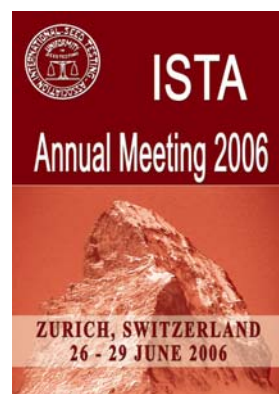


ACTIVITY REPORT 2005 OF THE INTERNATIONAL SEED TESTING ASSOCIATION

**FOR CONSIDERATION AND ADOPTION AT THE
ORDINARY MEETING 2006**



This document contains the Reports 2005 of the Executive Committee, the Secretary General, Proficiency Test Committee, Rules Committee and Editorial Board and the Working Programmes 2004-2007 of the Technical Committees as approved by the Executive Committee of ISTA.

These Reports are herewith circulated to all members of the Association for consideration and adoption at the upcoming Meeting of the Association, which is the **ISTA Ordinary Meeting 2006 in Glattbrugg/Zurich, Switzerland, June 28 and 29.**

Activity Report 2005 of the International Seed Testing Association

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Compiled, edited and published by the ISTA Secretariat

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A. REPORT OF THE EXECUTIVE COMMITTEE



A. Report of the Executive Committee (ECOM)

1. Composition of the Executive Committee

2. Meetings of the Executive Committee

3. Discussion items

4. International representation

A. Report of the Executive Committee (ECOM)

1. Composition of the Executive Committee

The Executive Committee for the period 2004-2007 includes the following members elected by the ISTA voting delegates at the last ISTA Congress:

Officers:

President:	1	Pieter Oosterveld	Netherlands
1 st Vice President:	2	Katalin Ertsey	Hungary
2 nd Vice President:	3	Silmar T. Peske	Brazil

Members-at-large:	4	Joseph O. Ahenda	Kenya
	5	José M. Chavez Bravo	Mexico
	6	John G. Hampton	New Zealand
	7	Steve Jones	United Kingdom
	8	Joël Léchappé	France
	9	Susan Maxon	United States
	10	Grethe Tarp	Denmark
	11	Rita Zecchinelli	Italy

2. Meetings of the Executive Committee

In the year 2005, the Executive Committee held its annual business meeting at the premises of the ISTA Secretariat in Zurich, Switzerland, January 17-19 and a second time during the ISTA Annual Meeting in Bangkok, Thailand on April 24 and 28.

Furthermore, the Officers (President, 1st Vice-President and 2nd Vice-President) and the Secretary General got together on November 3rd and 4th at the premises of the ISTA Secretariat in Zurich, Switzerland for a meeting in preparation for the upcoming Executive Committee meeting 2006.

3. Discussion items

The work of the Executive Committee in the year 2005 was continually focussed on the restructuring of the Association. Further issues were the elaboration of the Accreditation of laboratories for the testing of specified traits, the generic Method Validation Programme, a Training Programme for Seed Analysts. This work was mainly performed in the seven Working Groups of the Executive Committee:

1. Working Group on Accreditation
2. Working Group on Fundraising
3. Working Group on the updating of the Constitution and By-Laws
4. Working Group on Seed Analyst Training



5. Working Group on Certificates
6. Working Group on ISTA Congresses
7. Working Group on Monitoring (dissolved at the Ordinary Meeting 2005)

Concrete Constitution Change proposals were elaborated by the Executive Committee to align with the introduction of Annual Meetings in ISTA: fixation of the subscription fees on an annual basis, publication of the statement showing the financial position of the Association and changes in the submission and notification period for ISTA Constitution Change proposals.

These Constitution Change proposals were discussed and all voted in at the Ordinary Meeting 2005 in Bangkok, Thailand on April 27 by the ISTA voting delegates designated by their government.

4. International representation

One overall interest of the Executive Committee is the interaction with other important international organisations in the area of seed, as it is essential for ISTA to signify the interests of its members at these meetings.

Corresponding to the strategic direction of a closer involvement of the seed industry and company seed testing laboratories in the affairs of ISTA, the Association routinely was represented in the annual ISF Congress, and also in the annual meetings of five regional seed associations: AFSTA (Africa), APSA (Asia & Pacific), AOSA/SCST, EESNET (Eastern Europe) and ESA (Europe).

As usual ISTA delegates participated in the annual meeting of the OECD Seed Schemes.

Furthermore two joint training courses were conducted during the year 2005 in collaboration with FAO, one in April on Seed Quality Testing and Evaluation for Selected Asian Countries was held in New Delhi, India and the second in May on Varietal Verification and GMO Detection in Kingston, Jamaica. The collaboration with FAO in regards to training and education on seed testing issues works well and to the benefit of all parties involved. Hence more training courses under this partnership are already planned.

In regards to Asia, the close collaboration through joint actions with APSA (The Asian & Pacific Seed Association) was continued successfully. Again, joint actions were performed in the area of training and education: a joint training course on seed testing was held in Manila, Philippines in September and more are planned to be carried out in the near future. Further actions have been discussed in conjunction with the APSA annual meeting in 2005, where ISTA participates in the APSA Standing Committee in Seed Testing. This successful collaboration should also be continued in the forthcoming years.

With AFSTA (African Seed Trade Association) the collaboration has been increased and resulted in the joint organisation of the 'Seminar on how to install ISTA accreditation for governmental and company seed testing laboratories' to be held in conjunction with the upcoming AFSTA Congress next year. Also, both organisations agreed that collaboration should be intensified over the next few years.



The following table gives an overview of the meetings with ISTA participation (ECOM members or the Secretary General):

Date	Meeting	ISTA Delegate(s)	Place, Country
13.01.2005	ENGL Meeting	M. Muschick [SG]	Ispra, Italy
17. - 19.01.2005	ISTA Executive Committee Meeting	ECOM and M. Muschick [SG]	ISTA Secretariat, Switzerland
16. - 18.03.2005	AFSTA Annual Meeting	M. Muschick [SG]	Yaounde, Cameroon
25. - 28.05.2005	ISTA Annual Meeting	ECOM, TCOMs and M. Muschick [SG]	Bangkok, Thailand
08. - 13.05.2005	ISSS International Workshop	J. Hampton [ECOM Member]	Brisbane, Australia
30.05. - 01.06.2005	ISF Congress	P. Oosterveld [President] and M. Muschick [SG]	Santiago de Chile, Chile
15. - 22.06.2005	AOSA/SCST Annual Meeting	P. Oosterveld [President]	Saskatoon, Canada
22. - 26.08.2005	ABRATES Congress	M. Muschick [SG]	Iguassu Falls, Brazil
27. - 30.09.2005	OECD Annual Meeting	P. Oosterveld [President] and M. Muschick [SG]	Paris, France
03./04.11. 2005	ISTA Officers Meeting	P. Oosterveld [President], K. Ertsey [1 st Vice President], S. Peske [2 nd Vice-President] and M. Muschick [SG]	ISTA Secretariat, Switzerland
09. - 11.10.2005	ESA Annual Meeting	P. Oosterveld [President] and M. Muschick [SG]	Brussels, Belgium
07. - 11.11.2005	APSA Asian Seed Congress	M. Muschick [SG]	Shanghai, China
13. - 15.11.2005	EESNET Meeting	K. Ertsey [1 st Vice-President]	Sofia, Bulgaria
29.11. - 01.12.2005	CWANA International Seed Trade Conference	M. Muschick [SG]	Antalya, Turkey
05. - 09.12.2005	IPPC Technical Panel Meeting on Diagnostic Protocols	Valerie Cockerell [SHC Chair] and M. Muschick [SG]	Penang, Malaysia
12.12. 2005	ESA Working Group on GM Analytics Meeting	M. Muschick [SG]	Brussels, Belgium



**B. REPORTS OF THE SECRETARY GENERAL, PROFICIENCY TEST COMMITTEE,
RULES COMMITTEE AND EDITORIAL BOARD**



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

1. ISTA Membership

- 1.1. Developments with voting countries
- 1.2. Developments with the Membership
- 1.3. Membership services

2. ISTA Rules

- 2.1. Report of the Rules Committee
- 2.2. Sales figures of the ISTA Rules

3. ISTA Accreditation Programme

- 3.1. Report of the Proficiency Test Committee
- 3.2. Report of the Accreditation Department
- 3.3. Sales of ISTA Certificates

4. ISTA Publication and Products

- 4.1. ISTA Handbooks and Proceedings
- 4.2. Calibration Samples

5. ISTA Training and Education Programme

- 5.1. ISTA Workshops overview

6. Scientific Journal 'Seed Science and Technology'

- 6.1. Report of the Editorial Board
- 6.2. Sales of 'Seed Science and Technology'

7. Report of the ISTA Secretariat

- 7.1. Composition of Staff
- 7.2. Information Distribution

8. Finances of the Association



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

1. ISTA Membership

1.1. Developments with voting countries

In 2005 the number of ISTA voting countries has increased by one country. Table 1. gives an overview of the developments with voting countries over the last four years.

Table 1. Voting countries of the years 2002 - 2005

	2002	2003	2004	2005
Voting countries	71	72	69	71

The changes occurred due to the nominations of Bosnia and Herzegovina and Vietnam.

1.2. Developments with the Membership

a) ISTA Laboratory Membership

Compared to the year 2004, ISTA achieved a net increase of seven member laboratories. Table 2. gives an overview of the developments with the number of member laboratories over the last four years.

Table 2. Member laboratories of the year 2002 - 2005

	2002	2003	2004	2005
Member laboratories*	153	157	163	170

* Note: each Member Laboratory includes one Personal Member

Regarding the changes, ISTA granted new membership to twelve laboratories: four new laboratory members from Western Europe, three from Eastern Europe, two from Africa and three from Asia and Pacific. Whereas five laboratories terminated their membership with ISTA: three laboratory members from Western Europe, one from South America, and one from Asia.

Table 3. and Table 4. give an overview on the new members and the members terminating their membership.

Table 3. Newly granted Laboratory Membership (January 1st 2005 to December 31st 2005), name of the laboratory's Personal Member in brackets

Country	Member Laboratory
Australia	South Pacific Seeds Pty Ltd (Anne Bolch)
Bosnia and Herzegovina	Agricultural Institute of Republic of Srpska (Zeljka Kremenovic)
Botswana	Botswana Seed Testing Laboratory (Miriam Inaa Munamava)
Belgium	Laboratoire d'Analyses de Semences, Ministère de la Région Wallonne (Cécile Vanbellin ghen)
Belgium	Bayer BioScience N.V. (Henk Joos)



Hungary	Syngenta Seeds Kft (Klára Fölföldi)
Italy	Centro Nazionale per lo Studio e la Conservazione della Biodiversità Forestale (Fabio Gorian)
Italy	Laboratorio Analisi Sementi c/o Cooperativa Agricola Cesenate (Cinzia Asioli)
Kazakhstan	JSC "Kazagrex" (Kumarov Urazbay Zaydishevich)
South Africa	Sakata-Mayford Seed Testing Laboratory (Anel Labuschagne)
Ukraine	Ukrainian Institute of Plant Variety Examination (Olexandr Gonchar)
Vietnam	NCVESC Seed Testing Laboratory Hanoi (Tran Dinh Nhat Dung)

Table 4. Laboratory Membership terminations (effective January 1st 2005)

Country	Member Laboratory
Austria	Austrian Agency for Health and Food Safety, Divisional Office Linz (Paul Freudenthaler)
Australia	Australia Pty Ltd. (Jack Edward Butler)
Italy	Centro Miglioramento Genetico Piante Agrarie (Paolo Franceschini)
Germany	Institut für Pflanzenzüchtung, Saatgutforschung und Populationsgenetik (Michael Kruse remains personal member with ISTA)
Chile	National Forest Corporation, Gerencia de Desarrollo y Fomento Forestal (Jorge Lopez Hermosilla)

Table 5. gives an overview of the regional distribution of all ISTA Member Laboratories as well as the laboratory status separated into governmental, private and company member laboratories.

Table 5. Regional distribution of ISTA Member Laboratories

Region \ Status \ year	Subtotal		Private independent		Seed company		Governmental	
	2004	2005	2004	2005	2004	2005	2004	2005
Africa	15	17	0	0	3	4	12	13
Asia & Pacific	41	43	4	3	11	12	26	28
East Europe	28	31	0	0	1	3	27	28
West Europe	58	59	3	3	13	14	42	42
North America	9	9	4	4	1	1	4	4
South America	12	11	0	0	1	1	11	10
Total:	163	170	11	10	30	35	122	125
170 member laboratories worldwide in 2005								



b) ISTA Personal Membership

The number of personal members in the year 2005 compared to the year 2004 has increased by one personal member.

Table 6. gives an overview regarding the development of the personal membership over the last four years.

Table 6. Personal Members of the year 2002 - 2005

	2002	2003	2004	2005
Personal Members	45	48	49	50

Personal Membership was granted to seven persons. Four are coming from European countries, one from North America, one from Africa and one from Asia. Six personal members terminated their membership, three from Western Europe, one from Africa, one from America and one from Asia.

Table 7. and 8. give a detailed overview on the new personal members and the members terminating their membership.

Table 7. Newly granted Personal Membership (January 1st 2005 to December 31st 2005)

Country	Personal member
Australia	Esakki Konar Nambi
Bosnia and Herzegovina	Voislav Trkulja
Denmark	Jan Torp
Germany	Waltraud Böhm
Norway	Hakon Tangeras
South Africa	Jane K. Skhosana
United States	Johan Van Asbrouck

Table 8. Personal Membership terminations (effective January 1st 2005)

Country	Personal member
Canada	A.B. Ednie
France	Jean-Pierre Pedron
France	Yvette Dattée
Italy	Marcella De Rossi
New Zealand	Don J. Scott
Zambia	Wilfred B.C. Silwimba

1.3. Membership services

As part of the membership service, all ISTA members receive a free copy of the ISTA Rules (in case of new members for this year) or the Rules Amendments, a free subscription to SST, as well as a free copy of all newly published rules, handbooks and proceedings of the business year concerned.



In the year 2005 these were:

- **International Rules for Seed Testing, Edition 2005 (Amendments)**
- **Annexe to Chapter 7, Seed Health Testing, Edition 2005 (Amendments)**
- **Seed Science and Technology (SST) Volume 33/2005, Number 1, 2 and 3**
- **Activity Report 2004 of the ISTA Committees**
- **Seed Testing International (ISTA News Bulletin) April 2005 issue / Number 129**
- **Seed Testing International (ISTA News Bulletin) October 2005 issue / Number 130**
- **ISTA Constitution (Version 2005)**
- **ISTA List of Stabilised Plant Names, 4th Edition**
- **Minutes of the ISTA Ordinary Meeting 2005**

2. ISTA Rules

2.1. Report of the Rules Committee

The Rules Committee is composed of the Chairpersons of all ISTA Committees including the Editorial Board.

In the time period 2004 - 2007 (since the Ordinary Meeting 2004) this is:

Chair:	1	Steve Jones		United Kingdom
Vice-chair:	2	John Hampton		New Zealand
Members:	3	Anne Bülow-Olsen	(EDI)	Denmark
	4	Valerie Cockerell	(SHC)	United Kingdom
	5	Ronald Don	(GER)	United Kingdom
	6	Sylvain Grégoire	(STA)	France
	7	Rainer Knoblauch	(VAR)	Germany
	8	Stefanie Krämer	(TEZ)	Germany
	9	Michael Kruse	(BSC)	Germany
	10	Norbert Leist	(GMO TF)	Germany
	11	Maria-Rosaria Mannino	(PUR)	France
	12	Deborah Meyer	(AOSA)	United States
	13	Günter Müller	(PTC)	Germany
	14	David J. Mycock	(STO)	South Africa
	15	Harry Nijënstein	(MOI)	Netherlands
	16	Alison A. Powell	(VIG)	United Kingdom
	17	Zdenka Procházková	(FTS)	Czech Republic
	18	Zita Ripka	(FSC)	Hungary
	19	John H. Wiersema	(NOM)	United States
	20	Attilio Lovato	(Honorary President)	Italy

John Hampton joins the Rules Committee as Vice Chair. John was already the link from the Executive Committee to the Rules Committee and now takes over the task of helping with the editorial rigour of the rules proposals and any subsequent checking prior to reissue.

As part of harmonisation the ISTA Rules Chair is an ex-officio member of the AOSA Rules Committee. Now the Chair of the AOSA Rules Committee, Deborah Meyer, is also an member of the ISTA Rules Committee.



Activities

Amalgamation and Rules Amendments 2006

The programme of amalgamation of Rules and Annexes started with Chapter 2 in 2005. The Bulking and Sampling Committee took on the task as a pilot project. An editorially merged Chapter 2 approved by the Rules Committee and the scrutiny team was circulated to the ISTA Membership. This version was taken as a starting point for a major revision of the structure and content of Chapter 2. At the ISTA Ordinary Meeting 2005 in Bangkok the membership voted through the revised version of Chapter 2 which is effective from 1st January 2006.

A similar process of merging and improvement was also applied to Chapter 8 that needed significant revision to allow the inclusion of testing using a performance based approach. The revised version of Chapter 8 was also voted through at the 2005 meeting but the effective from date delayed until 1st February 2006 due to the time delay in agreeing the ISTA document defining the principles and conditions for laboratory accreditation under the performance based approach.

