

## A Rules Development

### A.1 Introduction of New Methods

	Method name/Subject	Proposed finalisation	Progress report 2010
1	Comparative test of <i>Abies</i> germination	2010	In progress
2	Comparative tetrazolium test of <i>Abies</i>	2010	concluded

### A.2 Introduction of New Species

	Species and test	Proposed finalisation	Progress report 2010
1	Tropical tree seeds (germination): <i>Jatropha curcas</i>	2012?	The test is completed. Statistical analysis and report are in progress.
2	Tropical tree seeds (germination): <i>Palm</i> trees	2012?	The test is completed for 14 species of <i>Palm</i> genus. Statistical analysis and report are in progress.

## B Publications

### B.1 Publications to accompany the Rules

	Publication title	Proposed finalisation	Progress report 2010
1	Tree and shrub seed handbook	2013	No progress

## C Workshops and Seminars

### C.1 Training and education workshops

	Workshop subject and location	Proposed finalisation	Progress report 2010
1	Montargis (F): Water activity measurement applied to seed testing	2010	Held in co-operation with STO and MOI

### C.2 Seminars

	Seminar subject and location	Proposed finalisation	Progress report 2010
1	Purdue (Indiana-USA): OECD TCOMs annual meeting	2010	Held
2	Paris (F): OECD Tree seed Forest Scheme annual meeting	2010	Held
3	Verona: International tree seed kiln conference	2010	Held

## D Proficiency Tests

	Proficiency Test Subject	Proposed finalisation	Progress report 2010
1	Pinus sylvestris	2011	Postponed

OM approved 2011-06-16

## 5. GER Germination Committee

Chair:	Sylvie Ducournau	France
Vice-chair:	Anny van Pijlen	Netherlands
Members:	Ignacio Aranciaga	Argentina
	Ronald Don	United Kingdom
	Kari Fiedler	United States
	Fabio Gorian	Italy
	Andrea Jonitz	Germany
	Krystyna Kolasinska	Poland
	Augusto Martinelli	Argentina
	Lea Mazor	Israel
	J. Harry Nijënstein	Netherlands
	Gillian McLaren	United Kingdom
	Takayuki Okuda	Japan
	Hakon Tangeras	Norway
	Rita Zecchinelli	Italy

## A Rules Development

### A.1 Introduction of New Methods

	Method name/Subject	Proposed finalisation	Progress report Date: 2010
1	Shortening the time of the final count for certain grass species ( <i>Festuca rubra</i> , <i>Poa pratensis</i> , <i>Lolium perenne</i> )	2011	Test plan has been developed.
2	Use of KNO <sub>3</sub> for lettuce seed germination test	2011	
3	Add the temperature of 20°C for the germination of <i>Spinacia oleracea</i>	2011	
4	Use of KNO <sub>3</sub> for <i>Panicum maximum</i> and <i>Panicum coloratum</i> seed germination test	2012	
5	Shortening the time of the final count for <i>Trifolium repens</i> , <i>Trifolium pratense</i> and <i>Medicago sativa</i> from 10 days to 7 days	2012	

### A.2 Introduction of New Species

	Species and test	Proposed finalisation	Progress report Date: 2010
1	<i>Solanum nigrum</i> . Introduction of germination method	2010	The first validation study was unsuccessful due to a Lab x Lot interaction. The second comparative test is completed. Statistical analysis and report are in progress.
2	Bamboo seeds. Introduction of germination method, in collaboration with FSC	2012	
3	<i>Eustoma</i> sp. Introduction of germination method	2012	

4	<i>Brassica carinata</i> . Introduction of germination method	2012	
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### A.3 Introduction of Rules Changes

	Subject	Proposed finalisation	Progress report Date: 2010
1	Major review and revision of Germination Chapter	2010	The majority of the proposed changes were accepted and voted on at the 2010 ISTA Congress.
2	Ending germination tests once pre-determined germination levels are achieved	2012	
3	Not differentiating between categories of non-germinated seed	2012	
4	Introducing flexibility in germination test methods	2012	

## B Publications

### B.1 Publications to accompany the Rules

	Publication title	Proposed finalisation	Progress report Date: 2010
1	Validation report: germination method for <i>Solanum nigrum</i>	2010	Validation report will be available to allow rules proposal at the 2011 ISTA Annual meeting.

### B.2 Training publications on specific seed testing topics

	Publication title	Proposed finalisation	Progress report Date: 2010
1	Handbook on Seedling Evaluation: Changes in relation to ISTA Rules chapter 5 changes. Examples: counting apparatus, growing media checks.	2011	
2	Handbook on Seedling Evaluation: Guidance on assessment of <i>Glycine max</i> and <i>Helianthus annuus</i> seedlings.	2011	Work is in progress on <i>Glycine max</i>
3	Handbook on Seedling Evaluation: Guidance on assessment of fused cotyledons and apical meristems of dicotyledons	2011	
4	Handbook on Seedling Evaluation: Guidance on assessment of retarded primary root	2011	
5	Handbook on Seedling Evaluation: Improvement of tree and shrubs photos of seedlings	2011	
6	Handbook on Seedling Evaluation: List of species where hard seeds may be found	2012	

## C Workshops and Seminars

### C.1 Training and education workshops

	Workshop subject and location	Proposed finalisation	Progress report Date: 2010
1	Germination Workshop in Kenya	2010	Completed: November 2010. Joint Workshop in connection with tetrazolium, sampling and statistics.
2	Germination Workshop in Canada	2012	

### C.2 Seminars

	Seminar subject and location	Proposed finalisation	Progress report Date: 2010
1	Germination Seminar in conjunction with the ISTA Annual Meeting in Japan	2011	The seminar content has been defined and the speakers are being approached for their contribution.

## D Proficiency Tests

	Proficiency Test Subject	Proposed finalisation	Progress report Date: 2010
1	Festuca arundinacea	2010	Completed: Feb 2010
2	Medicago lupulina	2010	Completed: June 2010
3	Vicia faba	2010	Completed: October 2010
4	Helianthus annuus	2011	
5	Lathyrus odoratus	2011	
6	Triticum aestivum	2011	
7	Trifolium	2011	
8	Sorghum	2012	
9	Phleum pratense	2012	
10	Lactuca sativa	2012	

## E Questions to the Committee

	Subject of question	Date	From (country)
1	Germination procedure for <i>Jatropha</i> sp.	Jan-2010	Nepal
2	Detached endosperms in Seedling Groups A-1-2-3-2 and A-1-2-3-1	Jan-2010	Argentina
3	Evaluation of seedlings with coleoptiles trapped under seed coat or lemma	Jan-2010	Argentina
4	Loops on seedlings in <i>Picea abies</i>	Jan-2010	Norway
5	Use of tolerances when fresh seeds are reported	Jan-2010	Argentina
6	Assessment of primary leaves of <i>Glycine max</i>	Feb-2010	Argentina
7	Dormancy breaking treatments for <i>Oryza sativa</i>	Feb-2010	Switzerland
8	Evaluation of <i>Oryza sativa</i> seedlings	Feb-2010	Germany and Netherlands
9	Glossary for Abnormal Seedlings	Feb-2010	Argentina
10	Negative phototropism in <i>Glycine max</i>	Feb-2010	Argentina
11	Classification of Seedlings with more than one type of abnormality	Mar-2010	Argentina
12	Evaluation of split roots in <i>Glycine max</i>	Mar-2010	Argentina

13	Role of 2 <sup>nd</sup> and 3 <sup>rd</sup> leaves in the evaluation of <i>Zea mays</i>	Mar-2010	Canada
14	Germination method for <i>Passiflora</i>	Apr-2010	Moldova
15	Toxicity tests using <i>Oryza sativa</i>	Apr-2010	India
16	Reporting germinations when test period is shorter or greater than that prescribed	May-2010	Italy
17	Use of Germination tolerance tables	May-2010	France
18	Reporting germination tests when primary media is not used	May-2010	Netherlands
19	Reporting germination results on species not included in the ISTA Rules	June-2010	USA
20	Germination tests of <i>Medicago</i> seed	June-2010	Belgium
21	ISTA germination evaluation of vegetables	July-2010	China
22	Introduction of Bamboo into ISTA Rules	July-2010	India
23	Procedures for testing fewer than 400 seeds	July-2010	Netherlands
24	Effect of pre-chilling on the germination of <i>Festuca</i>	July-2010	USA
25	Use of Pleated paper method for Cucurbits	July-2010	Nepal
26	Pictures of normal and abnormal seedlings for internal training course	Aug 2010	Argentina
27	Reporting hard seeds on ISTA Certificate	Aug 2010	Ukraine
28	Question on PT results	Aug 2010	USA
29	Equipment for pre-washing seeds of <i>Beta vulgaris</i>	Aug 2010	Germany
30	Germination method for <i>Festuca trachyphilla</i> and <i>Guizotia abyssinica</i>	Aug 2010	Slovenia
31	<i>Zea mays</i> seedling evaluation	Aug 2010	Australia
32	Assessment of fresh seeds with dissection	Sept 2010	Argentina
33	Group of seedling evaluation for <i>Vigna subterraneae</i>	Sept 2010	South Africa
34	Germination of <i>Aconitum</i>	Oct 2010	Poland
35	Definition of some abnormal seedlings (unbalanced, deformed)	Oct 2010	Argentina
36	Suppliers of alternative product of Copenhagen Tank	Oct 2010	Netherlands
37	Disinfecting and preheating <i>Arachis</i> seeds	Oct 2010	Argentina
38	Evaluation of sunflower seedlings	Nov 2010	Sweden
39	Suppliers of counting and rewashing equipment	Nov 2010	Germany
40	Germination of sugar beet	Nov 2010	Sweden
41	Light intensity in germinator	Dec 2010	Netherlands
42	<i>Allium fistulosum</i> evaluation	Dec 2010	South Africa

## F Special Projects

	Project title/Subject and collaborating committees	Proposed finalisation	Progress report Date: 2010
1	Seed Mixture: Draft seed mixture chapter for the ISTA Rules	2011	Revision of draft chapter in Nov and Dec 2010
2	Survey on : – the need for seed disinfection before germination test – particle size of Sand and OGM used for germination tests – Light (intensity/wavelength) used in germination tests	2011	

3	Comparing results obtained from all the possible ISTA methods for <i>Beta vulgaris</i> and <i>Helianthus annuus</i> in order to keep only the best ones	2012	
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### **Additional information for the Annual Report and issues of common technical interest**

A major revision of the Germination Chapter of the Rules was presented to the Ordinary Meeting at Cologne for approval.

Revisions include: correcting errors; providing greater clarity and precision as to what is required when testing germination; providing definitions currently missing; ensuring the numbering of the types of abnormal seedlings is the same in both the Rules and the Handbook on Seedling Evaluation; providing methodology for testing fewer than 400 seeds in certain circumstances; correcting errors in current tolerance tables; providing enhanced guidance on re-testing and new tolerance tables that are required when more than one retest has to be carried out; providing tolerance table that should be used when fewer than 400 seeds are tested; and making Table 5A more user friendly.

Most of the proposed changes were accepted. Some proposals require however to be discussed again among ISTA members. The committee has proposed that a questionnaire could be sent to ISTA members and laboratories in order to collect their opinion on:

- the need for seed disinfection before germination test;
- the light requirements for germination tests.

In addition to these questions raised during the Ordinary Meeting in Cologne, another item coming from discussions during the Germination Workshop in 2009 should be included in the questionnaire. It concerns the particle size of sand and organic growing media suitable for germination tests.

Revisions of the Germination Chapter will lead to introduce a certain amount of information in the Handbook for Seedling Evaluation concerning:

- Counting equipment
- Germination apparatus
- Checks of growing media

Other proposals were made to the germination committee in 2009 and some of them were the subject of presentations at the ISTA Congress in Cologne: introducing performance based germination procedures; finishing germination tests once a pre-determined germination level is achieved; not differentiating ungerminated seed.

The committee has proposed to discuss these items in 2011 in order to present proposals for discussion at the next Annual Meeting during the presentation of ISTA's Technical Work.

## 6. GMO Committee

During the ISTA Congress in Cologne the GMO Task Force is transferred into a Technical Committee, the GMO Committee. Due to this status change the number of its members is exceptionally and for a time limited set up to 17.

Chair:	Christoph Haldemann	Switzerland	
Vice:	Cheryl Dollard	Canada	
Members:	<b>Clara Alarcon</b>	<b>United States</b>	<b>New</b>
	Elizabeth Bates	Belgium	
	Sofia Ben Tahar	France	
	<b>Tajinder Grewal</b>	<b>Canada</b>	<b>New</b>
	Lutz Grohmann	Germany	
	David Grothaus	United States	
	Mihael Cristin Ichim	Romania	
	<b>Andrea Jonitz</b>	<b>Germany</b>	<b>New</b>
	Benjamin Kaufmann	United States	
	Charlotte Leonhardt	Austria	
	<b>René Mathis</b>	<b>France</b>	<b>New</b>
	Enrico Noli	Italy	
	<b>Elena Perri</b>	<b>Italy</b>	<b>New</b>
	Kirk Remund	United States	
	Anna Laura Vicario	Argentina	
	Ruojing Wang	Canada	
	Bruno Zaccomer	France	

Jean-Louis Laffont, France, left the GMO TF in 2010:

Many thanks for the significant input he brought into the GMO Task Force resp. the GMO Committee. Jean-Louis Laffont as chair of the Statistics Committee will still make contributions for specific questions and is still a member of the Working Group 'Publication of the results of the Proficiency Tests'.

The new official GMO Committee members are listed in *italics*.

Regarding the Working Programme for the triennium 2010-2013, the tasks listed below have been identified and accepted by the GMO committee members. To efficiently realize this challenging programme the following Working Groups have been established.

## **Permanent Tasks:**

### **1.1 Proficiency tests**

WG leader: Cheryl Dollard

Members: Elizabeth Bates, Andrea Jonitz, René Mathis, Bruno Zaccomer, Christof Neuhaus, Christoph Haldemann

- Finalize the new programme plan (planned PT rounds from 2010-2013).
- Incorporate in the PT process that accredited laboratories will receive automatically the MTA for relevant PT rounds, sent out by the ISTA secretariat, even if the laboratory does not respond to the announcement.
- Update of protocols for execution of PT – including new SOP for administration and sample preparation.
- Co-operation on the enhancement of the GMO Database located at the secretariat.
- Rating for genetic purity test?

### **1.2 Accreditation programme (performance-based approach)**

WG leader: Ana Laura Vicario

Members: Sofia Ben Tahar, Lutz Grohmann, David Grothaus, Enrico Noli, Elena Perri

- Define and document details such as applicability of overall rating, relation between scope of accreditation and test rounds included in an overall rating.
- Overall rating: How exactly to proceed. Is it to compute just for the accredited labs or the labs that want to get accredited?
- Define what is meant by compulsory/binding participation - valid for accredited laboratories only?
- Not to participate in a PT rounds for accredited laboratories results in a BMP rating (like in traditional ISTA PT and as defined in ACC-D-01-Termination, suspension and withdrawal of ISTA Accreditation).
- Clarification on the Scope of accreditation: can a PBA-Accreditation (Performance Based Approach) e.g . . . . for MON810 be used to get accreditation for all maize events?

### **1.3 Information exchange: workshops**

WG leader: Benjamin Kaufman

Members: Clara Alarcon, Cheryl Dollard, Enrico Noli, Bruno Zaccomer, Christoph Haldemann

- Organization of Workshops for GMO Detection.
- Evaluate if new/amended documents/tools are required.
- Explore possibilities for joining forces with other WS providers.