Table 9 summarises the Rules Changes that were successfully voted through at the Ordinary Meeting 2005:

Table 9. Voted-in Rules Changes 2005

Page number	Changes	Effective from	Notes
Cover, inner cover, preface	Dates and text.	2006	Amended
i-ii	Content list of Chapter 2 amended. Content list of Annexe to Chapter 2 deleted.	2006	Amended
iii-iv	Content list of Chapter 5 and Annexe to Chapter 5 amended.	2006	Amended
v-vi	Chapter title 'Chapter 8: Verification of Species and Cultivar' replaced by 'Chapter 8: Species and Variety Testing'. Content list of Chapter 8 amended. Content list of Annexe to Chapter 8 deleted.	2006	Amended
vii-xiii	Format only: text flow from previous page.	2006	Replaced
2-1 to 2-53	Chapter 2 reviewed. Rules and Annexes amalgamated. Seed lot sizes increased to 30 tonnes for <i>Avena sativa</i> L., <i>Avena strigosa</i> Schreb., <i>Hordeum vulgare</i> L., <i>Oryza sativa</i> L., <i>Secale cereale</i> L., <i>xTriticosecale</i> Wittm. ex A. Camus, <i>Triticum aestivum</i> L., <i>Triticum durum</i> Desf., and <i>Triticum spelta</i> L.	2006	Amended
3-1	None.	2003	Replaced
3-2	Text changed in paragraph 3.2.2.	2006	Amended
3-3	None.	2003	Replaced
3-4	Text changed in paragraph 3.5.2.	2006	Amended
3A-5	None.	2003	Replaced
3A-6	'C' deleted for <i>Hordeum</i> .	2006	Amended
3A-11	Change of PSD 4.	2006	Amended
3A-12	Change of PSD 10: 'Pinaceae' deleted.	2006	Amended
3A-13	None.	2003	Replaced
3A-14	Change of PSD 21 and PSD 23.	2006	Amended
3A-15	Change of PSD 25.	2006	Amended



REPORTS OF THE SECRETARY GENERAL, PROFICIENCY TEST COMMITTEE, RULES COMMITTEE AND EDITORIAL BOARD 2005

INTERNAL ITEMS/M/D(2006)03

Page number	Changes	Effective from	Notes
3A-16	None.	2003	Replaced
3A-25	None.	2003	Replaced
3A-26	Text changed in paragraph 3.5.1.A and 3.5.2.A.1.	2006	Amended
5-3 to 5-6	Use of organic growing medium added (new section 5.4 Growing media). Currently only allowed for <i>Helianthus annuus</i> .	2006	Amended
5A-9 to 5A-22	Paragraph 5.4.A Material deleted as the information is now in 5.4. Organic growing medium added to the legend of Table 5A. Text flow changed.	2006	Amended
5A-10 to 5A-12	Organic growing medium added to the test conditions in 5.6.2.A.	2006	Amended
5A-16	Text changed for the evaluation of fresh seeds in 5.6.5.A.3.	2006	Amended
5A-18	Sentence added to Tolerances of 5.8.A .	2006	Amended
5A-25	None.	2003	Replaced
5A-26	Amend entry for <i>Helianthus annuus</i> in Table 5A.	2006	Amended
7-5	New method 7-020 added to the Table 7.4.3.1.	2006	Amended
7A-3	New method 7-020 added to the Table 7.4.3.A.1.	2006	Amended
7-020-1 to 7-020-19	New method '7-020 Detection of <i>Xanthomonas hortorum</i> pv. <i>carotae</i> on <i>Daucus carota</i> ' included.	2006	Amended
8-1 to 8-22	Chapter 8 reviewed and re-named 'Species and Variety Testing'. Rules and Annexes amalgamated. Testing using performance approved methods added.	2006	Amended
17A-3	None.	2003	Replaced
17A-4	Text changed in 17.5.A.5	2006	Amended
Appendix D	Please remove Appendix D as this is now included in the revised and re-issued Chapter 2.	2006	Removed

The Secretariat (Bettina Kahlert) assists the Rules Committee Chair (Steve Jones) in collating all rule change proposals from the Technical Committees, preparing them for circulation at least one month prior to a voting meeting, editing newly voted-in proposals into the next edition of the ISTA Rules and circulating the printed amendments to the Rules before the effective date of 1st January. For a recent history of amendments all prefaces are posted on the ISTA Website.

Translation

Under the supervision of Axel Goeritz, a team of ISTA Members from Germany translated the International Rules for Seed Testing, Edition 2005 into German. The translation and its amendments are available as 'Internationale Vorschriften für die Prüfung von Saatgut' from the ISTA Secretariat.

Future of Rules Amalgamation

It was also agreed at the Ordinary Meeting 2005 to merge and review the all Rules Chapters by 2008. The aim is to merge the Rules and Annexes to avoid duplication and improve clarity. It is also an opportunity to adopt a generic style for the chapters as well as to check, review and improve the text.

Each Chapter will have:

- Object
- Definitions
- General principles
- Apparatus (Equipment)



- Procedures (including retesting)
- Calculation and expression of results

Followed by any:

- Tables, maintaining current numbers, e.g. Table 2A, 5A
- Detailed methods, e.g. 7-001a, 7-001b, 8.6.A.1, 8.6.A.2
- Tolerance tables

A scrutiny team of ex-ISTA Executive Members (Doug Ashton and Simon Cooper) is being used to verify when 'editorial only' changes have been made that do not require a vote at the annual meetings. Any major changes, amendments, alterations will still require a voting proposal.

Table 10. Proposed timetable and summary of changes

OLD Chapter	Actions	Committee responsible for progress	NEW Chapter	Target voting meeting
-	-	Rules & Executive	Introduction and methods for Rules Changes	2008
1: Introduction	Editorial and revision, separate out and no longer a Chapter	Rules & Accreditation	1: Certificates	2007
3: Purity	Editorial and revision	Purity	3: Purity	2007
4: Other Seeds by Number	No changes Paper colour only	Rules	4: Other Seeds by Number	2006
5: Germination	Editorial and revision	Germination	5: Germination	2007
6: Tetrazolium	Editorial and revision	Tetrazolium	6: Tetrazolium	2006
7: Seed Health	Editorial only	Seed Health	7: Seed Health	2006
9: Moisture Content	Editorial and revision	Moisture	9: Moisture Content	2007
10: Weight Determination	Editorial only	Rules	10: Weight Determination	2006
11: Coated seed	Revision and split between Chapters 2, 3, 4 & 5	Bulking and Sampling, Purity and Germination	11: Coated Seed	2007
12: Excised embryo	Editorial only	Forest Trees and Shrubs	12: Excised embryo	2006
13: Weighed replicate	Editorial only	Germination	13: Weighed replicate	2007
14: X-ray	No changes Paper colour only	Rules No changes	14: X-ray	2006
15: Seed vigour	Editorial only	Vigour	15: Seed vigour	2006
16: Tolerances		Rules	16: Tolerances	2008
17: Certificates	Move to Chapter 1. Editorial and revision	Rules	1: Certificates	2008
Appendix A: Size grading	Make into Chapter 17. Editorial only	Rules	17: Size grading	2008
Appendix B: Bulk containers	Make Chapter 18. Editorial only	Rules	18: Bulk containers	2008



2.2. Sales of the ISTA Rules

205 copies of the ISTA Rules Amendments 2005 were sold and 192 sets of the *International Rules for Seed Testing, Edition 2005*. Table 11. gives you an overview of the sales of ISTA Rules Edition 2003, 2004 and 2005

Table 11. Sold ISTA Rules (sets and amendments) for the year 2003, 2004 and 2005

Edition	2003	2004	2005
ISTA Rules Amendments	-	204	205
ISTA Rules Sets	357	145	149
ISTA Rules (German)	-	-	43

3. ISTA Accreditation Programme

3.1. Report of the Proficiency Test Committee

The ISTA Proficiency Test is jointly organised and executed by the ISTA Proficiency Test Committee and the Accreditation Department of the ISTA Secretariat.

Committee Membership List

Chair:	Günter Müller	Germany
Vice-chair:	Didier Demilly	France
Members:	Ken Allison	Canada
	Caroline Cadger	United Kingdom
	Sharon Davidson	United States
	Ronald Don	United Kingdom
	Tim Gutormson	United States
	Mari Jürmann	Estonia
	Joël Léchappé	France
	Pamela Strauss	South Africa
	Rita Zecchinelli	Italy

Proficiency Test Programme Plan

In 2005, samples of three test rounds were dispatched to an average number of 120 laboratories. Test round 05-1 comprised germination, purity and other seed determination on *Cynodon dactylon* as well as germination on *Zinnia elegans*. In June 2005, three sets of samples of *Secale cereale* seed were sent to the participants to test germination, purity and other seed determination. Additionally, two samples were enclosed to be tested on moisture content. The last test round of 2005 was dispatched in October 2005 and consisted of three samples of *Capsicum annuum* seed which were to be tested for germination. In collaboration with the Vigour Committee, a proficiency test on conductivity on *Pisum sativum* was conducted. Samples were dispatched to the participants together with the samples of test round 05-3.

Reporting of test results

Table 11. In 2005, the following test reports were sent to the participants:

PT round	Test type	Date	Status of test report
03-1 <i>Trifolium incarnatum</i>	GER	22.02.2005	Final
	OSD	22.03.2005	Provisional
03-2 <i>Zea mays</i>	GER	22.02.2005	Final
04-1 <i>Brassica napus</i>	OSD	22.02.2005	Provisional
	GER	22.02.2005	Final
04-1 <i>Triticum aestivum</i>	TZ	22.03.2005	Final
04-2 <i>Helianthus annuus</i>	GER	22.02.2005	Final



04-3 <i>Phleum pratense</i>	OIC	23.03.2005	Final
	GER, OSD	23.03.2005	Provisional
	GER	14.07.2005	Final
05-1 <i>Cynodon dactylon</i>	OSD	14.07.2005	Provisional
05-1 <i>Zinnia elegans</i>	GER	14.07.2005	Provisional
	GER	17.11.2005	Final
05-2 <i>Secale cereale</i>	GER, OSD, MOI	18.11.2005	Provisional

GER = Germination, OSD = Other Seed Determination, TZ = Tetrazolium, MOI = Moisture Determination, OIC = Reporting on an ISTA Certificate

Also in 2005, the Secretariat continued to publish provisional results of all test rounds shortly after the closing date of each test round. This is intended to provide immediate feedback to the participants. The provisional results are the means of the proficiency test leader's results from ten sets of samples obtained prior to sample shipment. Pictures of other seed inclusions are published, too in order to facilitate laboratories' follow-up action. The positive feedback from the participants encouraged the Secretariat to maintain this system of publishing provisional results on the ISTA homepage.

Rating system

After the revision of the rating system for purity, germination, moisture content and tetrazolium, the Proficiency Test Committee focused its discussions on the implementation of a rating system for other seed determination. The current concept which is still being discussed envisages that the actual retrieval rate of a particular species added to the sample is taken into account. This concept was presented to the ISTA membership during the Annual Meeting 2005 in Bangkok, Thailand and published in Seed Testing International, Issue No. 130. Further it is being discussed whether a distinction between retrieval and identification rate should be made.

PT test results

An overall performance rating is only determined for accredited laboratories. Since the introduction of the new rating system nine germination test rounds have been completed and results thereof reported to the participants. A total number of 77 laboratories (i.e. 81 % of all accredited laboratories) received an overall performance rating for germination. 66 % of these laboratories scored an overall A, 31 % an overall B and 3 % scored an overall C. There was no laboratory that scored an overall BMP.

Purity results have not yet been reported to the participants as the calculation of means, standard deviations and Z-scores is not yet finalised. Collaboration with the Statistics Committee was sought and it is anticipated to finalise the statistical evaluation and report the purity results to the participants by early 2006.

3.2. Report of the Accreditation Department

In 2005, 26 accreditation audit visits were performed, among these 6 were initiation audits. One laboratory originally scheduled for re-accreditation decided to pull out of the programme and not to renew its accreditation.

Accreditation administration

In pursuit of aligning the accreditation department's work with international conformity assessment practice, documentation of existing procedures and implemented policies was further strengthened. Next to new and revised guidance documents that were put in place, the department's database does now accommodate a wealth of information related to accreditation assessments, non-conformities encountered and the duration of the accreditation process by providing track records and strong linkage to the Proficiency Test Programme. Once a substantial amount of data will be accumulated the database will contribute significantly to the evaluation of the accreditation programme as a whole both in annual and audit cycle based terms.



The ISTA Ordinary Meeting 2005 in Bangkok resulted in the new version of Chapter 8 being accepted and thus providing for the accreditation of laboratories testing for the presence of, among others, genetically modified organisms in seed lots. Following the publication of a set of interpretation documents under the authority of the Executive Committee in July, laboratories may be granted accreditation for testing for the presence of seeds with specified traits under the performance based approach beginning February 1, 2006.

There has been continual interaction with Technical Committees on issues arising from auditing and from requests by laboratories. Communication and follow-up actions are systematically recorded and findings and conclusions are fed into the system in a continuous improvement approach.

Like the years before, the ISTA auditors had a gathering during the Ordinary Meeting. The event was well attended and a summary meeting report was circulated.

The accreditation department continued its involvement in advisory role in the Association's activities in relation to specified trait(s) testing. Measures in response to specific requirements of accreditation for specified trait(s) testing were taken and incorporated in the overall programme administration. Two technical auditors for assessments of accreditation of specified trait(s) testing facilities were appointed.

Accreditation Figures

Table 12. Audits in 2005

First audit	IN-INDIA	INML06	KE-KENYA	KEML02
	IT-ITALY	ITML06	KG-KYRGZSTAN	KGML01
	JP-JAPAN	JPML06	SI-SLOVENIA	SIML04
				Number of audits: 6
Second audit	GR-GREECE	GRDL01	JP-JAPAN	JPDL03
	HR-CROATIA	HRDL03	KE-KENYA	KEDL01
	IN-INDIA	INML07	NL-NETHERLANDS	NLML05
	JP-JAPAN	JPML05		Number of audits: 7
Third audit	AU-AUSTRALIA	AUDL02	DE-GERMANY	DEDL04
		AUDL07		DEDL05
		AUDL01	NZ-NEW ZEALAND	NZDL01
		AUDL06		NZDL02
		AUDL09		NZML03
	CH-SWITZERLAND	CHDL01		NZDL04
	DE-GERMANY	DEDL16		Number of audits: 13



Table 13. Complete list of accredited laboratories up to December 31st 2005

AR-ARGENTINA	ARDL01	IN-INDIA	INML07
AT-AUSTRIA	ATDL03	IT-ITALY	ITDL01
	ATML04		ITDL03
AU-AUSTRALIA	AUDL01		ITML06
	AUDL02	JP-JAPAN	JPDL01
	AUDL06		JPDL03
	AUDL07		JPML05
	AUDL09		JPML06
BE-BELGIUM	BEDL02	KE-KENYA	KEDL01
BO-BOLIVIA	BODL01	KG-KYRGYZSTAN	KGML01
CA-CANADA	CADL04	KR-SOUTH KOREA	KRDL01
	CADL08	LT-LITHUANIA	LTDL01
CH-SWITZERLAND	CHDL01	LU-LUXEMBOURG	LUDL01
CL-CHILE	CLDL02	LV-LATVIA	LVDL01
CZ-CZECH REPUBLIC	CZDL02		
	CZDL03	NL-NETHERLANDS	NLDL02
DE-GERMANY	DEDL03		NLDL03
	DEDL04		NLML04
	DEDL05		NLML05
	DEDL06	NO-NORWAY	NODL01
	DEDL07	NZ-NEW ZEALAND	NZDL01
	DEDL09		NZDL02
	DEDL10		NZDL04
	DEDL13		NZML03
	DEDL15	PL-POLAND	PLDL04
	DEDL16		PLDL05
	DEDL17		PLDL07
	DEDL18	PT-PORTUGAL	PTDL01
DK-DENMARK	DKDL01	RO-ROMANIA	RODL02
	DKML02		RODL05
	DKML03	SE-SWEDEN	SEDL02
	DKML04		SEDL07
	DKML05	SI-SLOVENIA	SIDL01
	DKML06		SIML04
	DKML07	SK-SLOVAKIA	SKDL01
EE-ESTONIA	EEDL01		SKDL02
EG-EGYPT	EGDL01	TR-TURKEY	TRDL01
ES-SPAIN	ESDL01	TW-TAIWAN*	TWDL01
FI-FINLAND	FIDL01	US-UNITED STATES	USDL01
FR-FRANCE	FRDL02		USDL03
GB-UNITED KINGDOM	GBDL01		USML05
	GBDL04		USML06
GR-GREECE	GRDL01	UY-URUGUAY	UYDL02
HR-CROATIA	HRDL03	YU-SERBIA AND MONTENEGRO	YUDL01
HU-HUNGARY	HUDL01		YUDL02
IE-IRELAND	IEDL01		YUDL03
IL-ISRAEL	ILD01	ZA-SOUTH AFRICA	ZADL01
IN-INDIA	INML04	ZM-ZAMBIA	ZMDL01
	INML05	ZW-ZIMBABWE	ZWDL01
	INML06	Total number of accredited labs: 98	

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



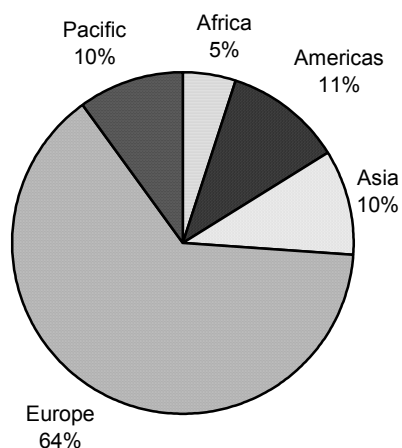
Table 14. Accreditation figures overview

Total number of	2002	2003	2004	2005
Accredited laboratories	83	92	91	98
First accreditations	9	10	4	6
Cancellations	0	1	1	1
Suspensions	1	0	5	1
Re-instatements of accreditation	0	1	1	3
Withdrawal of accreditation	1	0	0	1
New applicants	8	6	2	8

Figure 15. Regional distribution of ISTA accredited member laboratories, up to December 31st, 2005

Number of countries with minimum one ISTA accredited laboratory: 49

Regional distribution of the 98 ISTA accredited laboratories:



3.3. Sales of ISTA Certificates

After an increase in the number of ISTA Certificates sold in 2004, the year 2005 saw a decrease in the total number of certificates sold. The number of Orange Certificates sold in 2005 dropped by more than 40% as well as the number of sales of the Blue Certificate (54% decrease). Solely, for the Green Certificates, the number of sold copies increased considerably in 2005.