### **1.4 Information exchange: webpage 'Info Platform for GM seed'**

WG leader: Charlotte Leonhardt

Members: Clara Alarcon, Tajinder Grewal, Mihael Cristin Ichim, Benjamin Kaufman, Enrico Noli, Ruoqing Wang

- Periodical update of the Info Platform

## **Temporary Tasks:**

### **2.1 Identification of stacked genes**

WG leader: Kirk Remund

Members: Bruno Zaccomer, Christoph Haldemann

### **2.2 Publication of the results of the Proficiency Test**

WG leader: Bruno Zaccomer

Members: Elizabeth Bates, Cheryl Dollard, Beni Kaufman, Jean-Louis Laffont, Enrico Noli, Kirk Remund, Christoph Haldemann

### **2.3 Establishment of an audit check list for GMO testing laboratories**

WG leader: Elena Perri

Members: Elizabeth Bates, Sofia Ben Tahar, René Mathis, Ruoqing Wang

## **Activity Report 2010**

- PT Rounds:
  - Successful completion of GMOPT 13, Canola (Rf3 and T45).
  - Execution of GMO PT14 (currently ongoing), Soybean (MON89799).
  - Initiation of activities for GMO PT15, Flax FP967.
  - Successful procurement of GM and non-GM Flax seed for PT15 and seed material tests.
- GMO PT Database: provided advice, input for development, and evaluation of the new and improved GMO PT Database being established within the secretariat.
- GMO PT SOPs: developed draft SOPs that outline the processes to execute a single GMO PT Program:
  - SOP 1. GMO PT Preparation – Administration.
  - SOP 2. GMO PT Seed check and sample preparation.
- Creation of tentative PT programs - 2011 through 2013.
- Initiation of seed procurement process for the next 6 GMO PTs.
- Collaboration with the WG 'Accreditation program (performance based approach)' - discussion and exchanges ongoing for means to improve the program.
- Advice: provided to ISTA Secretariat and member laboratories with queries regarding PBA, accreditation, invoicing, and PT results.
- In collaboration with the WG 'Proficiency tests' the WG 'Accreditation Program' a document regarding the improvement, simplification of the Performance Base Approach (PBA) has been prepared with the main goals to define details of an overall rating depending the scope of accreditation, the terms and conditions of what is needed to fulfill the requirements of the PBA. For the time being it is in circulation for consultation.
- Workshops:

In 2010 two workshops have been conducted by the ISTA GMO Committee:

## **ISTA Workshop on Variety Testing and GMO Detection**

Bangalore, India, 6–9 April 2010

This workshop was conducted in conjunction with an ISTA Workshop on Variety Testing

The workshop was initiated and hosted by Indam Seeds and in addition was supported by funds, equipment and reagents by BioDiagnostics, Inc., Monsanto, Roche, Agilent Technologies and Macherey-Nagel.

Twenty participants representing 8 government agencies, 5 companies and 7 academic research institutions from India, Pakistan, Kenya and Thailand took part in the event.

The Variety Testing part was conducted by Norbert Leist and Rainer Knoblauch.

The GMO Detection part by Beni Kaufmann and Kirk Remund (both GMO Committee members).

### **ISTA Workshop on Biotechnology Trait Detection**

Oberschleissheim, Germany, 8–12 June, 2010

This workshop was under the hospice of the Bavarian State Office for Health and Food Safety. It was supported by funds, equipment and reagents by Pioneer Hi-Bred, BioDiagnostics, Inc., Monsanto, Roche, Agilent Technologies, Sdix, and Macherey-Nagel.

Nineteen participants from 9 Government agencies, 2 Academic Research Institutions, and 8 companies arrived from Australia, Austria, Brazil, Bulgaria, Chile, France, India, Iraq, Ireland, Italy, Poland, Saudi-Arabia, Serbia, and Spain took part.

The results of the workshop evaluation reflected a high level of contentment and the feedback pointed to demand for a continuing class in advanced GMO testing methodologies.

This workshop was conducted by: Beni Kaufman, Cheryl Dollard, Bruno Zaccomer, Clara Alarcon and Jean-Louis Laffont (all GMO Committee members).

**Information Exchange Working Group:** This year, the Information Exchange Working Group initiated the compilation of a glossary of terms related to GMO testing. When finished the glossary is planned to be posted on the ISTA web site under the GMO information platform. A mailing asking for suggestions and contributions to the glossary were circulated to the participants of the 1<sup>st</sup> Global GMO meeting participants and to the ISTA mailing list. Approximately 350 terms were suggested, and they will be compiled and reviewed in the coming year.

**SeedcalcStack9:** SeedcalcStack9 is a statistical tool for the detection of stacked GMO events, published by Jean-Louis Laffont, Kirk Remund and Kevin Wright. It contains an implementation of the maximum-likelihood method for the estimation of the proportion of GM seeds with up to three stacked events in a conventional seed lot. It can be downloaded for free at the ISTA webpage.

A first publication of the PT results is in process.

Intensive collaboration with the ISTA Statistics Committee.

## 7. MOI Seed Moisture Committee

Chair:	Craig McGill	New Zealand	
Vice:	Jette Nydam	Denmark	
Members:	Joseph Ahenda	Kenya	
	Olfat H. El Bagoury	Egypt	
	Mark A. Bennett	United States	
	Matt Daws	United Kingdom	
	Gerarda de Boer–Raatgever	Netherlands	
	<b>Ronnie Don</b>	<b>United Kingdom</b>	<b>retired June 2010</b>
	<b>Todd Erickson</b>	<b>United States</b>	<b>joined June 2010</b>
	Robert Karrfalt	United States	
	<b>Maria-Rosaria Mannino</b>	<b>France</b>	<b>retired June 2010</b>
	Harry Nijënstein	Netherlands	
	<b>Takayuki Okuda</b>	<b>Japan</b>	<b>joined June 2010</b>
	Sergio Pasquini	Italy	
	Maria Angela Tillman	Brazil	

## A Rules development

### A.2 Introduction of New Species

	TCOM	Species	Subject	Proposed finalisation	Progress report 31 Dec 2010
1	MOI, STA	Solanum nigrum, Passiflora edulis, Cleome hassleriana, Carica papaya	Introduction of these species into Chapter 9 of the ISTA Rules.	2010	Issues with phytosanitary certificates for distribution of <i>Solanum nigrum</i> samples being worked on.
2	MOI, STA	xFestulolium	To introduce x <i>Festulolium</i> into Chapter 9 of the ISTA Rules – note this species was added during the ISTA Congress in Cologne.	2011	Test plan prepared and sent for technical and statistical reviewer.

### A.3 Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Progress report 31 Dec 2010
1	MOI, STA	Check effect of particle size on moisture test results. Results inconclusive further work required.	2010	No further progress.
2	MOI, STA	Check effect of grinders on particle size distribution and loss of moisture during grinding.	2009	Data is being gathered to determine what current practices are in laboratories.
3	MOI, STA,	Check the need for grinding of <i>Gleditsia triacanthos</i> , <i>Albizia julibrissin</i> , <i>Medicago sativa</i> , <i>Lotus pedunculatus</i> , <i>Lotus corniculatus</i> , <i>Trifolium pratense</i> , <i>Trifolium repens</i> , <i>Vigna radiata</i> .	2010	Test plan prepared for <i>Trifolium</i> and <i>Medicago</i> and sent for technical and statistical reviewer.
4	MOI, STA, Secretariat	Introduce missing tolerances or improve existing tolerances for: <ul style="list-style-type: none"> <li>- oven-oven for comparison of the same sample in one lab;</li> <li>- oven-oven for different samples in the same/different labs;</li> <li>- meter-meter for different samples in the same/different labs;</li> <li>- oven-meter for different samples in the same/different labs.</li> </ul>	2010(?)	The initial plan was to use the data generated by validation of new species into Chapter 9 for tolerance table development. However because of the difficulty in obtaining samples of sufficient size for both validation testing and tolerance table development at the ISTA Congress in Cologne the MOI Committee agreed to see if data from PT moisture rounds to be used for tolerance table development.
5	MOI, FTS, STA	Check whether the 200 g TSW in 9.1.5.5 Cutting for tree and shrub species is appropriate, and whether 10 g or 20 g of seed rather than 10 intact seeds can be cut (Note: this activity was added in June 2009 during the ISTA Ordinary Meeting in Bologna).	2012	Validation protocol developed and approved, test samples being prepared for distribution.