Table 16. ISTA Certificate sales figures

Type of certificate	2001	2002	2003	2004	2005
Orange Certificates	98'100	95'700	81'950	123'880	70'300
Green Certificates	1'100	1'620	1'500	600	6'550
Blue Certificates	3'700	6'070	6'950	6'060	2'812
Total number of certificates	102'900	103'390	90'400	130'540	79'662



4. ISTA Publications and Products

4.1. ISTA Handbooks and Proceedings

New Publications

In 2005, a hardcopy version of the *ISTA List of Stabilized Plant Names*, 4th Edition was published and the *ISTA Handbook on Seedling Evaluation* was reprinted without any revision.

Sales figures

In the year 2005 the total sales of publications was 366 publications. The fact that no new publication was published and sold in 2005 did not make it possible to remain on the same level of sold publications than 2004.

Table 19. gives you an overview on the total sales figures of ISTA Publications (handbooks and proceedings) for the years 2003, 2004 and 2005. Table 20. gives you an overview on the sales figures of the newly published handbooks in the ring binder format.

Table 17. Total sales of ISTA publications for the years 2003, 2004, 2005

	2003	2004	2005
Total sales of publications	378	621	366

Table 18. Sales figures of the newly published handbooks in the ring binder format

	2003	2004	2005
Handbook on Seed sampling (2 nd edition, 2004)	-	63	48
Handbook on Seedling Evaluation (2003)	30	133	85
ISTA Working Sheets on Tetrazolium Testing Vol. I (2003)	9	75	55
ISTA Working Sheets on Tetrazolium Testing Vol. II (2003)	10	46	16

4.2. Calibration Samples

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

In the year 2005 the ISTA Secretariat sold:

3 calibration samples of *Dactylis glomerata* and

3 calibration samples of *Poa pratensis*

5. ISTA Training and Education Programme

5.1. ISTA Workshops overview

In 2005, four workshops, two training courses, one seminar and one symposium were being held on different seed testing subjects. Table 21. gives you an overview on the workshops, training courses, the seminar and symposium held in 2005.



Table 19. ISTA Workshops held in the year 2005

Country	ISTA Workshop, Seminar and Symposium
Argentina	3 rd ISTA Workshop on Statistical Aspects of GMO Detection
China	7 th ISTA/FAO Workshop on Electrophoretic Methods and PCR-Techniques for Variety Verification and GMO Detection
France	5 th ISTA Seed Health Symposium
Germany	10 th ISTA Workshop on Tetrazolium Testing on Tree and Shrub Seeds
Germany	7 th Seminar on Statistics in Seed Testing
India	FAO/ISTA Training course on Seed Quality Testing and Evaluation
Jamaica	6 th ISTA/FAO Workshop on Electrophoretic Methods and PCR-Techniques for Variety Verification and GMO Detection
Philippines	ISTA/APSA Training Course on Seed Testing

6. Scientific Journal 'Seed Science and Technology'

6.1. Report of the Editorial Board

Editor list

Chief Editor:	Anne Bülow-Olsen	Denmark	
Associate Editors:	Christophe Bailly	France	Physiological and biochemical aspects of seed germination, dormancy, ageing and development
Leave 1. September 2005 - 1. September 2006	Mark A. Bennett	United States	Seed enhancements, vigour, vegetable seed production, and germination
	Charles Block	United States	Pathology, non-bacterial (also bacteria) Vigour, tetrazolium, germination, quality seed production
	John G. Hampton	New Zealand	
	Michael Kruse	Germany	Statistics, modern methods, sampling
since 1. June 2005	Julio Marcos-Filho	Brazil	Seed vigour testing (grain crops and vegetables) maturation, priming and deterioration
	David Mycock	South Africa	Storage, cryopreservation, physiology and micropropagation
	Robert E. L. Naylor	United Kingdom	Tropical crops, biodiversity, crops and microbiology, pests and diseases
	Alison Powell	United Kingdom	Vigour and health
	Zdenka Procházková	Czech Republic	Forest seeds
since 1. October 2005	Moctar Sacande	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	Biomolecular and related methods



Report of the Editorial Board

Papers received 2005:	176
Papers accepted for publication 2005:	52
Papers rejected 2005:	125
Papers published in three issues in 2005:	27 + 27 + 25 = 79
Full papers in three issues in 2005:	21 + 20 + 23 = 64
Research Notes in three issues in 2005:	6 + 7 + 2 = 15
Pages published in three issues in 2005:	786 (incl. content lists etc.)
Average number of pages per paper in 2005:	9.6
Issues published:	33-1, 33-2 and 33-3

Seed Science and Technology (SST) has been published as printed books and on CD.

The number of papers submitted was 15% lower than the number received in 2003 and 2004. This may be a result of the introduction of page charges. A strict assessment of papers reduced the proportion of accepted papers, so the time from acceptance to publication has been reduced from more than 12 months to around 8 months for papers accepted at the end of 2005.

6.2. Sales of 'Seed Science and Technology'

In 2005, 500 printed copies and 270 CDs were produced of Volume 33 Nr. 1, 500 printed copies and 270 CDs were produced of Volume 33 Nr. 2 and 400 printed copies and 270 CDs were produced of Volume 33 Nr. 3, and dispatched as follows:

- 237 issues included in membership subscription
- 369 issues to additional subscribers worldwide

7. Report of the ISTA Secretariat

7.1. Composition of Staff

In the year 2005 the number of employees remained stable at 8.1 full time jobs compared to the year 2004.

The staff of the Secretariat (from January 1st, to December 31st 2005):

Secretary General:	1	Michael Muschick	fulltime
Senior Executive:	2	Patricia Raubo	fulltime
Head of Accreditation Department:	3	Martina Rösch	fulltime
Head of Technical Committee Administration:	4	Bettina Kahlert	part time
Marketing and Communications:	5	Michelle Jenni Nietlispach	part time
System Auditor:	6	Gerhard Schuon	fulltime
Membership Administration:	7	Branislava Opra	fulltime
Secretary Accreditation:	8	Ana Maria Vazquez	part time
Publication Sales:	9	Agnes Hegedüs	part time

7.2. Information Distribution

Website

The ISTA Website has become one of the most important tools of ISTA to exchange information with its members and the seed testing industry in general. The statistics showed that there was a continued increase in visitors and usage of the website, which confirms the importance of the online media. The website supports ISTA to be available 24 hours a day for its members around the globe.

In order to facilitate usability of the website a new "search" function has been implemented and some other minor updates have been done to improve various functions.

The ISTA Newsletter was sent out on a regular basis to inform subscribers with the latest highlights and announcements of ISTA. The increasing number of subscribers shows that this



is a very welcomed information tool to keep members and non-members informed and updated about the latest ISTA developments.

The online registration function has been used by the majority of participants for the ISTA Ordinary Meeting in Bangkok, Thailand in April 2005, and also for all other workshops and seminars held during the year 2005.

The online bookstore showed again an increasing number of orders, which only confirms the importance of this service to ISTA members.

Seed Testing International

The ISTA News Bulletin, 'Seed Testing International' continues to be a highly appreciated publication among members and subscribers. Due to the increasing number of subscribers the printed issues had to be increased to 2500 copies per issue. It was again published twice a year, in April and October 2005, with many interesting articles relating to seed testing from all regions of the world. We would like to thank all authors for their contributions throughout the year with articles and reports, ensuring that the publications remains of high standard for all our readers.

Publications Catalogue

The 2006 Publications Catalogue was prepared, published and distributed at the end of 2005. All new releases were added to the current list of publications.

All Publications can also be ordered through the online bookstore on the ISTA Website www.seedtest.org. A lot of documents and publications are available on the website for download free of charge.

Information documents

The new 'Guide to ISTA' was printed in early 2005. This new information pamphlet is part of a series of information documents about ISTA and its services.

For international meetings and workshops, a complete membership package was prepared to hand out that was greatly appreciated by participants and prospective members of ISTA.

8. Finances of the Association

For the year 2005 the ISTA finances were sound. As in the previous years, the accounts have been monitored by BDO Visura, which found them to be in order.

The total turnover of ISTA decreased compared to the accounts for 2004, to a total of Swiss Francs CHF 1'774'093.94. The decrease could be foreseen due to the reduced number of ISTA Audits always in the first year after the ISTA Congress within the three years circle of the ISTA Audit Programme.

For most of the income positions, the account figures are in accordance with the budget.

A special point that needs to be addressed is the sales of ISTA Certificates. The sales of certificates has decreased tremendously compared to the sales of the certificates in 2004. Also compared to the sales of certificates in the years before, it needs to be noted that this is the lowest number of sold certificates over the last 10 years.

Also for most of the account figures on the expenditure side the account figures fit with the budget figures.

The overall profit for ISTA in the year 2005 was Swiss Francs CHF 559.78 being a little bit better than the budgeted profit.

The detailed overview of the different accounts on the following pages gives the concrete figures of the account positions for the year 2004, 2005 as well as the budget figures for 2006 (as approved by the Executive Committee) and the preliminary budget figures for the year 2007.

After the detailed overview you will find the report of our fiduciary BDO Visura.



REPORTS OF THE SECRETARY GENERAL, PROFICIENCY TEST COMMITTEE, RULES COMMITTEE AND EDITORIAL BOARD 2005

INTERNAL ITEMS/M/D(2006)03

Profit and Loss Account	Accounts	Accounts	Budget	Preliminary
	2004	2005	2006	Budget
	CHF	CHF	CHF	CHF
Income				
<i>Subscriptions</i>				
Annual Membership Subscription	920'374.00	958'318.00	970'000	979'700
Extraordinary Income on Subscriptions	10'396.18	10'245.42	0	0
Extraordinary Losses on Subscriptions	-49'883.91	-2'437.21	0	0
Website	0.00	0	0	0
Ordinary Meetings	0.00	40'217.16	70'000	5'000
Technical Committees	10'586.60	14'580.00	10'000	10'000
Seed Testing International	1'857.00	4'669.95	3'000	3'000
	893'329.87	1'025'593.32	1'053'000	997'700
<i>Service Centres</i>				
ISTA Rules	69'689.90	65'636.98	50'000	45'000
Accreditation	404'592.50	260'000.00	350'000	370'000
Extraordinary Deductions on Accreditation 2003	-52'471.98	0	0	0
Workshops	59'707.12	37'487.92	37'000	37'000
Seed Science and Technology	137'123.87	142'592.65	140'000	140'000
Technical Publications	84'383.57	63'880.75	65'000	65'000
Certificates	261'080.00	158'124.00	150'000	150'000
Interests, Profit and Loss on Exchanges	9'222.00	20'778.32	15'000	15'000
	973'326.98	748'500.62	807'000	822'000
	1'866'656.85	1'774'093.94	1'860'000	1'819'700
Expenditure				
<i>Direct Costs</i>				
Ordinary Meetings	38'761.29	38'823.24	70'000	0
Direct Costs Executive Committee	13'932.99	18'006.36	15'000	15'000
Direct Costs Technical Committees	5'289.83	13'472.02	20'000	20'000
Seed Testing International	38'190.42	41'921.87	45'000	45'000
	96'174.53	112'223.49	150'000	80'000
<i>Service Centres</i>				
ISTA Rules	29'936.33	29'147.21	28'000	35'000
Accreditation	397'951.14	400'481.15	440'000	450'000
Workshops	49'262.40	30'268.02	35'000	35'000
Seed Science and Technology	140'594.79	136'858.84	120'000	120'000
Technical Publications	41'190.40	13'216.52	30'000	30'000
Certificates	87'407.07	12'564.18	20'000	20'000
	746'342.13	622'535.92	673'000	690'000
<i>Operating Costs</i>				
Personnel Costs	669'535.39	757'856.45	740'000	754'800
Office Costs	211'128.50	238'585.72	250'000	250'000
Travel Costs (International Representation)	31'534.32	31'097.53	30'000	30'000
Marketing Costs	19'386.73	8'792.52	10'000	10'000
Website	37'266.96	2'442.53	5'000	5'000
	968'851.90	1'038'774.75	1'035'000	1'049'800
	1'811'368.56	1'773'534.16	1'858'000	1'819'800
Result	55'288.29	559.78	2000	-100



REPORTS OF THE SECRETARY GENERAL, PROFICIENCY TEST COMMITTEE, RULES COMMITTEE AND EDITORIAL BOARD 2005

INTERNAL ITEMS/M/D(2006)03

Balance Sheet as per December 31st	2005	2004	2003
	CHF	CHF	CHF
Assets			
Current Assets			
Petty cash CHF	2'462.87	645.96	258.00
Postal account	33'061.21	60'279.84	16'603.07
Zürcher Kantonalbank, current account	153'573.45	101'653.20	50'774.00
Zürcher Kantonalbank, deposit account	49'310.55	174'055.05	95'016.60
Zürcher Kantonalbank, USD account	36'774.44	82'771.95	10'765.59
Zürcher Kantonalbank, CAD account	0	2'843.26	5'258.96
Zürcher Kantonalbank, EUR account	126'636.19	500.94	734.22
Zürcher Kantonalbank, short-term deposit account	300'000.00	0	0
	666'294.63	361'824.40	162'549.37
<i>Debtors</i>			
Membership subscriptions, Certificates und publications ./. Bad debt accruals	53'281.09 -9'800.00	110'101.88 -13'000.00	210'695.34 -52'000.00
Withholding tax	4'025.19	1'980.00	1'869.15
	47'506.28	99'081.88	160'564.49
Other accounts receivable	29'294.05	31'478.65	17'861.30
Prepaid expenses	41'732.11	34'242.15	47'992.63
Value added Tax	0.00	0.00	7'055.09
	820'351.15	587'552.88	412'883.95
Fixed Assets			
Securities	333'314.00	271'461.00	269'229.00
Furniture, Computer	15'100.00	23'280.00	35'800.00
	348'414.00	294'741.00	305'029.00
	1'168'765.15	882'293.88	717'912.95
Liabilities			
Accounts payable	160'839.42	31'834.39	66'474.80
Accrued liabilities	118'000.00	128'000.00	70'000.00
Accrued expenses	272'356.26	105'449.80	19'716.75
Value added tax	0.00	0.00	0.00
	551'195.68	265'284.19	156'191.55
Retained Earnings			
Surplus as of January 1 st	617'009.69	561'721.40	541'730.28
Result	559.78	55'288.29	19'991.12
	617'569.47	617'009.69	561'721.40
	1'168'765.15	882'293.88	717'912.95



BDO Visura
Audit & Assurance

8031 Zurich, Fabrikstrasse 50
Phone: 044 444 35 55, Fax 044 444 35 35
www.bdo.ch

**To the Ordinary Meeting of ISTA,
International Seed Testing Association, Bassersdorf**

As statutory auditors, we have audited the accounting records and the financial statements (including Balance sheet, Profit and loss account and Explanatory notes) of the International Seed Testing Association (ISTA) for the year ended December 31, 2005.

These financial statements are the responsibility of the executive committee. Our responsibility is to express an opinion on these financial statements based on our audit. We confirm that we meet the legal requirements concerning professional qualification and independence.

Our audit was conducted in accordance with Swiss auditing standards promulgated by the profession, which require that an audit be planned and performed to obtain reasonable assurance about whether the financial statements are free from material misstatement. We have examined on a test basis evidence supporting the amounts and disclosures in the financial statements. We have also assessed the accounting principles used, significant estimates made and the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the accounting records and financial statements comply with Swiss law and the association's articles of incorporation.

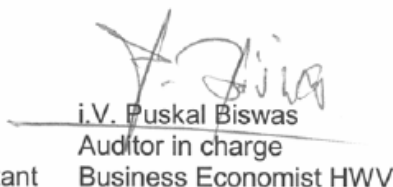
We recommend that the financial statements submitted to you be approved.

Zurich, January 31, 2006

BDO Visura



Jörg Auckenthaler
Certified Public Accountant



i.V. Puskal Biswas
Auditor in charge
Business Economist HWV



C. REPORTS OF THE TECHNICAL COMMITTEES



REPORTS OF ISTA TECHNICAL COMMITTEES

Alphabetical order of Committees and Task Force

BSC	BULKING AND SAMPLING COMMITTEE
FSC	FLOWER SEED COMMITTEE
FTS	FOREST TREE AND SHRUB SEED COMMITTEE
GER	GERMINATION 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
GMO	GMO TASK FORCE

Reports of Committees and Task Force arranged according to subjects

PART 1 Progress Report

A Rules Development

Introduction of New Methods
Introduction of New Species
Introduction of Rules Changes

B Publications

Rules accompanying publications
Training publications on specific seed testing topics
Scientific information publications

C Workshops and Seminars

Training and education workshops
Seminars

D Proficiency Tests

E Specific Projects

PART 2 Committee Membership List

PART 3 Project Progress

A Project

B Project leader

C Summary

PART 4 Information

A Issues of common technical interest

B Request list

C Miscellaneous



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of New Methods

	TCOM	Method name/Subject	Proposed finalisation	Collaboration
1	BSC	Sampling of containers with a tube trier	2007	STA

Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Collaboration
1	BSC	General revision of chapter 2 according to guidelines from RUL	finalised 2005	RUL
2	BSC	Increase of seed lot size for cereals from 25 to 30 t	finalised 2005	RUL
3	BSC	Deletions of recommended specifications for tools and reference to the ISTA Seed Sampling Handbook	finalised 2005	-
4	BSC	Updating and inclusion of a performance based procedure for the certification of automatic seed samplers into the ISTA Rules	2007	-

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	BSC	Contributions to the "ISTA Handbook for sampling and testing of seed mixtures"	2006	PUR, STA

Training publications on specific seed testing topics

	COM	Publication title	Proposed finalisation	Collaboration
1	BSC	Proceedings of the Workshop on Seed Sampling	2006	-

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	BSC	Seed Sampling Workshop	-	Europe / Netherlands

E Special Projects

	COM	Project name/subject	Proposed finalisation	Collaboration
1	BSC	Evaluation of uniformity of 30 t cereal seed lots	2006	STA

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1	Michael Kruse	Germany
Vice-chair:	2	Max Soepboer	Netherlands
Members:	3	Helena Blomqvist-Ljung	Sweden
	4	Merete Buus	Denmark
	5	Didier Demilly	France
	6	Bernard Fabre	France
	7	Eddie Goldschagg	South Africa
	8	Gerry Hall	United Kingdom
	9	Alfred Odindo	Kenya
	10	Leena Pietilä	Finland
	11	Jane Taylor	United Kingdom
	12	Dot Vittrup Pedersen	Denmark

PART 3

PROJECT PROGRESS

A Project 1: General revision of chapter 2 according to guidelines from RUL

B Project leader: Kruse

C Summary

The project is finalised: The new chapter 2 will come into force in 2006.