## B Publications

### B.1 Publications to accompany the Rules

	Publication title	Proposed finalisation	Progress report 31 Dec 2010
1	Extending the drying period for <i>Lolium</i> sp. for the high-temperature oven method from 1 to 2 hours (Seed Testing International Number 139 April 2010).	2010	Published

### B.3 Scientific information publications

	TCOM	Publication title	Proposed finalisation	Progress report 31 Dec 2010
1	MOI, STAT	Comparative testing (3 papers for SST: time study, oil content, other factors).	2008	Drafts being prepared
2	MOI, STA	The influence of particle size distribution after grinding on moisture testing of maize and wheat.	2011	Paper being finalised

### C Workshops and seminars

#### C.1 Training and education workshops

	TCOM	Workshop subject and location	Proposed Date	Progress report 31 Dec 2010
1	MOI, FTS, STO	Workshop: "Water activity measurement applied to seed testing" held in collaboration with Cemagref in Montargis and Nogent sur Vernisson, France.	October 13-15, 2010	Held

### D Proficiency tests

	TCOM	Proficiency Test Subject	Proposed date	Progress report 31 Dec 2010
1	MOI, Proficiency	Moisture included in round 10-3 <i>Vicia faba</i> (grinding).	2010	Ongoing

### E Questions to the Committee

	Subject of Question	Date	Country
1	Automated sampling of samples for moisture determination.	January 2010	Sweden
2	Grinding mill suitable for coarse grinding.	January 2010	Czech Republic
3	Tolerances for the 130-133 °C temperature range used in the high temperature oven method.	March 2010	Switzerland
4	Moisture determination in <i>Ipomoea</i> .	April 2010	Indonesia
5	Grinding requirements for <i>Avena strigosa</i> .	May 2010	South Africa
6	Size of PT samples for laboratories using 10 g rather than 5 g for moisture determination.	June 2010	Argentina
7	Sample size per replicate for 5-8 cm moisture containers.	July 2010	Greece
8	Type of thermometers used for calibration of moisture ovens.	August 2010	New Zealand
9	Checking the ventilation of the oven.	August 2010	Canada
10	Moisture determination in rice seed.	September 2010	Thailand
11	Drying temperature and duration for coated seed that has been de-coated for purity analysis.	September 2010	United States
12	Control of temperature in ground material during grinding.	September 2010	New Zealand
13	Ventilation of the oven with different number of samples in the oven.	October 2010	Argentina

## 8. NOM Nomenclature Committee

Chair:	John H. Wiersema	United States
Vice:	Michel Porcher	Australia
Members:	Bernard R. Baum	Canada
	Michel Chauvet	France
	Sandy Dawson	United States
	Axel Diederichsen	Sweden
	Niall Green	United Kingdom
	Karl Hammer	Germany
	Wilbert L.A. Hetterscheid	Netherlands
	Phyllis Himmel	United States
	Charles E. Jarvis	United Kingdom
	Klaus Pistrick	Germany
	Kees van Ettehoven	Netherlands

## E Questions to the Committee

	Subject	Date	Country
1	Interpretation of 5 scientific names in relation to <i>ISTA List of Stabilized Plant Names</i>	12.2010	Belgium
2	Checking a revision of an ISO standard on Cereals and Pulses for ISTA-stabilized names	11.2010	Argentina
3	Checking attribution of USDA images for ISTA Pure Seed Definition Handbook	11.2010	Canada
4	Questions from ISTA Accreditation Department on interpretation of <i>ISTA List of Stabilized Plant Names</i>	11.2010	Switzerland
5	Problems in GRIN version of ISTA List of Stabilized Plant Names	1.2010	Germany

## F Special Projects

	Project title/Subject and collaborating committees	Proposed finalisation	Progress report 2010-12-30
1	ISTA List of Stabilized Plant Names, ed. 6 - RULES	2013	A timetable for accomplishing this work in relation to the 2013 ISTA Rules has been coordinated with the Rules Committee. Work on reviewing the current list of stabilized names will begin in spring of 2012, so any amendments to the 2013 Rules can be reported by late summer of 2012. This timetable will also allow us to accommodate into the new Stabilized List any botanical nomenclature decisions arising from the 2011 International Botanical Congress.

## Additional information for the annual report and issues of common technical interest

Date	Subject	Comments
12.30.2010	Retirement of 2 committee members	Both Prof. Doris Groth of Brazil and Dr. Maria Rosaria Mannino of France left NOM during the past year, creating 2 unfilled vacancies. They are thanked for their past participation.

## 9. PUR Purity Committee

### Summary

The Chair assumed responsibility in June of 2010. Both the Chair and Vice-Chair searched actively for members and brought the committee up to strength, making a very special effort to attract representation from various continents. As soon as the membership was complete, a work program was assembled with input from members. Some of the projects are a continuation of on-going projects from previous years and some are new. It should be noted that each project has a Working Group Leader (WG Leader). The WG Leader is a committee member who has ample experience and interest in the specific project. This strategy is also purposefully used to make sure that someone is focusing on each project. Some of the projects are already showing progress.

Chair:	Adriel Garay	United States
Vice-Chair:	Jane Taylor	United Kingdom
Members:	Gerarda De Boer	Netherlands
	Fabio Ferrari	Italy
	Deborah Meyer	United States
	Andreas Ratzenboeck	Austria
	Zita Ripka	Hungary
	Augusto Martinelli	Argentina
	Ruojing Wang	Canada
	Pernilla Andersson	Sweden
	Andrea Jonitz	Germany
	Charan Jeet (CJ) Mehta	India
	Maria Elena Duter	New Zealand
	Myriam Alvisi	Brazil
	Kepha Oganda	Kenya

### A Rules Development

#### A.1 Introduction of New Methods

	Method name/Subject	Proposed finalisation	Collaboration
1	Blowing: compare AOSA and ISTA procedures and evaluate the interest of AOSA method Ongoing, Gerarda de Boer leading working group	2013	WG leader: Gerarda de Boer Collaborators: Ruojing Wang and Adriel Garay

## A.2 Introduction of New Species

	Species and test	Proposed finalisation	Collaboration
1	<i>Solanum nigrum</i> Find adapted PSD Current PSD for <i>Solanum</i> species already in the rules = PSD 10 Can we make proposal to use this PSD without having seed circulated to all Purity committee members?		GER MOI WG leader: Deborah Meyer for all 1-5 Collaborators: <i>Kepha Oganda, needs more helpers</i>
2	<i>Cleome gynandra</i> Find adapted PSD Current PSD for <i>Cleome hassleriana</i> already in Rules = PSD10 is <i>Cleome gynandra</i> similar so can apply same PSD?		GER MOI
3	<i>Bupleurum rotundifolium</i> Find adapted PSD For <i>Bupleurum rotundifolium</i> suggest we use PSD 15 as all <i>Apiaceae</i> in ISTA rules are under the same PSD 15		GER MOI
4	<i>Passiflora edulis</i> Find adapted PSD		GER MOI
5	<i>Carica papaya</i> Find adapted PSD 2009		GER MOI
	For items 1, 2 & 3, Do we need seed of all the species listed to evaluate for PSD or can we apply current PSD as already used for similar species or families? For <i>Passiflora edulis</i> ( <i>Passifloraceae</i> ) & <i>Carica papaya</i> ( <i>Caricaceae</i> ) Can the Nomenclature / Purity committee recommend a suitable PSD from looking at images and data information only without seed specimens circulated?		

## A.3 Introduction of Rules Changes

	Subject	Proposed finalisation	Collaboration
1	Clarification concerning weight precision for OSD Two previous rules proposals were withdrawn. Common practice is to report it as whole figures e.g. 60g not the actual weight e.g. 60.34g The Purity Committee will discuss this issue with the ISTA Auditing team before taking further action.	2013	WG Leader to be assigned
2	Amalgamation of Chapter 11 Chapter 11 need reviewing, at the 2010 ISTA meeting in Cologne, Augusto Martinelli offer to lead this.	2013	WG leader: Augusto Martinelli

3	Improvement of PSD 36 for <i>Panicum</i> <i>Amend the wording of PSD 36 to include attached pedicel</i> <i>“Spikelet with or without pedicle (of any length), with glumes, lemma and palea, enclosing a caryopsis, plus attached sterile floret”</i>  Proposal in 2009 was to add ‘attached pedicle’ to the PSD, this needs to be voted on and separate from other discussions re the use of pressure to determine presence of a caryopsis.  Possible comparative exercise required to compare ISTA methods for caryopsis presence by pressure with other methods?	2013	WG leader: Jane Taylor
4	Purity method for mixtures The ISTA mixture experiment not yet concluded		
5	Purity of coated seeds (should be considered with number 2 above)		WG leader Augusto Martinelli
6	Clarification of ISTA rules for testing of weighted replicates – additional text required in the Rules to provide cross referencing between chapters 2, 3 and 13		WG leader: Jane Taylor

## B Publications

### B.1 Publications to accompany the Rules

	Publication title	Proposed finalisation	Collaboration
1	PSD Handbook	Completed and printed 2010	WG leader: Steve Jones ISTA Secretariat
2	“Detection of <i>Orobanche</i> spp. Seeds” 2008  Jane Taylor reported on the results of an ISTA wide survey in 2010 need to define validation of wet & dry methods, ISTA suggested that a peer validation only was needed. Jane Taylor to finalise a comparative test plan for approval by the ECOM.  Following an ECOM decision a proposal for an <i>Orobanche</i> test has been included in the Rules proposals to be voted on in 2011 that did not require a validation study.  Further work will be required for issuing results on an OIC in collaboration with the BSC.	2013	WG leader: Jane Taylor Collaborators: Steve Jones, Adriel Garay, Ruoqing Wang
3	“Blower calibration” (following the new procedure) 2010  = guidance instructions to update when AOSA method adopted.	2013	WG leader: Adriel Garay Collaborators: Keph Oganda, Myriam Alvisi
4	Handbook on Purity 2010 No work started on this	2013	
5	The Universal list of species – This is due for review.	2011/2012	WG leader: Zita Ripka Collaborators: Debbie Meyer, Andrea Jonitz, Keph Oganda, Pernilla Andersson and Ruoqing Wang

**B.2 Training publications on specific seed testing topics**

	Publication title	Proposed finalisation	Collaboration
1	Identification of species of the Universal List Digital images required for the website version of the list.	2013	WG leader: Andrea Jonitz and / or / with Rita Zipka Collaborators: Augusto Martinelli and RuoqingWang
2	Handbook on tropical species: seed identification and seed technology		Proposed WG leader: Myriam Alvisi Collaborators: Kepha Oganda. Augusto Martinelli, more members needed

**B.3 Scientific information publications**

	Publication title	Proposed finalisation	Collaboration
1	Development and applications of blowing procedures. The idea is to develop a publication for educational purposes and to assist labs or industry people that may want to understand and use blowing procedures for managing seeds and for testing seeds	2013	WG leader: Adriel Garay Collaborators: Kepha Oganda, Pernilla Andersson, Myriam Alvisi

**C Workshops and Seminars****C.1 Training and education workshops**

	Workshop subject and location	Proposed finalisation	Collaboration
1	Purity analysis and training on seed identification Host CFIA, Saskatoon, Canada.	2011	WG leader: R Wang Collaborators: Jane Taylor
2	Workshop on purity testing with emphasis on temperate grass seeds To be organized at Oregon State University, Oregon, USA	2013	WG leader: Adriel Garay Collaborators: Lab staff at OSU

## 10. SHC Seed Health Committee

Chair:	Terry Aveling	South Africa	
Vice-Chair:	Valerie Cockerell	Scotland, UK	
Vice-Chair:	Valerie Grimault	France	New position, June 10
Members:	Ilaria Alberti	Italy	New member, June 10
	Siham Asaad	Syria	
	Rouke Bakker	New Zealand	
	Reyes Blanco Prieto	Spain	
	Stéphan C Brière	Canada	
	Harrie Koenraad	Netherlands	
	Ronit Kohen	Israel	
	Gary Munkvold	USA	New member, June 10
	Masatoshi Sato	Japan	
	Karin Sperlingsson	Sweden	
	Krystyna Tylkowska	Poland	
	Sandra Walker	USA	

## A Rules Development

### A.1 Introduction of New Methods

	Method name/Subject	Proposed finalisation	Progress report
1	Method 7-026 Detection of Squash Mosaic Virus, cucumber Green Mottle Virus and Melon Necrotic Spot Virus in cucurbits	2010	Done
2	<i>Xanthomonas hortorum</i> pv. <i>carotae</i> /Daucus carota - PCR	2011	CT done, report under progress
3	<i>Fusarium</i> spp./Zea mays	2012	Test plan in progress
4	Tobamo viruses/ <i>Lycopersicon esculentum</i> - bioassay	2011	CT done, report under progress
5	<i>Pseudomonas pisi</i> pv <i>pisii</i>	2011	CT done, report under progress
6	Xcc PCR as alternative to pathogenicity	2011	CT done, report under progress
7	Xcc disinfected seeds	2011	CT done, analysis of results to be done
8	<i>Acidovorax</i> /corn salad grow out	2011	Test Plan reviewed
9	<i>Ustilago nuda</i> new extraction method	2011	Report sent for review to ISTA
10	<i>Pyrenophora</i> spp. on barley, Osmo Method	2011	Report sent for review to ISTA
11	Xcc bio-PCR	TBA	Project
12	Tobamo viruses/pepper - bioassay	TBA	Project
13	<i>Fusarium graminearum</i> , <i>F. lansesthae</i> , <i>F. culmorum</i> and <i>F.cereals</i>	2013	Development on going.
14	Living <i>Neotyphodium</i> , grass seed	TBA	Project
15	Nematodes on onion seeds	TBA	Project

### A.3 Introduction of Rules Changes

	Subject	Proposed finalisation	Progress report
1	<i>Botrytis</i> /sunflower 7-003 –modification to method	2011	Report sent for review to ISTA
2	<i>Leptosphaeria maculans</i> 7-004 – removal of 2,4D	2013	New working group defined
3	3 pathogens <i>Linum</i> sp. 7-007, 017 and 018 –combine to one method	2011	Report sent for review to ISTA
4	Pea, <i>Pisum sativum</i> 7-005, add pathogens	2012	Pretests done, test plan under progress
5	Five year Method review 7-019 (media composition?)		Under review
6	Five year Method review 7-020		Under review
7	Method 7-026 grow out to confirm ELISA results- addition to method?	>2011	Test plan under progress

## B Publications

### B.2 Training publications on specific seed testing topics

	Publication title t	Proposed finalisation	Progress report
1	Seed Health Handbook	2012	Editing and missing chapters ongoing.

## C Workshops and Seminars

### C.1 Training and education workshops

	Workshop subject and location	Proposed finalisation	Progress report
1	ISTA workshop on <i>Botrytis/Helianthus</i> and <i>Linum</i> and <i>Fusarium/Triticum</i> Angers, France	March 2010	Done
2	Seed Health Workshop, Aleppo, Syria	October 2011	Programme under discussion
3	Seed Health Workshop, Almeria, Spain	?2012	TBC
4	Seed Health Symposium, Aleppo, Syria	October 2011	Programme under discussion

### C.2 Seminars

	Seminar subject and location	Proposed finalisation	Progress report
1	Statistics for analysis of PT and CT results, France	2011	

## D Proficiency Tests

	Proficiency Test Subject	Proposed finalisation	Progress report
1	Method 7-009 <i>Fusarium moniliforme</i> var. <i>subglutinans</i> ( <i>Fusarium circinatum</i> )/ <i>Pinus taeda</i> , <i>Pinus elliottii</i>	2011	
2	Methods 7-010, 7-011 and 7-012 <i>Drechslera oryzae</i> , <i>Pyricularia oryzae</i> and <i>Alternaria padwickii</i> / <i>Oryzae sativa</i>	2010	Done, report under progress

3	Method 7-001a,b and 7-002a,b <i>Alternaria dauci</i> and <i>A. radicina/Daucus carota</i>	2010	Done
4	Method 7-020 <i>Xanthomonas hortorum</i> pv. <i>carotae</i>	2010	Done
5	Method 7-022 <i>Microdochium nivale</i>	2010	Done
6	Method 7-021 and 23 <i>Xanthomonas axonopodis</i> pv. <i>phaseoli</i> and <i>Pseudomonas savastanoi</i> pv. <i>phaseolicola</i>	2011	