A Project 2: Increase of seed lot size for cereals from 25 to 30 t

B Project leader: Kruse

C Summary

The project is finalised: The new lot sizes for cereals will come into force in 2006.

A Project 3: Deletions of recommended specifications for tools and reference to the ISTA Seed Sampling Handbook

B Project leader: Kruse

C Summary

The project is finalised: The new text will come into force in 2006.

A Project 4: Updating and inclusion of a performance based procedure for the certification of automatic seed samplers into the ISTA Rules

B Project leader: Kruse

C Summary

The project is not yet started but will be on the agenda for 2006 and 2007.

A Project 5: Contributions to the "ISTA Handbook for sampling and testing of seed mixtures"

B Project leader: Kruse

C Summary

The project is not yet started since the BSC was not yet contacted by the Seed Mixtures working group chair for providing support.

A Project 6: Proceedings of the Workshop on Seed Sampling

B Project leader: Kruse

C Summary

The project is not yet started since the Workshop was not yet held.

A Project 7: Seed Sampling Workshop

B Project leader: Soepboer

C Summary

The project is not yet started since the Workshop was not yet held.

A Project 8: Evaluation of uniformity of 30 t cereal seed lots

B Project leader: Kruse

C Summary

The project is not yet started since 30 t lot sizes will come into force in 2006 only.

PART 4

INFORMATION

A Issues of Common Technical Interest

Harmonisation of ISTA and AOSA Rules for bulking and sampling

In-homogeneity within seed lots as a determinant for sampling schemes

Lot size restrictions in general and in herbage seeds in particular

Standardisation of tools for sampling

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
10.26.05	Argentina	Application of the guidelines for checking sample dividers as given in the ISTA Handbook on Seed Sampling
10.26.2005	The Netherlands	What to do with the experiment herbage seed lot size
10.14.2005	United Kingdom	Use of vacuum counters for cereals
10.13.2005	ISTA secretariat	Lot size increase for cereals - <i>Avena nuda</i>
10.13.2005	Italy	ISTA/ISF Experiment on herbage seed lot size
10.11.2005	Germany	Lot and sample sizes for <i>Crambe</i> as a part of inclusion of this species into the rules
09.22.2005	Germany	Translation of the new chapter 2 into German language
09.22.2005	Italy	Lot and sample sizes for <i>Triticum dicoccum</i> as a part of inclusion of this species into the rules
08.19.2005	USA	Use of a bullet sampler for issuing ISTA orange Certificate

08.10.2005	USA	Application of 5% tolerance to lot size restrictions
08.17.2005	The Netherlands	ISTA/ISF Experiment on Herbage Seed Lot Size
08.04.2005	Uruguay	Uniformity status of a maize seed lot with different chemical treatments
07.05.2005	Germany	Application of ISTA Rules towards sampling intensity
07.05.2005	Norway	Application of the guideline for checking sample dividers as given in the ISTA Handbook on Seed Sampling
06.02.2005	Lithuania	Field of application of Annex B of the ISTA Rules
05.16.2005	Slovenia	Application of Tables for sampling intensity as given in the ISTA Handbook on Seed Sampling



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	FSC	<i>Ageratum, Callistephus, Coreopsis, Cosmos, Dahlia, Gazania, Zinnia</i> - final version	2004	GER, TEZ, PUR, SHC
2	FSC	<i>Centaurea</i> - draft	2004	ISTA Secretariat
3	FSC	<i>Helichrysum</i> - draft	2004	-
4	FSC	<i>Bellis</i> -draft	2004	-
5	FSC	<i>Aster</i> -draft	2004	-
6	FSC	<i>Rudbeckia</i> -draft	2004	-
7	FSC	<i>Helianthus</i> -draft	2004	-
8	FSC	<i>Centaurea, Helichrysum, Bellis, Aster, Rudbeckia, Helianthus</i> – final version	2005	GER, TEZ, PUR, SHC - ISTA Secretariat
9	FSC	ISTA Handbook on Flower Seed Testing Issue of folder with the general chapters and 15 work sheets	2006	ISTA Secretariat
10	FSC	<i>Antirrhinum</i> -draft	2006	-
11	FSC	<i>Verbena</i> –draft	2006	-
12	FSC	<i>Celosia</i> -draft	2006	-
13	FSC	<i>Thunbergia</i> –draft	2006	-
14	FSC	<i>Salvia</i> –draft	2006	-
15	FSC	<i>Antirrhinum, Verbena, Celosia, Thunbergia, Salvia</i> – final version	2006	GER, TEZ, PUR, SHC - ISTA Secretariat
16	FSC	<i>Gypsophila</i> –draft	2006	-
17	FSC	<i>Portulaca</i> –draft	2006	-
18	FSC	<i>Tropaeolum</i> –draft	2006	-
19	FSC	<i>Eschscholzia</i> -draft	2006	-
20	FSC	<i>Gypsophila, Portulaca, Tropaeolum, Eschscholzia</i> –final version	2007	GER, TEZ, PUR, SHC - ISTA Secretariat

Training publications on specific seed testing topics

	COM	Publication title	Proposed finalisation	Collaboration
1	FSC	ISTA Flower Seed Testing Workshop Proceedings Summary	2006	-

C Workshops and seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	FSC	Flower Seed Testing	2006	Europe, Italy

D Proficiency Tests

	COM	Proficiency Test Subject	Proposed date	Collaboration
1	FSC	<i>Zinnia</i> -germination	2005	PTC, ISTA Secretariat

E Special Projects

	COM	Project name/ Subject	Proposed finalisation	Collaboration
1	FSC	Seed Mixtures	2007	GER Chair

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1	Zita Ripka	Hungary	
Vice-chair:	2	Rita Zecchinelli	Italy	
Members:	3	Lea Mazor	Israel	
	4	Sharon K. Davidson	United States	
	5	Sylvie Ducournau	France	
	6	Linda Maile	United Kingdom	
	7	Frikkie A. Marais	South Africa	
	8	Miller B. McDonald	United States	
	9	Aleta Meyr	United States	
	10	Mirjana Milosevic	Serbia and Montenegro	
	11	Petra Remeus	Netherlands	
	12	Wen-shi Wu	Taiwan	
	13	David Tay	United States	
	14	DaNell R. Jamieson	United States	
	WG member	15	Gyöngyi Ivanovics	Hungary

Marcia Taylor from Australia changed work in May 2005 and had to give up her membership in the committee. Marcia was a very devoted and reliable member and always sent valuable comments on the subjects of flower seed testing, which was highly appreciated.

PART 3

PROJECT PROGRESS

A Project 1: ISTA Handbook on Flower Seed Testing

B Project leader: Zita Ripka

C Summary

The preparation of this project has gone on in the past years. We have already enough work sheets prepared and checked to start the issue of the Handbook. Presently we make with Bettina Kahlerlert the final editing of the draft work sheets of

Ageratum, Aster, Bellis, Callistephus, Calendula, Centaurea, Coreopsis, Cosmos, Dahlia, Gaillardia, Gazania, Helichrysum, Rudbeckia, Tagetes, Zinnia from Asteraceae

Impatiens from Balsaminaceae

Dianthus from Caryophyllaceae

Cyclamen from Primulaceae

Petunia from Solanaceae

Viola from Violaceae families.

The Handbook will be issued and available for the flower seed testing laboratories in 2006 with the detailed seed testing information of the above 20 genera.

The work will not stop with the issue of these first 20 work sheets. According to our working programme for the next years we will go on.

PART 4

INFORMATION

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
09.08.05	South Africa	Seed longevity figures for floral crops
09.08.05	South Africa	Federal/national or regional legislation regarding the minimum purity and germination standards for flowers
08.04.05	South Africa	Tetrazolium on <i>Antirrhinum majus</i>



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of New Methods

	TCOM	Method name/Subject	Proposed finalisation	Collaboration
1	FTS	Tropical tree seed germination	2007	-
2	FTS	<i>Juniperus</i> germination	2007	-
3	FTS	Comparative tests of <i>Abies</i> germination	2008	-
4	FTS	Comparative tetrazolium tests of <i>Abies</i>	2007	TEZ

Introduction of New Species

	COM	Species	Subject	Proposed finalisation	Collaboration
1	FTS	Tropical tree seed	-	2007	-

Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Collaboration
1	FTS	Revision of pure seed definitions (PSD)	2006	-
2	FTS	Harmonisation Table 6. Tetrazolium tests with Table 2 Sampling	2006	TEZ

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	FTS	ISTA Tree and Shrub Seed Handbook - revision	2007	EDI
2	FTS	Seedling Evaluation Handbook	2007	GER

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	FTS	Tree and Shrub Seed Tetrazolium Workshop	June 2005	Europe/Germany

D Proficiency Tests

	COM	Proficiency Test Subject	Proposed date	Collaboration
1	FTS	Tree and Shrub Seed Germination – 1 st round with 1 species	2007	PTC

E Special Projects

	COM	Project name/subject	Proposed finalisation	Collaboration
1	FTS	Harmonisation of the ISTA and AOSA Rules	2007	-
2	FTS	Publication of Proceedings of FTS Workshop, Prague 2003	Finalised in 2005	-

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1	Zdenka Prochazkova	Czech Republic
Vice-chair:	2	Hugh Pritchard	United Kingdom
Members:	3	Daniel Baskaran	Malaysia
	4	D.G.W. Edwards	Canada
	5	Kari Fiedler	United States
	6	Elena Foffova	Slovakia
	7	Fabio Gorian	Italy
	8	Peter Gosling	United Kingdom
	9	Robert P. Karrfalt	United States
	10	Dave Kolotelo	Canada
	11	Stefanie Krämer	Germany
	12	Fatima C.M. Pina-Rodrigues	Brazil
	13	Beti Piotto	Italy
	14	Heidi Røsok Bye	Norway
	15	Moctar Sacande	United Kingdom
	16	Dale Simpson	Canada
	17	Victor Vankus	United States

PART 3

PROJECT PROGRESS

INTRODUCTION OF NEW METHODS/SPECIES

A Project 1: Tropical tree seed germination

B Project leader: Hugh Pritchard

C Summary

The project is not finalised.

Work on tropical seed germination of socio-economic species has continued on 10 more palms: four species in the genus *Arenga* and three species in *Livistona* and *Phoenix*. The mass of cleaned and dried seed was < 1 g for six species and about 2 g for the other four species. The initial (on receipt) relative humidity of the seed lots was generally > 85 %, although two seed lots were lower at 61 and 78 % RH. Moisture contents too were within a relatively narrow range, from 21 to 33 % (fresh weight basis). Germination levels (%) and mean times to germinate (G) at 30°C for the species were: *Arenga australasica* (90%; 19 d); *Arenga obtusifolia* (90%; 35d); *Arenga pinnata* (68%; 31d); *Arenga westerhoutii* (98%; 27d); *Livistona bentharii* (95%; 10d); *Livistona rotundifolia* (33%; 27d); *Livistona speciosa* (88%; 8d); *Phoenix acaulis* (65%; 15d); *Phoenix loureiroi* (80%; 24d); *Phoenix paludosa* (100%; 80d).

Activities were done by Hugh W. Pritchard, Moctar Sacande, Lindsay Dytham, Jenny Davies.

A Project 2: *Juniperus* germination

B Project leader: Beti Piotto

C Summary

The project is not finalised.

Germination in *Juniperus* species is a quite complex issue about which very little is known, strong variation between species and within species has been assessed. The project aims at collecting information, mainly through abstracts, about germination in *Juniperus* species. Information includes related topics like seed dispersal, seed collection, dormancy, dormancy removal, nursery growing. Information will be processed to be

available in different formats (files sent to users, on line, etc). At the moment 2500 abstracts on germination issues have been retrieved and are being processed.

A Project 3: Comparative tests of *Abies* germination

B Project leader: George Edwards

C Summary

The project is not finalised.

No actual work has yet begun due to a lack of seeds. Data-recording sheets have been drafted and will be circulated to participating laboratories early in 2006. Efforts will be increased to secure at least one suitable seed lot to begin the ring test in 2006. Finalisation has been postponed until 2008.

A Project 4: Comparative tetrazolium tests of *Abies*

B Project leader: Zdenka Prochazkova

C Summary

The project is not finalised.

No actual work has yet begun due to a lack of seeds. A questionnaire has been drafted and will be circulated to participating laboratories in late January 2006. Efforts will be increased to secure at least one suitable seed lot to begin the ring test in 2006.

INTRODUCTION OF RULES CHANGES

A Project 1: Revision of pure seed definitions (PSD)

B Project leader: George Edwards

C Summary

The project is not finalised.

A proposal to revise the ISTA Rules concerning Pure Seed Definitions for several coniferous seeds has been submitted (in cooperation with the PUR Committee). The proposed revisions have been included in the Proposed Rule Changes to be voted on at the Ordinary Meeting in Zürich.

A Project 2: Harmonisation Table 6. Tetrazolium tests with Table 2. Sampling

B Project leader: Zdenka Prochazkova

C Summary

The project is not finalised.

No progress yet.

RULES ACCOMPANYING PUBLICATIONS

A Project 1: ISTA Tree and Shrub Seed Handbook - revision

B Project leader: Zdenka Prochazkova

C Summary

The project is not finalised.

Corrections of text in scanned (electronic) copy have been done. Tables' transcription is in process.

A Project 2: Seedling Evaluation Handbook

B Project leader: Zdenka Prochazkova

C Summary

The project is not finalised:

No progress yet.

TRAINING AND EDUCATION WORKSHOPS

A Project 1: Tree and Shrub Seed Tetrazolium Workshop

B Project leader: Stefanie Krämer

C Summary

The project was finalised in June 2005.

A Project 2: ISTA FTS Seminar – Verona 2006

B Project leader: Fabio Gorian

C Summary

The project is not finalised.

The preparation of the ISTA Forest Tree and Shrub Seed Committee Seminar (September 19 to 22, 2006, Verona, Italy) is in progress. The announcement and preliminary program will be distributed in early 2006.

PROFICIENCY TESTS

A Project 1: Tree and Shrub Seed Germination – 1st round with 1 species

B Project leader: Zdenka Prochazkova

C Summary

The project is not finalised.

The questionnaire has been drafted and will be distributed in early 2006 (January).

SPECIAL PROJECTS

A Project 1: Harmonisation of the ISTA and AOSA Rules

B Project leader: Victor Vankus

C Summary

The project is not finalised.

Primary accomplishment during 2005 was a comparison of the TZ methods for trees and shrubs. Methods were compared from the AOSA Tetrazolium Handbook and the 2003 ISTA Working Sheets on Tetrazolium, Volume II - Tree and Shrub species.

More details:

1. Report outlining differences was finalised. Significant differences between the AOSA and ISTA purity and germination methods for tree seed that should be addressed by the Tree Seed groups of both organizations were identified.
Finished.
2. Add purity and germination methods for several species already listed in the ISTA rules to the AOSA Rules for Testing Seeds (*Alnus*, *Cercis*, *Juniperus*, *Morus*, *Taxodium*). AOSA Tree and Shrub group agreed to work on determination of purity working weights and germination methods for *Juniperus virginiana* and *Taxodium distichum* during 2005-2006.
Work is ongoing with AOSA rule proposal expected in 2006.
3. Add purity and germination methods to ISTA Rules for Seed Testing of any species already listed in the AOSA Rules for Testing Seeds as needed. Primarily, any species that are sold on the international market or that are shipped outside of North America.
No work at this time.
4. Compare TZ testing methods for tree and shrub seed in both the AOSA and ISTA TZ Testing Handbooks. Identify any significant differences and report to Tree Seed working group membership of both organizations. If significant differences are found between the methods of the two handbooks for any species, the working groups can decide together how the differences should be addressed (ring tests, comparison with germination, etc.).
Complete: May 2005

A Project 2: Publication of Proceeding of the FTS Committee Workshop, Prague 2003

B Project leader: Zdenka Prochazkova

C Summary

The project was finalised in 2005.

The Proceedings (paper and CD copies) were published and distributed to all participants. The electronic version can be downloaded from <http://www.vulhm.cz/?did=333&lang=cz>. The paper copies are available at the FGMRI Jiloviste - Strnady, Czech Republic.



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of New Methods

	TCOM	Method name/Subject	Proposed finalisation	Collaboration
1	GER	Testing Seed Mixtures	2006	RUL, BSC, PUR

Introduction of New Species

	COM	Species	Subject	Proposed finalisation	Collaboration
1	GER	<i>Crambe abyssinica</i>	Germination Test	Finalised in 2005	RUL

Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Collaboration
1	GER	Revision of Substrate Definitions in line with European Standards definitions for Growing Media	Finalised in 2005	-
2	GER	Use of Mixed Growing Media (Compost) as a Primary substrate for the germination of Sunflower (<i>Helianthus annuus</i>)	Finalised in 2005	STAT
3	GER	Revision of Germination Chapter and Seedling Evaluation Handbook to reflect Quality Assurance requirements, e.g. tolerances for normal seedlings or for abnormal seedlings and dead seed also; checking germination media for the presence of toxic materials	Ongoing	RUL

B Publications

Scientific information publications

	COM	Publication title	Proposed finalisation	Collaboration
1	GER	Method Validation Report of Investigation into substrate use for Sunflower seed Germination	Finalised in 2005	STAT, RUL

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	GER	Use of Seedling Evaluation Handbook	To be arranged	Angers, France
2	GER	Use of Seedling Evaluation Handbook	To be arranged	Africa and/or Asia
3	GER	Quality Assurance in the Germination Laboratory	To be arranged	To be decided

E Special Projects

	COM	Project name/subject	Proposed finalisation	Collaboration
1	GER	Effect of different temperature regimes on the germination of Sunflower	2007	STAT
2	GER	Liaison with the FSC and FTS Committees	ongoing	-
3	GER	The use of KNO ₃ for dormancy breaking in temperate cereals	Finalised in 2005	-
4	GER	Introduction and improvement of germination methods for tropical and sub-tropical species	2007	-
5	GER	Evaluation of new Codification used in 2004 Seedling Evaluation Handbook and whether it should be used in the Rules	2006	-
6	GER	Questionnaire to African countries to find out which species need to be added the ISTA Rules and in which they have experience	2006	-
7	GER	The use of GA3 for dormancy breaking in <i>Eruca sativa</i>	2007	-
8	GER	The evaluation of cotyledons in relation to discolouration and the 50% rule	2007	-
9	GER	The introduction of guidance for the evaluation of primary roots of grasses	2006	-
10	GER	Validation study on Germination Temperature for <i>Lactuca</i>	2005	STAT

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1	Ronald Don	United Kingdom
Vice-chair:	2	Sylvie Ducournau	France
Members:	3	Doris Groth	Brazil
	4	Krystyna Kolasinska	Poland
	5	Joël Léchappé	France
	6	Lea Mazor	Israel
	7	Gillian McLaren	United Kingdom
	8	Günter Müller	Germany
	9	Enrico Noli	Italy
	10	Zdenka Procházková	Czech Republic
	11	Pamela Joan Strauss	South Africa
	12	Hakon Tangeras	Norway
	13	Grethe Tarp	Denmark
	14	Anny van Pijlen	Netherlands
	15	Loren Wiesner ¹	United States
	16	Kari Fiedler ¹	United States

¹ Retired from Committee in October 2005 and replaced by Kari Fiedler

PART 3

PROJECT PROGRESS

A Project 1: Testing Seed Mixtures

B Project leader: Ronald Don

C Summary

Germination procedures will be dependant on outcome of deliberations of the BSC and PUR committees. Once these are known the Committee will consider the most appropriate method of testing the germination of seed mixtures of different species.