## E Questions to the Committee

	Subject of question	Date	From (country)
1	Humidity chamber for analysis of rice seeds	Dec 2010	India
2	Watermelon, number of seeds sub-samples	Oct 2010	USA
3	Phyto-certificate for both treated and untreated maize samples	Oct 2010	Switzerland
4	Fusarium/Onion Seed	July 2010	South Africa
5	PCR-based detection of phytopathogens	April 2010	Germany
6	Rice seed pathogens in Uganda	April 2010	Italy
7	Seed health laboratory supplies	Feb 2010	South Africa
8	Orange certificate and Tomato Seed	Jan 2010	France

## F Special Projects

	Project title/Subject and collaborating committees	Proposed finalisation	Progress report
1	Seed health testing sample size questionnaire	2011	Questionnaire done, few answers received, analysis to do
2	Annotated List crop updates	2015	Ongoing

## 11. STA Statistics Committee

Chair:	Jean-Louis Laffont	France
Vice:	Kirk Remund	United States
Members:	Julianna Bányai	Hungary
	Julia Barabas	Hungary
	Olfat H. El Bagoury	Egypt
	Winfried Jackisch	Germany
	Zivan Karaman	France
	Michael Kruse	Germany

### A Rules development

#### A.1 Introduction of New Methods

	TCOM	Method name/Subject	Proposed finalisation	Collaboration
1	STA	Statistical reviews of Test Plans (4) and Validation Reports (6)	2010	Any TCOM
2	STA	Statistical Analysis of two Validation Studies	2010	GER, SHC

### B Publications

#### B.1 Publications to accompany the Rules

	Publication title	Proposed finalisation	Collaboration
1	Tolerance and Confidence Interval Calculator for Germination Tests	2010	GER

### C Workshops and seminars

#### C.1 Training and education workshops

	Workshop subject	Proposed date	Region
1	ISTA Workshop on Variety Testing – an introduction, using protein electrophoresis and Polymerase Chain Reaction (PCR) for GMO detection.	04.2010	India
2	ISTA Workshop on GMO Testing.	06.2010	Germany
3	ISTA Workshop on Germination, Tetrazolium, Sampling and Statistics.	11.2010	Kenya

### D Proficiency tests

	Proficiency Test Subject	Proposed date	Collaboration
1	GM PT: PT13 quantitative rating. Updated the S-PLUS program computing the quantitative ratings.	08.2010	GMO TF
2	GM PT14 design recommendation based on purity of reference materials.	08.2010	GMO TF

## E Questions to the Committee

	Subject	Date	Country
1	Many questions received in 2010 regarding Tolerance Tables, sampling and data analysis.	2010	

## F Special projects

	Project name/subject	Proposed finalisation	Collaboration
1	SeedcalcStack9: implementation of the maximum-likelihood method for the estimation of the proportion of GM seeds with up to three stacked events in a conventional seed lot. SeedcalcStack9 was created in Microsoft® Excel, R and the package RExcel and it is published on the ISTA website.	2010	GMO TF
2	Statistical analysis of A-PAGE Comparative test on <i>Triticum</i> spp.	2011	VAR
3	Statistical analysis of Seed Health Proficiency Test on rice.	2010	SHC
4	Proof of equivalence between the f factor as defined by Miles (1963) for binomial data and the overdispersion factor computed after fitting a binomial Generalized Linear Model.	2011	GER

OM approved 2011-06-16

## 12. STO Storage Committee

Chair:	Hugh W. Pritchard	United Kingdom	(also FTSS)
Vice:	David Mycock	RSA	
Members:	Patricia Berjak & N. Sershen <sup>1</sup>	RSA	
	<b>Oble Neya</b>	<b>Burkina Faso</b>	<b>New member</b>
	<b>Ramni Jamnadass</b>	<b>Kenya</b>	<b>New member</b>
	S. Adesola Ajayi	Nigeria	
	Celia de la Cuadra & Isaura Martin <sup>1</sup>	Spain	
	<b>Andreas Börner</b>	<b>Germany</b>	<b>New member</b>
	Moctar Sacandé	United Kingdom	
	Elena Gonzalez-Benito	Spain	
	Isolde Ferraz	Brazil	
	Pedro Leon-Lobos	Chile	
	Xiang-yun Yang	China	
	Sarah Ashmore	Australia	
	<b>Rekha Chaudhury</b>	<b>India</b>	<b>New member</b>

<sup>1</sup> shared responsibility

## B Publications

### B.1 Publications to accompany the Rules

	Publication title	Proposed finalisation	Progress June–Dec 2010
1	Handbook on Seed Storage (with MOI, Seed Health)	2013	Book outline has been forwarded to members, including suggested allocation of chapters, for consultation

### B.2 Training publications on specific seed testing topics

	Publication title	Proposed finalisation	Progress June–Dec 2010
1	Summary and analysis of questionnaire on seed storage as practiced in ISTA laboratories.	Seed Testing International in 2011	Summary of questionnaire findings presented by the Chairman at the 2010 ISTA Congress in Germany. Article in preparation.

### B.3 Scientific information publications

	Publication title	Proposed finalisation	Progress June–Dec 2010
1	Scientific review of 'Rules' species storage response, as reference guide. (NB Could appear as an Appendix to the Handbook)	2011-12 in SS&T	Summary table of storage conditions for many of the ISTA Rules species was presented by the Chairman at the 2010 ISTA Congress in Germany. Article in preparation by committee members Pritchard and Sacande.
2	Scientific publications: 30 papers/ book chapters	2011-13	<p>Berjak, P., Bartels, P., Benson, E., Harding, K., Mycock, D.J., Pammenter, N.W., Sershen &amp; Wesley-Smith, J. (2010). Cryo-conservation of South African plant genetic diversity. <i>In Vitro Cell. Dev. Biol. – Plant</i>. Online 26<sup>th</sup> Oct 2010</p> <p>Galindez, G.; Ortega-Baes, P.; Seal, C.E.; Daws, M.I.; Scopel, A.L.; Pritchard, H.W. (2010). Physical seed dormancy in <i>Collaea argentina</i> (Fabaceae) and <i>Abutilon pauciflorum</i> (Malvaceae) after 4 years storage. <i>Seed Science and Technology</i> 38, 777-782</p> <p>Kranner, I., Chen, H., Pritchard, H.W., Pearce, S. R. and Birtic, S. (2011) Inter-nucleosomal DNA fragmentation and loss of RNA integrity during seed ageing. <i>Plant Growth Regulation</i> 63, 63-72.</p>

### C Workshops and Seminars

#### C.1 Training and education workshops

	Workshop subject and location	Proposed finalisation	Progress June–Dec 2010
1	Water Activity, Montargis, France (Patrick Baldet, Cemagref; Fabienne Colas) with MOI, FTSS	2010	From 13-15 Oct 2010, participants from 13 countries, including Brazil, Germany, Spain, the Netherlands, USA, attended this three-day workshop on the theoretical considerations and practical measurement of water activity. The seed trade has an estimated annual turnover of \$37 billion and the maintenance of seed quality (shelf-life) is critical to business efficiency. Patrick Baldet and colleagues at Cemagref - U.R. Ecosystèmes Forestiers, France, hosted the workshop and did an excellent job. Faculty was drawn from Cemagref staff and three ISTA science committees: Moisture (Robert Karrfalt and Harry Nijënstein); Seed Storage (Hugh W. Pritchard); Forest Tree and Shrub Seed (Fabio Gorian).
2	Desiccation tolerance workshop, South Africa (Pat Berjak)	2012	

## F Special (Research) Projects

	Project title/Subject and collaborating committees	Proposed finalisation	Progress June – Dec 2010
1	Focus on characterising seed storage characteristics of 100 'new' species	2011-13	(RSA Mycock) <i>Protea roupelliae hamiltonii</i> (critically endangered) characterised as orthodox as successful seed storage for 2 years at -196, -70 and 4 °C. Germination parameters have been defined and population augmentation has been successful. We are also working on several threatened and endangered species from this genus <i>Leucospermum</i> .
2	Develop 5 innovations / new technologies (cryopreservation, syn-seeds', thermal fingerprinting, etc) with seeds (or embryos).	2011-13	(UK) One innovation on loss of RNA integrity during seed ageing (Kranter et al., 2011). As seeds of pea lost viability during ageing, DNA was gradually degraded into internucleosomal fragments, resulting in DNA 'laddering', in conjunction with disintegration of 18S and 28S rRNA bands. During imbibition, non-aged controls had high levels of DNA and RNA integrity through to radicle protrusion. In an aged seed lot with 85% total germination DNA fragmentation decreased upon imbibition probably due to nucleosomal degradation, while rRNA did not improve. In an aged seed lot with 44% germination, neither DNA nor rRNA integrity improved upon imbibition. The results suggest that protection of both DNA and RNA during ageing is key to seed longevity and that degradation when seed lots are at high viability is an innovative marker for the start of seed viability loss.  (RSA, Mycock) Continuing our investigations on stress physiology associated with cryo-processes with <i>Eucalyptus</i> species and hybrids.
3	Maximise dry storage potential (including seed health) for seeds of 70 species	2011-13	

### 13. TEZ Tetrazolium Committee

Chair:	Stefanie Krämer	Germany	
Vice:	<b>Karen A. Hill</b>	<b>Australia</b>	<b>Vice since June 2010</b>
Members:	<b>Ignacio Aranciaga</b>	<b>Argentina</b>	<b>New since 2010</b>
	María Belén Aranguren	Argentina	
	Valerie Blouin	France	
	Sharon Davidson	United States	
	Gary Duffy	Ireland	
	José B. Franca-Neto	Brazil	
	Irena Jumburga	Latvia	
	Linda Maile	United Kingdom	
	Augusto Martinelli	Argentina	
	Sergio Pasquini	Italy	
	Anny van Pijlen	Netherlands	
	<b>Lindsey Robb</b>	<b>United Kingdom</b>	<b>New since 2010</b>
	<b>Ronald Don</b>	<b>United Kingdom</b>	<b>Retired, Vice to June 2010</b>
	<b>Teresita Farras</b>	<b>Uruguay</b>	<b>Retired June 2010</b>

## A Rules Development

### A.2 Introduction of New Species

	Species and test	Proposed finalisation	Progress report 18.01.11
1	Tetrazolium test on Larix	2011	Not started yet
2	Tetrazolium test on Picea	2011	Not started yet
3	Tetrazolium test on Glycine max	2011	In prearrangement
4	Terazolium test on Pennisetum	2012	Not started yet

### A.3 Introduction of Rules Changes

	Subject	Proposed finalisation	Progress report 18.01.11
1	Tetrazolium test on coated seeds included in chapter 6	2010	Finalised and proposed, but revision may be necessary
2	More precise explanatory notes to Chapter 6	2010	Finalised and proposed

## B Publications

### B.2 Training publications on specific seed testing topics

	Publication title	Proposed finalisation	Progress report 18.01.11
1	Reorganise Handbook Tetrazolium	2013?	Still in progress

2	Revision of the TEZ working sheets	2011	Still in progress
3	Continue TEZ Working sheets	2011	Still in progress

## C Workshops and Seminars

### C.1 Training and education workshops

	TCOM	Workshop subject and location	Proposed finalisation	Progress report 18.01.11
1	TEZ, GER	ISTA Workshop on Viability and Germination Testing in Karlsruhe, Germany	June 2010	finalised
2	GER, TEZ, STA	ISTA Workshop on Germination, Viability, Sampling and Statistic in Kenya	November 2010	finalised

## D Proficiency Tests

	Proficiency Test Subject	Proposed finalisation	Progress report 18.01.11
1	See PT Committee		

## F Special Projects

	Project title/Subject and collaborating committees	Proposed finalisation	Progress report 18.01.11
1	Storage experiment of durability of Tetrazolium solution	2011/2012	Not started yet

OM approved 2011-06-16

## 14. VAR Variety Committee

**Chair:** Berta Killermann Germany

**Vice:** Ana Laura Vicario Argentina

**Members:**

Kalyn Brix-Davis United States

Wendy Carnegie Canada

Emanuela Casarini Italy

Chiara Delogu Italy

Cheryl Dollard Canada

Jerzy Drzewiecki Poland

Kae-Kang Hwu Taiwan\*

**Kunusoth Keshavulu India June 2010**

Rainer Knoblauch Germany

Michael Lovelace United States

Alexander Malko Russia June 2010

**Ksenija Taski-Ajdukovic Serbia June 2010**

Eszter Timar Hungary

Hedwich Teunissen Netherlands

**Elisa Vieira Brazil June 2010**

Rita Zecchinelli Italy June 2010

\* Abbreviation for 'Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu'

## A Rules Development

### A.1 Introduction of New Methods

	Method name/Subject	Proposed finalisation	Collaboration
1	A-PAGE for wheat (improvement of the ISTA method)	2011	STA, SEC
2	SDS PAGE for the verification of wheat and <i>xTriticosecale</i>	2011/2012	STA, SEC
3	DNA-based approach (for maize and soy)	2012	STA, SEC
4	DNA-based methods for the identification of impurities of <i>Lolium multiflorum</i> in <i>Lolium perenne</i>	Discussion started in 2010	STA, SEC, AOSA

## B Publications

### B.1 Publications to accompany the Rules

	Publication title	Proposed finalisation	Collaboration
1	Handbook on Variety Testing - Electrophoresis Testing	2012/2013	STA, SEC

### B.3 Scientific information publications

	Publication title	Proposed finalisation	Collaboration
1	Development of an ISTA DNA-Based Approach for Testing Variety Identity (UPOV, BMT/12/16)	2010	STA, SEC
2	Development of an ISTA DNA-Based Approach for Testing Variety Identity (29th ISTA Congress in Cologne, Germany)	2010	STA, SEC

### C Workshops and Seminars

#### C.1 Training and education workshops

	Workshop subject and location	Proposed Date	Region
1	Species and Variety Testing – Protein Electrophoresis	June 11-13, 2010	Hanover, Germany

### F Special Projects

	Project title/Subject and collaborating committees	Proposed finalisation	Collaboration
1	Revision of the Handbook Electrophoresis Testing has started	2012/13	STA, SEC
3	Handling of Reference Material (RM) for the first PT for testing variety identity with molecular markers	2011/2012	STA, ECOM, GMO
4	Appointment of an accreditation standard for DNA-based methods (including the PTs) A classical accreditation standard, versus performance-based approach (PBA), as for GMO testing	2011/2012	STA, ECOM, GMO
5	Collection of Working Sheets on Species and Variety Testing	Ongoing	SEC

### Organisation of the VARCOM

- Working Group DNA-based methods (leader: Emanuela Casarini)
- Working Group Electrophoresis (leader: Chiara Delogu)
- Working Group Conventional Methods (leader: Michael Lovelace)

### Contact persons

UPOV: Ana Laura Vicario

VARCOM web site: Hedwich Teunissen

VARCOM workshops: vacant

VARCOM handbooks: vacant

Collection of working sheets: currently Silke Günther (member of Freising seed lab)

Permanent guest from UPOV: Raimundo Lavignole

Wendy Carnegie from Canada is in maternity leave.

Ana Laura Vicario from Argentina is in maternity leave.

Savitha H. Reddy from India left the Variety Committee in 2010 for personal reasons.