A Project 2: Introduction of New Species - *Crambe abyssinica*

B Project leader: Günter Müller

C Summary

The project is finalised: Results of comparative test were presented at the ISTA Bangkok meeting in 2005 and Rules proposal has been submitted for consideration at the 2006 Zurich meeting of ISTA.

A Project 3: Introduction of New Species - *T.dicoccum*

B Project leader: Rita Zecchinelli

C Summary

The project is finalised: Results of comparative test have been prepared and will be presented at the 2006 Zurich meeting of ISTA. A Rules proposal has been submitted for consideration by the Ordinary Meeting.

A Project 4: Use of Mixed Growing Media (Compost) as a Primary substrate for the germination of Sunflower (*Helianthus annuus*)

and

Project 5: Method Validation Report of Investigation into substrate use for Sunflower seed Germination

B Project leader: Sylvie Ducournau and Loren Wiesner

C Summary

The project is finalised: Comparative test carried out following method validation protocol. Method validation protocol followed in the analysis of the results by STAT and method validation report accepted by two independent referees/validation experts. A Rules proposal was accepted by the Bangkok Ordinary meeting of ISTA and this comes into effect in Jan 2006.

A Project 6: Revision of Substrate Definitions in line with European Standards definitions for Growing Media

B Project leader: Joël Léchappé

C Summary

The project is finalised: A Rules proposal for changes to definitions was accepted by the Bangkok Ordinary meeting of ISTA and this comes into effect in Jan 2006.

A Project 7: Revision of Germination Chapter and Seedling Evaluation Handbook to reflect Quality Assurance requirements, e.g. tolerances for normal seedlings or for abnormal seedlings and dead seed also; checking germination media for the presence of toxic materials

B Project leader: Ronald Don

C Summary

Many aspects have been finalised. Rules proposals were accepted by the Bangkok Ordinary meeting of ISTA that make it clear only tolerances for normal seedling need be checked and that if more than

5% fresh seed are to be reported they must have been found to be viable in a tetrazolium test. Demonstration Standard Operating procedures have been finalised for:

- *Germination Procedures - Temperature Measurement and Control of Temperature in the Germination Laboratory;*
- *Germination Procedures – Growing Media Specification Checks – Water Retention;*
- *Germination Procedures – Growing Media Specification Checks – Conductivity; and*
- *Germination Procedures – Growing Media Specification Checks – pH*

These will be published in Seed Testing International and as an update to the Seedling Evaluation Handbook

The demonstration Standard Operating Procedure: *Germination Procedures – Growing Media Specification Checks – Innocuity* will be finalised once photographs of seedling with phytotoxic symptoms, due to toxins in the germination media, are obtained.

A Project 8: The use of KNO₃ for dormancy breaking in temperate cereals

B Project leader: Günter Müller

C Summary

The project is finalised: Results of comparative test were presented at the ISTA Bangkok meeting in 2005 and Rules proposal has been submitted for consideration at the 2006 Zurich meeting of ISTA.

A Project 9: Evaluation of new Codification used in 2004 Seedling Evaluation Handbook and whether it should be used in the Rules

B Project leader: Anny van Pijlen and Gillian McLaren

C Summary

The project is underway: Anny and Gillian will be meeting in March 2006 finalise recommendations on the codification to be used in the Rules.

A Project 10: Effect of different temperature regimes on the germination of Sunflower

B Project leader: Sylvie Ducournau

C Summary

The project is underway: Independent experts/validation scrutineers have been appointed and the protocol has been agreed by GERM, STAT and the two independent experts/validation scrutineers. The comparative test will begin in 2006.

A Project 11: Introduction and improvement of germination methods for tropical and sub-tropical species

and

Project 12: Questionnaire to African countries to find out which species need to be added the ISTA Rules and in which they have experience

B Project leaders: Doris Groth, Lea Mazor and Pamela Joan Strauss

C Summary

Little progress made: Difficult to obtain information on species that are important in trade and communication problems between and with Project leaders.

A Project 13: Introduction guidance on the evaluation of primary roots of grasses

B Project leader: Sylvie Ducournau

C Summary

Project initiated and draft guidance produced: A comparative test using photographs of grass seedlings has shown that ISTA stations do not appear to evaluate defects of primary roots in the same manner (especially when the primary root is short). Guidance will be finalised for inclusion into the Germination Handbook on the evaluation of primary roots of grasses and the extent to which secondary roots can be taken into account.

A Project 14: The use of GA3 for dormancy breaking in *Eruca sativa*

B Project leader: Sylvie Ducournau

C Summary

Project to be initiated in 2006.

A Project 15: The use of KNO3 for dormancy breaking in *Brassica* spp.

B Project leader: Anders Lomhold

C Summary

Project to be initiated in 2006.

A Project 16: The evaluation of cotyledons in relation to discolouration and the 50% rule

B Project leader: to be confirmed

C Summary

Project to be initiated in 2006.

A Project 17: Validation study on Germination Temperature for *Lactuca*

B Project leader: Jeremy Smith/Ronald Don

C Summary

Scrutineers appointed, protocol agreed, comparative trial completed. Unfortunately there was no significant difference between germinations obtained at 15°C and 20°C with all lots used in the trial having germinations greater than 97%. The trial will have to be repeated with seed of more variable germinations before any conclusions can be made on whether 15°C can be used as a temperature for *Lactuca* germination tests.

PART 4

INFORMATION

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
11.02.2004	Germany	Fungicide treatment products for seed of <i>Linum usitatissimum</i> affected by <i>Alternaria linicola</i>
07.20.2004	Netherlands	Dormancy and germination problems found in grass seeds after long term low humidity and low temperature

		storage
10.25.2004	EU Commission	General information on <i>Claviceps purpurea</i>
11.20.2004	Iran	References and information on the priming of seeds of field crops
11.22.2004	Philippines	Procedures for germination testing of wheat
06.12.2004	Switzerland	Evaluation of seedlings according to ISTA Rules and the treatment of seedling assessed as abnormal at intermediate counts
06.12.2004	Switzerland	Whether dormancy breaking treatments should be limited to those given in column 6 of table 5A in the ISTA Rules
11.01.2005	USA	Testing blends of different varieties of a species and reporting results on ISTA Certificates.
01.18.2005	India	The germination of seed obtained from crops irrigated with water containing high levels of fluorides
01.26.2005	Kazakhstan	Requirements that have to be met by seed imported into Kazakhstan
04.03.2005	UK	Supplier of germination paper that meets ISTA requirements
03.15.2005	France	Heat treatment or other treatment required to destroy the germinative power of seeds of <i>Schinus terebinthifolius</i> (Brazilian pepper spice)
03.31.2005	Switzerland	Reporting germination results on ISTA Certificates
06.22.2005	Indonesia	Testing true Shallot seed
06.29.2005	South Korea	Germination procedures for Swordbean
07.26.2005	Japan	Definitions and specifications for growing media used in ISTA laboratories. Membership of ISTA as a company laboratory and participation in proficiency tests as a volunteer laboratory
05.09.2005	India	Germination procedures for <i>Coraindrum sativum</i>
09.13.2005	USA	Use of creped cellulose paper and creped cellulose paper plus sand for germination tests and
09.26.2005	UK/Angola	Equipment necessary for an ISTA registered Seed Testing Laboratory and field testing laboratories. Membership costs for Angola joining ISTA
09.27.2005	Switzerland	How to report the results of germination tests where a laboratory applies fungicides to the seed prior to testing
10.14.2005	Germany	Procedures for the use of vacuum counters for planting germination tests
11.21.2005	Netherlands	Reporting results of germination tests as soon as an above standard result is obtained



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Collaboration
1	MOI	MOI will prepare a major revision of the Rules chapter. The revision will include a change in the basic reference method, introduction of new species, and general clarification and improvement of the methodology. During the meeting in Budapest it was decided to have the split between the high and the low temperature oven method at 20% oil content. We will organise comparative testing for the validation of this. The first results of the comparative testing carried out in 2005 indicate that this split may not be possible. In addition, an oven method to be used as basic reference method seems not to be possible.	2007	-

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	MOI	Handbook The material used in the workshops will be the basis for the handbook. We hope to have the first draft handbook available for discussion during the workshop in 2007.	2008	-

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	MOI	Moisture Orthodox and temperate species.	April 2006	New Zealand
2	MOI	Moisture	June 2006	USA
2	MOI	Moisture (Investigate possibilities for organising a workshop in Africa)	2007	Africa/Kenya

D Proficiency Tests

	COM	Proficiency Test Subject	Proposed date	Collaboration
3	MOI	Moisture to be included in round 07-2 <i>Medicago</i> (no grinding).	June 2007	PTC

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1	Harry Nijënstein	Netherlands
Vice-chair:	2	Jette Nydam	Denmark
Members:	3	Joseph Ahenda	Kenya
	4	Olfat H. El Bagoury	Egypt
	5	Mark A. Bennett	United States
	6	Patricia Berjak	South Africa
	7	Matt Daws	United Kingdom
	8	Gerarda de Boer – Raatgever	Netherlands
	9	Ronald Don	United Kingdom
	10	Johannes Dornhecker	Austria
	11	Deon Erdey	South Africa
	12	Robert Karfalt	United States
	13	Maria-Rosaria Mannino	France
	14	Craig McGill	New Zealand
	15	Maria Angela Tillman	Brazil

We welcome Gerarda de Boer – Raatgever from NAK in the Netherlands as a new member of the committee. Peter G. Harrison was deleted from the list because no communication has been possible for several years. Rober Karfalt is the MOI liaison to Tree and shrub seeds committee.

PART 3

PROJECT PROGRESS

A Project 1: New Rules Chapter

B Project leader: Harry Nijënstein

C Summary

The first draft of the new Rules chapter has been discussed during the Ordinary Meeting of 2005. The second version, also including the conclusions from projects 2 , 3 and 4, will be discussed during the Ordinary Meeting of 2006.

The goal still is to have the new Rules chapter voted for in 2007.

A Project 2: Comparative testing

B Project leader: Harry Nijënstein & Ronald Don

C Summary

Samples of 10 species, differing in oil content from 2-43%, were sent to 14 laboratories. Of each species two moisture levels were tested, using different temperatures (103 and 130°C) and different durations of the test (1 – 96 hours). The main goals were to find an alternative for the Karl Fischer basic reference method, and to investigate the effect of oil content on the results of the moisture test.

The results are now being evaluated. The first impression is that it will be difficult to use any of tested combinations of duration and temperature as a basic reference test. Also the effects of oil content on the results of the moisture test appear not to be unequivocal.

The evaluation is ongoing, and will be finalised before the Ordinary Meeting of 2006.

A Project 3: Assessment of water content in non-orthodox seeds.

B Project leader: Deon Erdey

C Summary

The ISTA Seed Moisture Committee seeks to establish rules about drying of recalcitrant seed material, which could be no better than guidelines, because of the inherent variability of these and other non-orthodox seeds. Nevertheless, both to establish the possibility of sound guidelines and to emphasise the unpredictability of recalcitrant and other non-orthodox seeds, the working group for assessment of water content in recalcitrant and other non-orthodox seed material has undertaken to monitor water contents of a spectrum of species of

recalcitrant/non-orthodox seeds, dehydrated under prescribed conditions in relation to the loss of vigour and viability. To this aim, the present report summarises the results obtained for the period 2004 – 2005.

As found previously for other non-orthodox species, the conclusions are:

- Water content values differs greatly between the various seed components
- Determining water content on a whole seed basis only for desiccation sensitive seeds underestimates the desiccation sensitivity of the germinative axis tissues.

A Project 4: Survey on non-orthodox seed moisture testing

B Project leader: Craig McGill

C Summary

The survey has been carried out. In total 60 laboratories responded. The results have been published in Seed Testing International (STI) No. 130, October 2005, pages 43-44 (Non-orthodox Seed Moisture Testing Survey – Responses, by Craig McGill).

It was concluded that for most laboratories there is no demand for testing the moisture of seed of non-orthodox species. Where there is a demand, all the species that the laboratories had an interest in, are tree species. Three issues were raised in relation to testing non-orthodox seed for moisture: Should a minimum number of seeds rather than weight of seeds be specified for testing, should seed be cut rather than ground, and should only 'healthy' seed be tested for moisture.

The conclusions and the issues that were raised will be discussed in the upcoming ISTA Ordinary Meeting in Switzerland.

A Project 5: Proficiency Testing

B Project leader: Ronald Don and Harry Nijenstein

C Summary

Results of the first proficiency tests for moisture were reported in STI No. 126, October 2003, pages 40-41 (ISTA Moisture Content Proficiency Test, by Ronald Don), and pages 25-27 (Moisture Content Proficiency Test, by Ronald Don, and in STI No. 129, April 2005, (ISTA Moisture Content Proficiency Test 04-1, by Ronald Don). The results of these tests were satisfactory. It was concluded to include proficiency tests for moisture on a regular basis in the future.

During the Ordinary Meeting of 2005 the Z-scores resulting from proficiency tests in 2003 and 2004 were discussed. It was decided to have a rating system that is based on Z-scores. The levels will be established during the Ordinary Meeting in 2007, after the results of round 2005-02 that includes grinding, will be available as well. At the moment it appears that we can copy the system for germination:

<u>Per round rating</u>		<u>Overall rating</u>	
<u>Per round</u>	<u>value</u>	<u>Total points</u>	<u>Overall rating</u>
A	5	28-30	A
B	4	21-27	B
C	3	16-20	C
BMP	0	<16	BMP

The frequency of future proficiency tests was set at two per triennium, of which one should include grinding. Moisture has been included in round 05-2 *Secale* (grinding) and will be in round 07-2 *Medicago* (no grinding).

The proficiency test of 2004 was accompanied by a questionnaire. The results have been collated, and will be used for developing the new Rules chapter (see Project 1).

PART 4

INFORMATION

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
05-25-2004	France / VIG	Questions about accuracy of moisture determinations for CD- and ACAG-tests, in which only 2 * 100 seeds are tested.
05-24-2005	ISTA	In the ISTA questionnaire on tropical seed several species were mentioned for inclusion in the MOI chapter (in addition to species that were put forward by others in the years before). Will be dealt with after finalising the comparative testing and the revision of the rules chapter.
06-28-2005	Scotland	Calibration of moisture meters. The wording in the present rules are ambiguous. This will be changed at the upcoming revision of the MOI chapter.
07-25-2005	Scotland	The backgrounds of the tolerances for MOI in the rules are unclear. There is also discussion about the between-lab tolerances. Will be dealt with after finalising the comparative testing.
08-01-2005	Lithuania	Request for guidance for establishing the quality of moisture meters.
08-10-2005	Argentina	Request for clarification about calibration of moisture meters.
09-02-2005	Turkey	The formula on page 17 of the 2001-version of the Rules was misprinted. It was corrected in 2004, but this lab still used the 2001-version
09-27-2005	Scotland	The rules are ambiguous of whether the sub-sample should be taken before or after grinding.
11-10-2005	Scotland	Grinding; the backgrounds for the required particle size distribution is not clear, and possibly not correct. Discussion just started.
12-09-2005	India	How to deal with covering cups in the desiccator. Should they be covered in the desiccator or not. Answer: yes.

**PART 1****PROGRESS REPORT AND WORKING PROGRAMME UPDATE****B Publications****Scientific information publications**

	COM	Publication title	Proposed finalisation	Collaboration
1	NOM	ISTA List of Stabilized Plant Names (hardcopy edition)	Finalized in 2005	Bettina Kahlert
2	NOM	A Multilingual Glossary of Common Plant Names	2008	FTS

PART 2**COMMITTEE MEMBERSHIP LIST**

Chair:	1	John H. Wiersema	United States
Vice-chair:	2	Michel Porcher	Australia
Members:	3	Ken Allison	Canada
	4	Bernard R. Baum	Canada
	5	Michel Chauvet	France
	6	Kees van Ettehoven	Netherlands
	7	Niall Green	United Kingdom
	8	Doris Groth	Brazil
	9	Wilbert L. A. Hettterscheid	Netherlands
	10	Phyllis Himmel	United States
	11	Charles E. Jarvis	United Kingdom
	12	Murray Keys	Australia
	13	Maria Rosaria Mannino	France
	14	Klaus Pistrick	Germany

PART 3**PROJECT PROGRESS****A Project 1: ISTA List of Stabilized Plant Names (hardcopy edition)****B Project leader: John Wiersema****C Summary**

The hardcopy edition of the ISTA List of Stabilized Plant Names was completed, largely through the efforts of Bettina Kahlert, of ISTA Technical Committee Administration, and was distributed free of charge by ISTA to the membership in November of 2005.

A Project 2: A Multilingual Glossary of Common Plant Names**B Project leader: Michel Porcher****C Summary**

While a database of the previous version of this Glossary for field crops, grasses, and vegetables, has already been created, a comparable one for trees is yet to be completed. We have identified electronically all names from the Stabilized List that pertain to the three tables in Chapter 2 of the Rules for potential inclusion in the multilingual glossary. A questionnaire was circulated among Committee

members regarding various aspects of the project, with some of the results from this placed in the announcement of this project for the October, 2005 ISTA News Bulletin.

PART 4

INFORMATION

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
03/01/2005	Germany	On difference between GRIN and Stabilized List
04/06/2005	New Zealand	Query on Abyssinian mustard or kale Are <i>Avena nuda</i> and <i>A. sativa</i> both needed in Rules
05/05/2005	United Kingdom	
07/19/2005	France	Adding Universal List of Weeds and Crops to Stabilized List
09/02/2005	France	Expanding listing of <i>X Festulolium</i> in Rules and Stabilized List

Thanks to committee member Ken Allison for representing NOM at the Ordinary Meeting in Bangkok.



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of New Methods

	TCOM	Method name/Subject	Proposed finalisation	Collaboration
1	PUR	Rules for purity test on seed mixtures	2005	Working group on mixtures, BSC, RUL

Introduction of New Species

	COM	Species	Subject	Proposed finalisation	Collaboration
1	PUR	All	Prepare PSD for new species in case of application (tropical and sub-tropical species included)	To be defined	RUL, Task Force on Tropical and Subtropical species

Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Collaboration
1	PUR	Propositions of changes from purity workshop 2004	October 2004	RUL
2	PUR	New format of Chapter 3 and 4 with addition of 11	October 2004	RUL

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	PUR	Revise the handbook for PSD with addition of illustrations and definitions for seed mixtures	2006	RUL, FSC
2	PUR	Finalise the "Universal List of Crops and Weeds"	2005	PTC, FSC
3	PUR	Handbook on purity analysis of seed mixtures	2005/6	Working group on mixtures, BSC, RUL

Training publications on specific seed testing topics

	COM	Publication title	Proposed finalisation	Collaboration
1	PUR	Identification of seeds of Universal List	2007	-

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	PUR	Purity analysis	2005	Asia
2	PUR	Purity analysis	2006	Zurich (to be confirmed)

3	PUR	Seed identification of species in Universal List	2007	Brazil
4	PUR	Training test to familiarize laboratories with the seeds of species of "Universal List" in collaboration with PTC	2005/6	-

E Special Projects

	COM	Project name/subject	Proposed finalisation	Collaboration
1	PUR	Develop a basic outline for workshop	October 2004	-
2	PUR	Prepare a list of seed specialists on seed identification and other technical questions	2005	-
3	PUR	Bibliography for seed identification	2005	-
4	PUR	Develop a list of botanical gardens, seed analysis stations, etc. holding seed samples of various species for distribution	2006	NOM
5	PUR	Collaborative study to determine procedure of blowing split sample of <i>Poa</i> spp. and <i>Dactylis glomerata</i>	2005	-
6	PUR	Compare the ISTA and AOSA calibration samples; provide a same supplier	2006	-

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1	Maria Rosaria Mannino	France
Vice-chair:	2	Jane Taylor	United Kingdom
Members:	3	Ken Allison	Canada
	4	S.C. Aswath Narayana	India
	5	Gerarda de Boer	Netherlands
	6	Fabio Ferrari	Italy
	7	Axel Goeritz	Germany
	8	Steve Jones	United Kingdom
	9	Monica Moreno	Argentina
	10	Deborah Meyer	United States
	11	Andreas Ratzenboeck	Austria
	12	Zita Ripka	Hungary

PART 3

PROJECT PROGRESS

A Project 1: Pure Seed Definitions Working Group

B Project leader: Steve Johns

C Summary

The working group made good progress on the handbook on Pure Seed Definitions, especially with the section on *Fabaceae*. The best format to use, in preparation for the subsequent publication has to be discussed with ISTA Secretariat.

A Project 2: Workshop organisation Working Group

B Project leader: Ken Allison

C Summary

The group developed a general workshop programme with constant parts that can be updated according to the current activities within ISTA and the actual interest of the participants.

The group is today working on the organisation of two purity workshops. The first one had been planned in Kenya in January 2006, but has been today postponed later (July or August or September 2006) because of a number of participants not sufficient to cover the costs. The second one has been planned in Switzerland in June 2006.

The workshop in Kenya has been organised with the objective of covering topics related to tropical and sub-tropical species (e. g. *Brachiaria*, *Digitaria*, *Panicum*, *Setaria*, *Urochloa*, *Cenchrus*, *Chloris*; introduction of new species in ISTA Rules, needs for ring tests and referee tests, presence in the Universal List of Weeds and Crops).

The programme of the workshop in Switzerland is still in the planning stage, but some sessions have already been included: use of nomenclature and taxonomy, identification of *Festuca* spp., reporting purity and other seeds determination results, identification of inert matters in purity analysis, purity training programme for new analysts, monitoring for accredited laboratories.

A Project 3: Blowing

B Project leader: Gerarda de Boer

C Summary

The working group worked on a questionnaire on blowing. We plan to use the information collected from completed questionnaire as a starting point of a study on blowing: e.g. blower calibration with whole or split calibration sample, comparison of different calibration samples (ISTA and AOSA), blowing of seed mixtures.

The questionnaire was sent out to 81 ISTA labs and the mailing list of the AOSA contained 56 labs. The mailing to the AOSA and the SCST labs was done by Anita Hall, executive director of SCST. We received 50 completed questionnaires : 32 from ISTA labs, 5 from SCST labs and 3 from AOSA labs.

The data have not been totally exploited. Some provisional results are the following:

1. the majority of the labs use the General Seed Blower;
2. The frequency of blower calibration is variable: from "Once a day when samples have to be blown" for 15 labs to "Once a year" for 4 labs;
3. The majority of the labs check their calibration samples asking another Federal, AOSA or ISTA laboratory for checking;
4. 4 labs are willing to participate in a comparative test between the ISTA and AOSA calibration samples: Agri Seed Testing, Inc. in the USA, NAK in the Netherlands, Canadian Food Inspection Agency and Saskatoon Laboratory in Canada.

A Project 4: Universal List

B Project leader: Maria Rosaria Mannino

C Summary

The Committee has been asked by the ISTA Secretariat in order to check the names of species of the Universal List regarding their presence on the List of ISTA Stabilized Plant Names. Following this work, 14 corrections have been made and 11 additions to the ISTA List of Stabilized Plant Names have been proposed to the Nomenclature Committee.

The working group also planned:

1. to draft an introduction to the List that will specify the aim of the List, its use and also how to update it;
2. to restructure the List in Universal and Regional Lists following our approved working programme;
3. to include in this List some suggestions recently given by members as dropping weeds or crops designations and indicating some species as "Genus spp."

A Project 5: ISTA Rules modifications

B Project leader: Maria Rosaria Mannino

C Summary

The Committee worked on 13 proposals for ISTA Rules modifications to be voted at the next OM in Zurich.

Proposals concern :

1. moving genera from a PSD to another
2. modifying PSD 22, 47 and 51
3. reporting results of Determination of Other Seeds by Number
4. reporting results of purity
5. revising Rules for several conifer genera.

PART 4

INFORMATION

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
06.22.2005	Indonesia	Identification of shallot seed
07.05.2005	Denmark	Reporting purity and number count tests according to the 2500 and 25000 seeds rule
07.11.2005	Netherlands	Rule 3.2.1 : presence or absence of caryopsis in <i>Poaceae</i> seeds
07.13.2005	France	Identification of <i>Festulolium</i>
09.12.2005	Poland	Weight determination of <i>Triticum spelta</i>
09.22.2005	Italy	Pure Seed Definition of <i>Triticum dicoccum</i>
10.13.2005	Germany	Pure Seed Definition of <i>Crambe abyssinica</i>



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of New Methods

	TCOM	Method name/Subject	Proposed finalisation	Collaboration
1	SHC	<i>Microdochium nivale</i> / <i>Triticum</i> spp.	2005	-
2	SHC	<i>Xanthomonas axonopodis</i> pv. <i>phaseoli</i>	Finalised in 2005	-

Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Collaboration
1	SHC	Annexe to Chapter 7 additional methods	2004, 05, 06	RUL
2	SHC	Assimilation of Annexe to Chapter 7 with Rules Chapter 7	2006	RUL
3	SHC	Review of Methods in Chapter 7 (due 2006)	2006	

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	SHC	ISTA Seed Health Testing Handbook	2008	To be discussed

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	SHC	Method Validation Workshop	Project finalised 2005	France SHC Symposium

Seminars

	COM	Workshop subject	Proposed Date	Region
1	SHC	5 th ISTA Seed Health Symposium	Project finalised 2005	Angers/France
2	SHC	6 th ISTA Seed Health Symposium	2008	South Africa

D Proficiency Test

	COM	Project name/subject	Proposed finalisation	Collaboration
1	SHC	To be agreed	2006	PTC
2	SHC	To be agreed	2006	PTC
3	SHC	To be agreed	2007	PTC

E Special Projects

	COM	Project name/subject	Proposed finalisation	Collaboration
1	SHC	Comparative Test: <i>Aphelenchoides besseyi</i> Christie / <i>Oriza sativa</i>	2007	STA
2	SHC	Comparative test: <i>Pyrenophora</i> spp. / <i>Hordeum vulgare</i>	2006	Nordic Pathology Group
3	SHC	Comparative test: SqMV / <i>Cucumis melo</i>	2007	-
4	SHC	Method development: Molecular tests for viruses in tomato and pepper seeds	2007	-
5	SHC	Validation of Molecular Seed Health Methods. Is the ISTA Validation Programme suitable?	2007	-
6	SHC	Comparative test: <i>Sclerotinia sclerotiorum</i> / <i>Phaseolus</i> spp.	2007	-
7	SHC	Seed Health Method Validation – Prioritising ISTA Member Requirements	2006	-

PART 2

Valérie Grimault has now replaced Joël Lechappé on the SHC.

COMMITTEE MEMBERSHIP LIST

Chair:	1	Valerie Cockerell	United Kingdom
Vice-chair:	2	Denis McGee (re-tired as Vice-chair)	USA
Members:	3	Theresa Aveling	South Africa
	4	Reyes Blanco Prieto	Spain
	5	Henrik Hansen	Denmark
	6	Dragica Ivanovi b	Serbia and Montenegro
	7	Harrie Koenraadt	Netherlands
	8	Valérie Grimault	France
	9	Carmi Omero	Israel
	10	Kathy Ophelkeller	Australia
	11	Petra Remeus	Netherlands
	12	Karin Sperlingson	Sweden
	13	Krystyna Tylkowska	Poland
	14	Manfred Weinhappel	Austria
	15	Jose da Cruz Machado	Brazil

PART 3

PROJECT PROGRESS

INTRODUCTION OF NEW METHODS

A Project 1: New Method: *Microdochium nivale*/Triticum spp.

B Project leader: Valerie Cockerell

C Summary

The project is not finalised: The comparative test was completed in 2003 and the report written. The project leader requires agreement with participants for changes to the final validation report and method sheet before submission of the data package to the Method Validation Programme.

A Project 2: New Method: *Xanthomonas axonopodis* pv. *phaseoli* / *Phaseolus vulgaris*

B Project leader: Petra Remeus (previously Jim Sheppard)

C Summary

The project is finalised: The method was submitted to the Method Validation Programme in September 2005 and has now been proposed as a new method in Chapter 7. Final editing of the Method Validation Report and Method sheet are being completed.

INTRODUCTION OF RULES CHANGES

A Project 1: Rules Changes, Method Validation Programme (continuous)

B Project leader: Henrik Hansen & Kathy Ophelkeller

C Summary

The project is continuous: Two methods were submitted to the SHC Method Validation Programme *Xanthomonas axonopodis* pv. *phaseoli* (XAP)/ *Phaseolus vulgaris* and *Pseudomonas savastanoi* pv. *phaseolicola* (PSP) on *Phaseolus vulgaris*. On behalf of the SHC Henrik Hansen is acting as editor for the first method and Kathy Ophelkeller for the latter. For XAP see project 2 report. PSP was submitted by ISF on behalf of ISHI-Veg in September. The submission has been reviewed with one reviewer requiring major revisions. The reviewers comments have been dealt with by the author and a response to those comments is awaited from the reviewer.

A Project 2: Rules Changes: Assimilation of Annexe to Chapter 7 with Rules Chapter 7

B Project leader: Valerie Cockerell

C Summary

The assimilated text has been submitted to the Rules Committee.

A Project 3: Rules Changes: Methods in Chapter 7 due for Review 2006

B Project leader: Harrie Koenradt

C Summary

No progress so far.

RULES ACCOMPANYING PUBLICATIONS

A Project 1: Publications: ISTA Seed Health Testing Handbook

B Project leader: Valerie Cockerell & Reyes Blanco Prieto

C Summary

The Project is not finalised: The SHC met on the 9th May 2005 to discuss the contents of the Handbook. The Meeting clarified that the Handbook will be directed at:

- a. the bench analyst, to be used for training in basic techniques and to provide useful information & knowledge on issues surrounding seed health testing; and
- b. the laboratory manager, providing information that would allow decisions to be made that meet the requirements of customers e.g. sampling and sample sizes, seed storage, QA, etc.

In addition chapter titles and authors were agreed with some suggestions made as to possible content of individual chapters. Detailed outlines of chapters are still being discussed. The intention is still to provide a first draft by 31 May for discussion at the next meeting of the SHC to be held on 24 June 2006 in Zurich

Having circulated our initial outline proposal of the Handbook contents to ISF an e-mail was received from Radha Ranganathan who intimated that sections of the ISHI-Veg Handbook discussed at their TCG Meeting in March 2005 had some similar chapters to those described in our original outline proposal. ISHI-Veg were of the view that if their drafts were ready before ISTA versions then they would be happy to 'share' information. The SHC decided it was important to keep communication channels open and to try to avoid duplication of effort. A meeting with ISHI-Veg was organised during the Seed Health Symposium in Angers: Present from the SHC was H. Koenradt, P Remeeus & V Cockerell) and representing ISHI-Veg Bert Woudt.

It was agreed at the meeting with ISHI-Veg that the SHC and ISHI-veg should keep communication channels open to try to avoid duplicating effort, but that we were not yet in a position to agree whether only one manual was necessary. ISHI-veg appeared to have a more urgent timetable and a less comprehensive manual in mind.

Although Bert Woudt was e-mailed a list of SHC contacts for the various Chapters no reciprocal list was received, to date there has been no further contact on this issue with the ISHI group.

TRAINING & EDUCATION WORKSHOPS

A Project 1: Method Validation Workshops

B Project leader: Valerie Cockerell

C Summary

Project finalised: A short workshop was arranged during an evening of the SHC Seed Symposium in Angers. The ISTA SHC Method Validation Programme was described by Valerie Cockerell further sessions on 'The importance of the test plan' by Harrie Koenraad and 'Using statistics to interpret comparative test results' by Sylvain Gregoire and Petra Remeeus stimulated good discussions. Attendance at the Workshop was high and many positive comments were made (a few negative too but nothing unexpected).

A Project 2: Seed Health Workshop Hanoi, Vietnam

B Project leader: Valerie Cockerell/APSA/ISTA Secretariat

C Summary

Project not finalised – Draft programme prepared for discussion with local representative - no action taken so far.

A Project 3: Seed Health Workshop Jakarta, Indonesia

B Project leader: Valerie Cockerell/APSA/ISTA Secretariat

C Summary

Project not finalised – Draft programme prepared for discussion with local representative - no action taken so far.

SEMINARS

A Project 1: 5th ISTA-SHC Seed Health Symposium

B Project leader: Joël Léchappé

C Summary

Project finalised: An excellent symposium was organised by Joël and his committee. Report published in Seed International.

A Project 2: 6th ISTA-SHC Seed Health Symposium, South Africa

B Project leader: Terry Aveling

C Summary

Project not finalised: Terry Aveling made a compelling presentation to the 1st meeting of the ISTA-SHC Committee 2004-2007 to hold the 6th ISTA-SHC Seed Health Symposium in South Africa. The SHC agreed that South Africa would be a good choice as the previous two symposia were held in Europe. After discussion with Michael Muschick the date (April) and place (Dursban (tbc)) of the next Symposium was announced to participants at final session of the 5th ISTA-SHC Symposium.

SPECIAL PROJECTS

Reports to be finalised.

A Project 1: Comparative Test: *Aphelenchoides besseyi* Christie/*Oriza sativa*

B Project leader: Petra Remeeus

C Summary

A new Test Plan has been drafted after a meeting of the working group in Angers on 13 May 2005.

A Project 2: Comparative Test: *Pyrenophora* spp./*Hordeum vulgare*

B Project leader: Karin Sperlingson

C Summary

No further progress to report.

A Project 3: Comparative Test: SqMV/*Cucumis melo*

B Project leader: Harrie Koenradt

C Summary

Test Plan complete and samples have been sent out to laboratories.

A Project 4: Method development: Molecular tests for viruses in tomato and pepper seeds

B Project leader: Carmi Omero

C Summary

An open meeting was held to discuss method development in this area in Angers on 13 May 2005, with a decision made that more work needs done by Carmi before a working group with specific objectives is convened.

A Project 5: Validation of Molecular Seed Health Methods

B Project leader: Kathy Ophelkeller

C Summary

Project not finalised: A meeting of the Working Group was held in Angers on 13 May 2005. The group recognised that many aspects had to be considered before deciding on whether the ISTA Method Validation Program was suitable for molecular testing. The activities of the group were separated into; a) general recommendations for validation of PCR methods (confirmatory PCR to be considered separately from direct PCR testing); and b) the chapter required for the Seed Health Handbook,

Other areas of discussion at the meeting included.