## 15. VIG Seed Vigour Committee

Chair:	Alison Powell	United Kingdom	
Vice:	<b>Michael Kruse</b>	<b>Germany</b>	<b>Resigned June 2010</b>
Vice:	<b>Hulya Ilbi</b>	<b>Turkey</b>	<b>Appointed 2010</b>
Members:	<b>Pat Brownfield</b>	<b>United States</b>	<b>Resigned June 2010</b>
	Emanuela Casarini	Italy	
	Malavika Dadlani	India	
	Ibrahim Demir	Turkey	
	<b>Dionysia Fasoula</b>	<b>Cyprus</b>	<b>Appointed 2010</b>
	<b>Carina Gallo</b>	<b>Argentina</b>	<b>Appointed 2010</b>
	<b>Bob Elliott</b>	<b>Canada</b>	<b>Appointed 2010</b>
	Mohammad Khajeh Hosseini	Iran	
	<b>Seok Hyeon Kim</b>	<b>Korea</b>	<b>Resigned June 2010</b>
	Tim Loeffler	United States	
	Gillian McLaren	United Kingdom	
	Stan Matthews	United Kingdom	
	Marie-Helene Wagner	France	
	Yanrong Wang	China	

## A Rules Development

### A.1 Introduction of New Methods

	Method name/Subject	Proposed finalisation	Progress report 2010
1	Controlled deterioration test for <i>Brassica</i> species	2010	Introduced in ISTA Rules 2010

### A.2 Introduction of New Species

	Species and test	Proposed finalisation	Progress report 2010
1	<i>Phaseolus vulgaris</i> : addition of species to Conductivity test		Introduced to ISTA Rules 2010
2	<i>Glycine max</i> : addition of species to Conductivity test:		Rules proposal accepted 2010

### A.3 Introduction of Rules Changes

	Subject	Proposed finalisation	Progress report 2010
1	Radicle emergence vigour test for <i>Zea mays</i>	2011	Rules proposal submitted 2010

## B Publications

### B.1 Publications to accompany the Rules

	Publication title	Proposed finalisation	Progress report 2010
1	Method validation report: Evaluation of early counts of radicle emergence during germination as a repeatable and reproducible vigour test for maize	2011	Accepted
2	Method validation report: Addition of <i>Glycine max</i> to Conductivity test	2010	Published 2010
3	Method validation report: Controlled deterioration test for <i>Brassica</i> spp	2010	Published 2010

### B.3 Scientific information publications

	Publication title	Proposed finalisation	Progress report 2010
1	Rate of physiological germination compared with the cold test and accelerated ageing as a repeatable vigour test for maize. Matthews, S., El-Khadem, R., Casarini, E., Urso, G., Khajeh Hosseini, M., Nasehzadeh, M. and Wagner, M-H. <i>Seed Science and Technology</i> , 38, 379-389.	N/A	Published 2010
2	Rate of physiological germination relates to the percentage normal germination in standard germination tests of naturally aged seed lots of oil seed rape. Khajeh Hosseini, M., Nasehzadeh, M. and Matthews, S. <i>Seed Science and Technology</i> , 38, 602 - 611	N/A	Published 2010
3	Mean germination time estimates the relative emergence of seed lots of three cucurbit crops under stress conditions. Mavi, K, Demir, U and Matthews, S. <i>Seed Science and Technology</i> , 38, 14-25	N/A	Published 2010
4	Reliability of Early and Final Counts in Cold and Cool Germination Tests for Predicting Maize Seed Vigour Noli, E., Beltrami, B., Casarini, E., Urso, G., and Conti, S. <i>Italian Journal of Agronomy</i> , 4, 383-391.	N/A	Published 2010
5	Electrical conductivity could have a role in predicting germination and vigour in <i>Brassica</i> spp. Mirdad, Z. and Powell A.A. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 9, International Seed Testing Association	N/A	Published 2010
6	Seed vigour: from one hypothesis to many predictions and uses. Matthew, S. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 10, International Seed Testing Association	N/A	Published 2010
7	Computer vision for monitoring seed germination from dry state to young seedlings. Wagner, M.-H., Demilly, D., Ducournau, S., Durr, C. and Lechappe, J. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 10, International Seed Testing Association	N/A	Published 2010
8	Development of a non-destructive test by measuring seed oxygen consumption. Bopper, S. and Kruse, M. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 10, International Seed Testing Association	N/A	Published 2010

9	Hydration treatment improves the performance of low vigour seed lots of pepper through metabolic repair. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 10, International Seed Testing Association	N/A	Published 2010
10	Vigour tests to predict emergence in transplant modules of seed lots of the ornamental genus <i>Viola</i> . Demir, I., Celikkol, T., Ekbi, C., Ozuaydyn, I, and Sarykamyb, G. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 57, International Seed Testing Association	N/A	Published 2010
11	Sorting seeds using the chlorophyll fluorescence method improves the seed quality of seedlots of pepper following storage. Kenanoglu, B. B., Jalink, H., Demir, I and Celokkol, T. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 57, International Seed Testing Association	N/A	Published 2010
12	The electrical conductivity of seed soak water provides a rapid estimate of field emergence for seed lots of chickpea in Iran. Khajeh Hosseini, M. And Rezazadeh, M. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 58, International Seed Testing Association	N/A	Published 2010
13	Effect of seed moisture content and harvesting method on the quality of seeds of a white seeded cultivar of <i>Phaseolus vulgaris</i> . Ilbi, H., Kavak, S. And Eser, B. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 58, International Seed Testing Association	N/A	Published 2010
14	Estimation of storage potential of bean seeds using accelerated ageing and electrical conductivity. Ilbi, H., Kavak, S. And Eser, B. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 58, International Seed Testing Association	N/A	Published 2010
15	Early counts of physiological germination in seed lots of oilseed rape relate to percentage normal seedlings and field emergence. McLaren, G., Cockerell, V. and Matthews, S. In <i>Seed Symposium Abstracts</i> , 29th ISTA Congress, Cologne, Germany, pp 63, International Seed Testing Association	N/A	Published 2010
16	Assessment of seed quality of chickpeas grown in autumn and spring sowing in Mashhad, Iran. Khajeh Hosseini, M. And Rezazadeh, M. In <i>Abstract book, 5th International Food Legumes Research Conference and 7th European Conference on Grain Legumes</i> , April 2010, Antalya, Turkey.	N/A	Published 2010
17	Seed quality; the beginning of a good crop. Gallo C., Arango M. and Craviotto R. <i>New Rural ABC</i> , October 24, 2010, IX , № 115, pp 16–25 (in Spanish)	N/A	Published 2010
18	Soybean: Seed Quality 2010: Why you should evaluate vigour? Craviotto, R, Arango M. and Gallo C. <i>Soja: To improve production</i> , INTA EEA Oliveros, 2010, № 45. pp 47–50 (in Spanish)	N/A	Published 2010
19	Soybean: Seed Quality 2010: Why you should evaluate vigour? Craviotto, R, Arango M. and Gallo C. <i>New Rural ABC</i> , December 28, 2010, IX , № 118, pp 16–17 (in Spanish)	N/A	Published 2010

## E Questions to the Committee

	Subject of question	Date	From (country)
1	Conductivity test for peas: adjustment of seed moisture content	01/2010	United States
2	Controlled deterioration test: adjustment of moisture content in canola	01/2010	Canada
3	Accelerated ageing: explanation for higher results than SG test	01/2010	Argentina
4	Accelerated ageing: use of fungicide treated seeds	04/2010	Argentina
5	Storage of pea and soyabean to avoid imbibition damage and reduced vigour	04/2010	Japan
6	Conductivity test for Phaseolus: interpretation of data and use of treated seeds	05/2010	Greece
7	Controlled deterioration test: application to Phaseolus	05/2010	Netherlands
8	General question about vigour testing for canola	09/2010	Canada
9	Accelerated ageing equipment	10/2010	Netherlands
10	Conductivity test equipment: use of plastic vs glass beakers / flasks	10/2010	South Africa
11	Conductivity test for peas: setting up a ring test	10/2010	Sweden

## F Special Projects

	Project title/Subject and collaborating committees	Proposed finalisation	Progress report 2010
1	Controlled deterioration test: approaches to reducing the test duration	Depends on research progress	Publication in press 2011
2	Radicle emergence test: application to oilseed rape	2012	Poster presented at ISTA Seed Symposium 2010
3	Radicle emergence test: application to viola	2013	Poster presented at ISTA Seed Symposium 2010
4	Application of conductivity test to chickpea	2012	Poster presented at ISTA Seed Symposium 2010 and at 5th International Food Legumes Research Conference and 7th European Conference on Grain Legumes, April 2010, Antalya, Turkey.
5	Machine vision: application to radicle emergence as a vigour test	Depends on progress of research	
6	Biotinylated proteins as quality markers in oilseeds	Depends on progress of research	
7	Cell cycle and DNA degradation: relation to vigour	Depends on progress of research	