- The general policy was accepted of not specifying brands of reagents/consumables/equipment to be used but there may be specification of special requirements e.g. the use of hot-start Taq.
- During the method development phase it would be important to test that primers worked equally well in different countries.
- Internal controls and appropriate quality controls are also important.
- A statement would be required to indicate that the tests detect non-viable cells as well as viable cells.

There proved to be insufficient time allocated for the meeting of this group and much work would have to be discussed via e-mail and time made during next years meeting. A meeting has now been planned for Sunday 25 June 2006 in Zurich.

A Project 6: comparative Test: *Sclerotinia sclerotiorum*/*Phaseolus* spp.

B Project leader: Jose da Cruz Machado

C Summary

The Working Group Leader met with interested parties on 13 May 2005 in Angers. Jose reported that they were still in the phase of improving/developing the method and that a recent paper has proposed a simplification of the method being considered. His group will define the method (bromophenol blue/agar method), before pre-testing is undertaken with the intention of running a comparative test in 2006.

A Project 7: Prior

B Project leader: Henrik Hansen

C Summary

Project not finalised: H Hansen and C. Omero have prepared a Questionnaire to be sent to all ISTA Laboratories asking which Test Methods they are working with (all crops/all methods). The information would help prioritise

the needs of ISTA laboratories with regard which methods require validation before inclusion within the ISTA Rules.

A questionnaire has been submitted to the ISTA Secretariat to be sent out as soon as possible.

PART 4

INFORMATION

A Issues of Common Technical Interest

For discussion at next meeting of Technical Committee Chairs or separate meeting - Phytosanitary requirements regarding the movement of seed between countries, possible collaboration with IPPC Working Groups for Seed Health Committee, Purity Committee, Tree and Shrub Committee and Seed Storage Committee.

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
04.06.2005	Netherlands	Query on ISTA methods used for testing fungal pathogens on Linseed for EU and request regarding provision of infected seed for control/check samples and training.
04.15.2005	Netherlands	Request from a seed company for help from ISTA regarding use of non-validated methodology for Xcc.
04.17.2005	Israel	Interest in attending SHC Working Group Meetings in Angers.
05.17.2005	Netherlands	Request for information on USA regulations pertaining to seed-borne pathogens.
06.01.2005	Israel	Information supplied regarding comparison of different pre-treatments used for testing <i>Colletotrichum lindemuthianum</i> . I
06.08.2005	England	Request to make presentation on ISTA-SHC Activities at local Seed Analysts Meeting.
07.05.2005	ISTA Secretariat	Has ISTA developed any testing or trial guidelines for the efficacy of pesticides used as seed treatment.
07.22.2005	England	Request to participate in Squash Mosaic Virus comparative test.
08.08.2005	Australia	Is there a method for testing <i>Pseudocercospora herpotrichoides</i> on barley seed?
08.10.2005	Australia	ISTA Guidelines on testing kibbled seed for export.
08.24.2005	ISTA Secretariat	Understanding of International Seed Health Conference? Is there an ISTA session?
09.23.2005	Poland	Invitation to talk about work of ISTA-SHC particularly method validation.
10.09.2005	Syria	Request for information on seed-borne diseases of cereals and request to become a member of SHC.
12.01.2005	ISTA ECOM	Should test kits still be included in ISTA Method Validation Programme.



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of New Methods

	TCOM	Method name/Subject	Proposed finalisation	Collaboration
1	STA	Help available upon request from other committees on method validation, test planning, computations	permanent	Any committee

Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Collaboration
1	STA	Help available upon request from other committees	permanent	Any committee

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	STA	Handbook on seed mixtures (tolerances, Statistical test) (work envisaged by ISTA, no date)	2005	ECOM Ron
2	STA	Proficiency tests for GM seeds detection	permanent	ISTA Secretariat
3	STA	Stat review of reports before rule introduction	2 in 2005	SHC

Training publications on specific seed testing topics

	COM	Publication title	Proposed finalisation	Collaboration
1	STA	Printout and CD of the workshops Powerpoint and software of the workshop statistical aspects of GMO detection	2005 done	GMO TF

Scientific information publications

	COM	Publication title	Proposed finalisation	Collaboration
1	STA	Quantification of GM (% seeds, DNA copies), statistical aspects (see project)	2005 done	-

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	STA	Workshop Statistical aspects of GM detection done	November 2004 done	United States
2	STA	Workshop Statistical aspects of GM detection done	November 2005 done	Argentina
3	STA	Workshop on topics related to Statistics	Upon request	-
4	STA	Joint BSC-STA workshop	Upon request	-

Seminars

	COM	Seminar subject	Proposed Date	Region
1	STA	7 th ISTA seminar on Statistics	August 2005 done	Germany

D Proficiency Tests

	COM	Proficiency Test Subject	Proposed date	Collaboration
1	STA	Help on request from the committees	permanent	Any Committee
2	STA	ISO 5725 for quantitative measures	permanent	PTC and others
3	STA	Protocol planning, analysis of data, rating PT1 PT2	2003 done	GMOTF
4	STA	Protocol planning, analysis of data, rating PT3 PT4	2004 done	GMOTF
5	STA	Protocol planning, analysis of data, rating PT5 PT6	2005 done	GMOTF
6	STA	Official rating of past PTS organised on chapter 8	To be done 2005	Secretary general

E Special Projects

	TCOM	Project name/subject	Proposed finalisation	Collaboration
0	STA	Uncertainty (not confirmed as to be worked out)	none	ECOM
1	STA	Work in the STA-GMO TF for proficiency tests	2006	Head of TCOM Administration
2	STA	Worked out examples and exchange + education on Seed health and Statistics	-	To be defined with SHC Chair
3	STA	Update seedcalc and other tools available freely on ISTA web site	Oct 2004	Seedcalc 6
4	STA	Update seedcalc and other tools available freely on ISTA web site	Nov 2005	Seedcalc 7
5	STA	Any topic or subject brought by a Chairperson, or brought by users and accepted by a chair	-	Any Committee
6	STA	Germination with less than 400 seeds (not to do said GER) Germination Replace binomial by hypergeometric (not to do said GER) Quality control of analysts (to be done with GER leading , no date)	-	GER,SHC, MOI, on request from chairs
7	STA	Rounding procedure on ISTA website	Dec 2005	GER

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1	Sylvain Grégoire	France
Vice-chair:	2	Kirk Remund	United States
Members:	3	Julianna Banyai	Hungary
	4	Julia Barabas	Hungary
	5	Lawrence O. Copeland	United States
	6	Olfat El Bagoury	Egypt
	7	Wilfried Jackisch	Germany
	8	Michael Kruse	Germany
	9	Jean-Louis Laffont	France
	10	Andrew Peace	United Kingdom
	11	Erhard Thomas	Germany
	12	Mohamed Tourkmani	Morocco
	13	Petra Remeeus	Netherlands

NB: Larry Copeland asked to resign, offer was accepted by chair (e_mail) Suggestion was made him to write review of his activity in a next issue of STI.

PART 3

PROJECT PROGRESS

A Project 1: Accreditation for specified trait(s) testing, Chapter 8

B Project leader: ISTA

C Summary

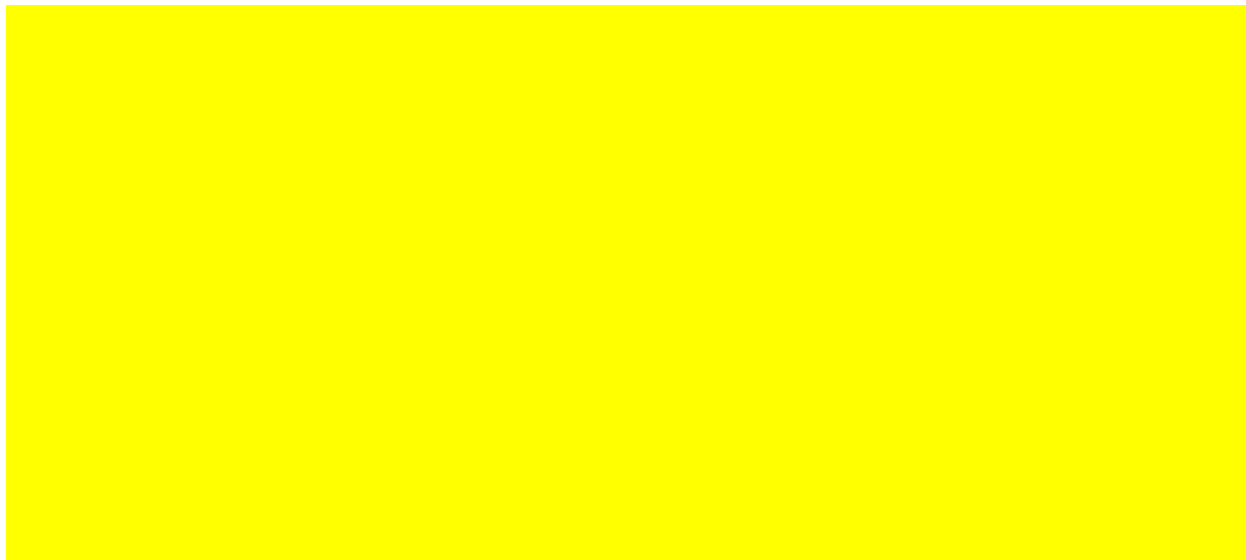
The proficiency tests for GMO Task Force has been defined and put into place. A support has been given by STA to create a consistent system, define, compute and rate the laboratories.

A document on Performance Data Evaluation (specific to performance based approach for chapter8) has been established.

Input in the discussions on accreditation for specified trait(s) testing.

New version of Seedcalc with new features. Selection of most ISTA and laboratories needed, from all demands

Publication in SSR of an article on GM quantification



PART 4

INFORMATION

A Issues of Common Technical Interest

Statistics:

GLM models, Bayesian approach, use of R as free software to develop new tools

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
More than 80 times	Many countries	Testing plans (comparative tests...), Use of rules, use less seeds, quality control, ...



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

B Publications

Scientific information publications

	COM	Publication title	Proposed finalisation	Collaboration
1	STO	As and when appropriate from individual researchers	-	-

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	STO	Seed Cryostorage (relevance to non-orthodox seed)	2006	SADC/ South Africa

E Special Projects

	TCOM	Project name/subject	Proposed finalisation	Collaboration
1	STO	Orthodox Seeds/ Micro-organisms	ongoing	-
2	STO	Orthodox Seeds/ Cryostorage and genebanking	ongoing	-
3	STO	Orthodox Seeds/ Invigoration	ongoing	-
4	STO	Orthodox Seeds/ Development of methodologies – cryoprocedures	ongoing	-
5	STO	Orthodox Seeds/ Other aspects	ongoing	-
6	STO	Non-Orthodox Seeds/ Micro-organisms	ongoing	-
7	STO	Non-Orthodox Seeds/ Storage	ongoing	-
8	STO	Non-Orthodox Seeds/ Responses to seed manipulation (including stress)	ongoing	-
9	STO	Non-Orthodox Seeds/ Development of methodologies – cryoprocedures; dehydration and rehydration	ongoing	-
10	STO	Seed Storage Handbook	2007	-

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1 David Mycock	South Africa
Vice-chair:	2 Hugh Pritchard	United Kingdom
Vice-chair:	3 Theresa Aveling	South Africa
Members:	4 Mark Bennett	United States
	5 Patricia Berjak	South Africa
	6 Reyes Blanco	Spain
	7 Celia de la Cuadra	Spain
	8 Olfat El Bagoury	Egypt
	9 Deon Erdey	South Africa
	10 Elena Gonzalez	Spain
	11 Pedro León - Lobos	Chile
	12 Miller McDonald	United States
	13 Heriel Msanga	Tanzania
	14 Moctar Sacandé	Burkina Faso
	15 Loren Wiesner	United States

PART 3

PROJECT PROGRESS

Contributions received from:
Professor Patricia Berjak (PB)
Mr Deon Erdey (DE)
Professor David Mycock (PB)

SEED SCREENING AND STORAGE OF INDIGENOUS SPECIES (PB AND DE)

In these experiments, open-storage refers to seeds stored at their harvest water contents in paper bags, while moist-storage refers to seeds stored at 100% RH in sealed containers.

1. *Encephalartos natalensis* and *E. gratus* (Zamiaceae)

Newly shed *Encephalartos gratus* and *E. natalensis* seeds were placed into storage at 16°C. Seed component water contents and germination were assessed at two-monthly intervals. When seeds were shed the developing sporophyte consisted primarily of the coiled, elongated suspensor bearing the pro-embryo at its tip. This structure was characterised by a water content much higher than that of the surrounding megagametophyte tissue (i.e. 2.5 to 4.0 g H₂O. g⁻¹ dry mass [g.g⁻¹] and 0.5 g.g⁻¹, respectively). Embryo development continued during open-storage at 16°C and the seeds attained full germination potential six to eight months after shedding. During this period, the water content of the developing embryos decreased to the range 1.75 - 1.25 g.g⁻¹, with little or no change in the water content of the megagametophyte tissue or in the overall fresh mass of the seeds. This suggests that the reallocation of resources from the megagametophyte to the developing embryo is a post-shedding event, and that the sclerotesta ('seed coat') is a substantial barrier to water loss by the seed. In fact, *E. natalensis* seeds retained 70% viability following 18 months storage at 16 °C. Preliminary results, however, indicated that the seeds are desiccation sensitive, as the germination of mature *E. gratus* seeds was greatly reduced when dried below an embryo water content of 0.49 g.g⁻¹, suggesting recalcitrant behaviour.

2. *Strelitzia reginae* and *S. nicolai* (Strelitziaceae)

Strelitzia reginae seeds are shed at relatively low water contents [embryo: 0.17 (± 0.018), and endosperm 0.17 (± 0.013) g.g⁻¹] and not only tolerate, but exhibit enhanced germination, when dried to an embryo water content of 0.085 (± 0.007) g.g⁻¹. However, the seeds of this species exhibit seed-coat imposed dormancy and/ or appear to be immature at harvest. When germinated in an oxygen rich environment (which has been shown to break dormancy in this species), germination increased from 50% (in newly harvested seeds) to 90% following 2 months open-storage at 25, 16 and 6 °C. Thereafter, germination totality decreased with increasing duration in storage, most notably when seeds were stored at 6 °C. Thus while seeds of this species tolerate considerable desiccation, they are relatively short-lived and appear to be chilling sensitive, suggesting intermediate seed storage behaviour. Preliminary analysis of the post-harvest storage behaviour of *S. nicolai* seeds suggests that these to are of the intermediate type, that in that the seeds are short-lived (as seed viability decreased with increasing duration in open-storage) and are chilling sensitive. However, unlike what was observed in the case of *S. reginae* seeds, *S. nicolai* seeds appear to be fully mature (and/or least dormant) at harvest.

3. *Scadoxus puniceus*, *Amaryllis belladonna*, *Nerine huttoniae*, *N. humulus*, *N. filifolia*, *N. bowdenii*, *Haemanthus humulus humulus*, *H. coccineus*, *H. deformis*, *H. bakerae*, *Brunsrigia gregaria*, *B. orientalis*, *Boophane distichia*, *Strumaria discifera*, *Crinum macowanii*, and *C. bulbispermum* (Amaryllidaceae)

All these species were shed at high water contents (2.60±0.16 to 6.94±0.93 g.g⁻¹) and germinated in storage without any additional water, suggesting non-orthodox post-harvest characteristics. All these species were not amenable to open- or moist-storage at 16 and 25 °C, where they germinated profusely and were subject to mass fungal infection after 30 d storage. Moist-storage at 6 °C significantly extended seed storage longevity, but there was still a progressive decline in seed viability over storage time. The seeds of only two species (*B. disticha*: 22 weeks, and *S. puniceus*: 20 weeks) could be stored (moist-storage at 6 °C) for more than 4 months with less than 50% viability loss, while all other species exhibited a viability loss of >50% within 6 to 10 weeks.

4. *Strychnos spinosa* (Loganiaceae)

S. spinosa seeds are unusual in that the water contents of the embryo components (axis: 0.336 ±0.20, cotyledons: 0.18±0.04 g.g⁻¹) are lower than that of the storage tissues (endosperm: 0.63±0.01 g.g⁻¹) at shedding. Preliminary results suggest that seeds of this species are recalcitrant as viability decreased from 90% (in freshly harvested seeds) to 30% following drying to a water content (determined on a whole seed basis only, but equivalent to that of the endosperm, which comprises the bulk of the seed) of 0.49±0.01 g.g⁻¹. In addition, seed viability decreased to 40-50% following moist-storage for 2 months at 16 and 25 °C.

5. *Bruguiera gymnorrhiza* (Rhizophoraceae)

Mature seeds consist of a large (20.88 ± 3.29 g) hypocotyl, with a protruding plumule at the proximal end. The seeds were shed at high water contents which, when determined for the plumule and middle and distal portions of the hypocotyls separately, were $1.39 (\pm 0.14)$, $1.59 (\pm 0.16)$ and $1.24 (\pm 0.18)$ g.g⁻¹, respectively. *B. gymnorrhiza* seeds are highly recalcitrant and extremely chilling sensitive as viability was greatly reduced following 2 weeks open-storage at 25 and 16 °C, while none of those seeds stored at 6 °C germinated. In contrast, 90% of the seeds had germinated following 4 weeks moist-storage. The proximal region (including the plumule) of the hypocotyl appears to be the most sensitive area of *B. gymnorrhiza* seeds, as this area exhibited visible signs of necrosis following chilling and desiccation.

6. *Bersama lucens* (Melianthaceae)

Seeds were shed at high embryonic axis (1.8 ± 0.2 g.g⁻¹ dm) and endosperm (0.8 ± 0.06 g.g⁻¹ dm) water contents. Seeds of this species are recalcitrant as they were desiccation sensitive and seed viability was lost within 30 days of moist-storage at 25, 16 and 6 °C, and within 10 days of open-storage at 16 and 6 °C. Seeds moist-stored at 25 and 16 °C were prone to fungal infection, while those seeds stored at 6 °C exhibited signs of chilling sensitivity.

ORTHODOX SEEDS

1. Seed-associated mycoflora (PB and DE)

The efficacy of a variety of systemic fungicides (having the active principles triazoles, strobilurins and phenylpyrrole) in eliminating or curtailing *Aspergillus niger* infection in *Welwitschia mirabilis* seeds is currently under investigation.

2. Seed germination (DM)

The germination parameters for the highly endangered *Protea hamiltonia* are being determined. *In vitro* approaches to the propagation of the species are also being developed.

NON-ORTHODOX SEEDS

1. Seed-associated mycoflora (PB and DE)

The efficacy of similar combinations of systemic fungicides used in the *W. mirabilis* study mentioned above, are currently being assessed in extending the longevity of *Trichilia dregeana* seeds in storage.

The level of *Fusarium* contamination within *Strelitzia reginae* seeds was affected by the temperature of the storage environment, when assessed over a 6 month period. While 40% of freshly harvested, good quality *S. reginae* seeds were infected, the level of *Fusarium* infection increased to 100% following 2 months storage at 6 and 25 °C. In contrast, seeds stored at 16 °C retained low levels of infection throughout the storage experiment.

2. Cryopreservation protocols

(a) Seeds (PB and DE)

Partial dehydration and cryopreservation studies have recently been focused on excised embryonic axes of *Trichilia dregeana*, *T. emetica*, *Ekebergia capensis* and *Strychnos gerrardii*. In all cases, protocols have been optimized and result in acceptable survival levels, but shoot production from the apical meristem upon axis retrieval from liquid nitrogen, is a prevailing problem. This seems to be characteristic of most tropical/sub-tropical species. Attention is currently being focused on the aetiology of the serious damage which is associated with severing connections at the axis surface. This aspect is being explored in the context of AOS production as a consequence of wounding, and currently experiments are also being planned that might ameliorate the excision-related damage.

(b) Alternative explants

i. (PB and DE) These include: axillary buds of *E. capensis*, *Theobroma cacao* and *Telfairia occidentalis*; and work is currently underway with inflorescences and developing fruits/seeds of *Garcinia livingstonei* and *Barringtonia racemosa*, both of which produce large, undifferentiated, hypertrophied axes that are entirely unsuitable for cryopreservation.

ii. (DM) The development of *in vitro* shoot and root systems via indirect organogenesis is being followed with several Eucalyptus species. The aim is to identify the most appropriate developmental stage for cryostorage. Associated in depth studies are characterising the responses of *in vitro* axillary buds to a pre-developed cryoprotocol for several Eucalyptus species and hybrids.

3. Synthetic seed (synseed) production (PB and DE)

Synseed production has been achieved for axes of *E. capensis* by alginate encapsulation after cryostorage. This process is to be extended to axes of other species, as soon as seeds are once again available, the first being those of *T. emetica*. The work on *E. capensis*, in which a protocol that promoted adventitious bud formation from the cotyledonary lesions was developed, is now being followed by investigations aimed at synseed production from axes in which the integrity of the shoot

apical meristem has been preserved (see above), and involving the use of explants alternative to excised zygotic axes (see above)

4. Other investigations

1. (PB and DE) Currently, other experiments on recalcitrant seeds include effects of chilling for several species; an extension, also to several species, of earlier work on 'sub-imbibed' storage (which is emerging as generally deleterious); studies on the responses of cyto- and nucleoskeletons to dehydration and chilling; the relationship between metabolic activity and desiccation sensitivity; seed water relations; and, as a side, but related issue, the generation and cryopreservation of alternative explants of sugarcane.

2. (DM) these experiments are determining whether the desiccation step involved in preparation of material for cryostorage is initiating cellular death via apoptosis or necrosis. These studies are utilising axillary buds of *Eucalyptus grandis*.



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of New Species

	COM	Species	Subject	Proposed finalisation	Collaboration
1	TEZ	<i>Larix, Picea, Brassica</i>	Vegetable, flower, tree seeds yearly 2 species according the questionnaire, 6 species yearly	2007	FST, FTS

Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Collaboration
1	TEZ	Reorganisation Rules and Annexe, Tab. 6	2006	-

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	TEZ	Reorganise Handbook Tetrazolium	2007	-
2	TEZ	Continue Working sheets	2006	FST, FTS

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	TEZ	TEZ Tree and Shrub	July 2005, finalised in 2005	Karlsruhe, Germany
2	TEZ	Trainingcours of TEZ Testing Vegetable and Agricultural Seed	24 -28 July 2006	Emmerloord The Netherlands

D Proficiency Tests

	COM	Proficiency Test Subject	Proposed date	Collaboration
1	TEZ	<i>Secale cereale</i>	July 2005	Finalised in 2005-
2	TEZ	<i>Panicum maximum</i>	February 2007	-
3	TEZ	<i>Medicago sativa</i>	June 2007	-

E Special Projects

	TCOM	Project name/subject	Proposed finalisation	Collaboration
1	TEZ	Evaluation of the questionnaire	2006	-

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1	Stefanie Krämer	Germany
Vice-chair:	2	Ronald Don	United Kingdom
Members:	3	Augusto Martinelli	Argentina
	4	Christofer Wood	United Kingdom
	5	Anny van Pijlen	Netherlands
	6	Valerie Blouin	France
	7	Sharon Davidson	United States
	8	María Belén Aranguren	Argentina
	9	Teresita Farras	Uruguay
	10	Gary Duffy	Ireland
	11	Linda Maile	United Kingdom
	12	Irena Jumburga	Latvia
	13	Jose B. Franca- Neto	Brazil
	14	Izelle Allison	South Africa
	15	Sergio Pasquini	Italy

PART 4

INFORMATION

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
August 2005	Iran	Question about Preparation of Orobanche spp.
July 2005	Hungary	General Questions about TEZ Testing
March 2005	Italy	Question about Preparation of Citrus spp.



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of Rules Changes

	TCOM	Subject	Proposed finalisation	Collaboration
1	VAR	Chapter 8 will be re-designed in the new format to incorporate: a. bio-molecular tests for varietal purity b. the testing for specified impurities (e.g. GMO's).	November 2004 finished	GMO TF
2	VAR	Rules Proposals	2006	

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	VAR	Variety Testing	2005 finished	China, Caribic -
2	VAR	Variety Testing	2006	Germany, Turkey, Africa -
3	VAR	Variety Testing	2007	Brazil, Germany

E Special Projects

	TCOM	Project name/subject	Proposed finalisation	Collaboration
1	VAR	Reorganise the Variety Committee and find adequate members	November 2004/6	in work*1
2	VAR	Form Working Groups on specific types of Variety Testing (techniques, crops or regions oriented?)	December 2004/6	*2 finished 2006
3	VAR	Do a survey on methods to find a. people/institutions that have methods available, b. people/institutions that are looking for methods.	September 2005 2006	Questionnaire running
4	VAR	Design a searchable database from all data obtained from the survey.	May 2006	-
5	VAR	Make the database available a. via ISTA-website, and b. through a hardcopy version.	June 2006 December 2006	ISTA Secretariat Website
6	VAR	Identify 'white spots' and find means to fill these with (externally funded) research	2007- 2010	-
7	VAR	Prepare for starting proficiency tests	2006	PTC planned March 06
8	VAR	Integrate the GMO Task Force into the Variety Committee	2007	GMO TF see *2
9	VAR	Laboratory Training	2005	Thailand, Brazil

PART 2

COMMITTEE MEMBERSHIP LIST

We thank Dr. Bob Cooke for all his Contributions. Unfortunately he has changed his position and officially resigned from the Committee at the end of 2005.

Chair:	1	Rainer Knoblauch	Germany
Vice-chair:	2	Kae-Kang Hwu	Taiwan
Members:	(*13)	Robert John Cooke - changed position	United Kingdom
	4	Kalyn Brix-Davis	United States
	5	Emanuela Casarini	Italy
	*6	C.C. Debashree	India
	7	W. Drost M.Sc	Canada
	8	Jerzy Drzewiecki	Poland
	9	Berta Killermann	Germany
	10	Paul Koranyi	Hungary
	*11	Uri Kushnir	Israel
	12	Anne Middleton	Canada
	*13	Chandgi Ram	India
	*14	Amar Tahiri	Morocco
	15	David Zhang	France

after the installation of the Committee there was no response from the * marked members.

PART 3

PROJECT PROGRESS

List of working groups

1.	WG Conventional methods	Chair	open
		Member	open
	a. Morphological	- ripe plant	- Brassica, Raphanus
		- seedling	- Lactuca, Cichorium, winter-summer cereals
	b. Anatomical	- seed	- Brassica species (testa)
	c. Chemical	- Phenol	- Triticum varieties
		- Formic acid	- Sinapis arvensis in Brassica
		- Potash solution	- Sinapis arvensis in Brassica
		- Lugol solution	- Lupinus with / without alcaloids
		- Hydrochloric acid	- Vicia sativa / villosa
	d. Fluorescence	- floret	- Avena white / yellow var.
		- seedling	- Trifolium species
			- Melilotus species
			- Lolium perenne / multiflorum
			- Festuca rubra / ovina
			- Allium species
2.	WG Field trials	Chair	open
		Member	open
3.	WG Electrophoretic methods	Chair	Rainer Knoblauch
	a. PAGE	Member	Berta Killermann
	b. SDS		
	c. IEF		
4.	WG DNA Analysis		open
5.	WG GMO detection	Chair	Kae Kang Hwu
		Member	open



PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of New Methods

	TCOM	Method name/Subject	Proposed finalisation	Collaboration
1	VIG	Controlled deterioration test for <i>Brassica</i> species (to be submitted to the Method Validation Procedure)	2007	STA

Introduction of New Species

	COM	Species	Subject	Proposed finalisation	Collaboration
1	VIG	<i>Glycine max</i>	Addition of the species to the Conductivity test	2010	STA
2	VIG	<i>Phaseolus vulgaris</i>	Addition of the species to the Conductivity test	2010	STA
3	VIG	<i>Brassica oleracea</i> var <i>oleifera</i>	Addition of the species to the conductivity test	2010	STA

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	VIG	Handbook of Vigour Test Methods 4 th Edition	2007	-

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	VIG	Seed Vigour Testing	2006	Angers, France
2	VIG	Seed Vigour Testing	April 2007 (immediately prior to ISTA Congress)	Brazil

D Proficiency Tests

	COM	Proficiency Test Subject	Proposed date	Collaboration
1	VIG	Conductivity test for <i>Pisum sativum</i>	2005 (round 05-03)	-

E Special Projects

	TCOM	Project name/subject	Proposed finalisation	Collaboration
1	VIG	Application of assessments of the rate of germination to vigour evaluation (rice, onion, maize)	2007	-
2	VIG	Extension of the application of the accelerated ageing test to maize	2007	-
3	VIG	Investigation of the feasibility of a running proficiency test for accelerated ageing of soybean	2007	-

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	1	Alison A Powell	United Kingdom
Vice-chair:	2	Michael Kruse	Germany
Members:	3	Ernest Asiedu	Ghana
	4	Patricia Brownfield	United States
	5	Emanuela Casarini	Italy
	6	Malavika Dadlani	India
	7	Marie-Helene Wagner	France
	8	Anders Lomholt	Denmark
	9	John Hampton	New Zealand
	10	Seok Hyeon Kim	Korea
	11	Francisco Kryzanowski	Brazil
	12	Gillian McLaren	United Kingdom
	13	Rasha El Khadem	Austria
	14	Dennis M TeKrony	United States
	15	Yan Rong Wang	China

PART 3

PROJECT PROGRESS

A Project: Validation of the controlled deterioration test

B Project leader: Alison A Powell (GB)

Working group members: Pat Brownfield (US); Emanuela Casarini (IT); Hulya Ilbi (TR); Steve Jones (GB); Mohammad Khajeh Hosseini (IR); Anders Lomholt (DK); Gillian MacLaren (GB); Marie-Helen Wagner (FR)

C Summary

A preliminary round of testing has been completed to assess laboratories who are less experienced in completion of the controlled deterioration test.

A Project: Application of the conductivity test to *Phaseolus vulgaris*

B Project leader: Alison A Powell (GB)

Working group members: Emanuela Casarini (IT); John Hampton (NZ); Karen Hill (AU); Gillian McLaren (GB); Marie-Helene Wagner (FR)

C Summary

Samples of three seed lots of *Phaseolus vulgaris* were sent to the five members of the working group who completed three repeat runs of the conductivity test, following the same procedures described in the ISTA Rules for *Pisum sativum*. Initial comparisons of the test results, on the basis of the tolerance values for *Pisum sativum*, have shown them to be repeatable within laboratories and reproducible between laboratories. A field emergence trial was completed the UK in September / October. The timing of this was not seasonable for the crop, but offered similar soil temperatures to a spring sowing. Field emergence of the lots will be tested again in spring 2006. Statistical analysis of the data is ongoing.

A Project: Application of the conductivity test to *Glycine max*

B Project leader: Alison A Powell (GB)

C Summary

Preliminary comparisons of the conductivity test will be conducted as part of comparative testing of vigour tests of soyabean in Brazil led by Jose Franca Neto. The difficulties in obtaining a source of seed that can be distributed to a wide range of countries for comparative testing have yet to be overcome.

A Project: Application of the conductivity test to *Brassica oleracea var oleifera* (oil seed rape)

B Project leader: Marie-Helene Wagner (FR)

Working group members: Pat Brownfield (US); Emanuela Casarini (IT); John Hampton (NZ); Hulya Ilbi (TR); Anders Lomholt (DK); Benoit Meriaux (FR); Harry Nijenstein (NL)

C Summary

Samples of six lots of *B. oleracea var oleifera* were sent to the working group members to complete three repeat runs of the conductivity test. The General Directions for completion of the test for *Pisum sativum* in the ISTA Rules were followed. Specifications given for application of the test to oil seed rape test were: the use of 4 replicates of 100 seeds for each lot; addition of 50ml water to each replicate; seeds to be held at 20°C for 16 hours before measurement of the conductivity. Data from testing has now been completed by all laboratories and data analysis is in progress.

A Project: Proficiency test for the conductivity test for *Pisum sativum*

B Project leaders: Gillian MacLaren (GB), Alison A Powell (GB)

C Summary

This is in progress as part of the Proficiency testing round 05-3 in October 2005. Three samples of peas have been sent to 33 laboratories. Of these, 10 are accredited laboratories and 23 laboratories are voluntary participants in the proficiency test.

A Project: Application of assessments of the rate of germination to vigour evaluation (rice, onion, maize)

B Project leader: Malavika Dadlani (IN)

Working group members: Emanuela Casarini (IT); Mohammad Khajeh Hosseini (IR); Seok Hyeon Kim (K); Anders Lomholt (DK); Stan Matthews (GB); Marie-Helene Wagner (FR)

C Summary

The members of this working group are focussing on different species. Seeds of rice and onion are being assessed by four laboratories (IN, IT, Fr, K). The rate of germination (Mean Germination Time, MGT) of maize has been successfully related to the emergence in soil of 13 seed lots (Seed Science and Technology, in press). Comparisons of two further groups of seed lots (8 lots and 5 lots) are in progress in UK, France, Iran and Denmark, involving assessments of MGT at several temperatures and field emergence trials.

A Project: Extension of the accelerating ageing test to maize

B Project leader: Rasha El Khadem

Working group members: Ernest Asiedu (GH); Emanuela Casarini (IT); John Hampton (NZ); Seok Hyeon Kim (KR); Marie-Helene Wagner (FR)

C Summary

The activities of this group have been delayed due to a change in personnel at the lead laboratory. Rasha El Khadem has now replaced Charlotte Leonhardt as working group leader.

A Project: Feasibility of a proficiency test for accelerated ageing of Soybean

B Project leader: Alison A Powell (GB)

C Summary

Twenty four ISTA laboratories from 20 countries expressed interest in participating in a proficiency test for accelerated ageing. These laboratories have been asked to complete a questionnaire on the current status of AA testing in their laboratory and the equipment available to them. Currently, nine laboratories have responded. The approach to a possible proficiency test will be decided when information from all laboratories has been received.

PART 4

INFORMATION

B Request list

The Committee has been involved in technical questions raised by ISTA Members and non-members:

Date	Country	Subject
12. 11. 04	Switzerland	Conductivity test: application to <i>Vicia faba</i> , <i>Glycine max</i> and peas; interpretation of results
28. 10. 05	Brazil	The physiological basis of vigour tests
10. 11. 05	Japan	Conductivity test: what are the 'petit pois' varieties to which the test does not apply?
14. 11. 05	Ireland	Conductivity test: do you take the mean of the two control values when calculating conductivity?



NORBERT LEIST, CHAIR

GMO TF

GMO TASK FORCE

PART 1

PROGRESS REPORT AND WORKING PROGRAMME UPDATE

A Rules Development

Introduction of New Methods

	TCOM	Method name/Subject	Proposed finalisation	Collaboration
1	GMO	Rules Chapter for specified trait(s) testing	finalised 2005	-

B Publications

Rules accompanying publications

	COM	Publication title	Proposed finalisation	Collaboration
1	GMO	Proceedings → Handbook	finalised 2004	FAO

Training publications on specific seed testing topics

	COM	Publication title	Proposed finalisation	Collaboration
1	GMO	Exchange of information on the ISTA Website steadily enhancement	2006	ISTA Secretariat

Scientific information publications

	COM	Publication title	Proposed finalisation	Collaboration
1	GMO	Seed calc, enhancement Website	finalised 2005	STA (Seedcalc 7)

C Workshops and Seminars

Training and education workshops

	COM	Workshop subject	Proposed Date	Region
1	GMO	Protein, DNA Analysis	December 2004	Cairo
2	GMO	8 th ISTA/FAO Workshop on Varietal Verification and GMO Detection	February 2005	Turkey
3	GMO	9 th ISTA/FAO Workshop on Varietal Verification and GMO Detection	October 2005	Tanzania
4	GMO	10 th ISTA/FAO Workshop on Varietal Verification and GMO Detection	October 2005	Cameroon

Seminars

	COM	Seminar subject	Proposed Date	Region
1	GMO	Statistical aspects	2005	-
2	GMO	Statistical each year	-	-

D Proficiency Tests

	COM	Proficiency Test Subject	Proposed date	Collaboration
1	GMO	Soybean	2004	ISTA Secretariat
2	GMO	2 rounds each year	-	-

E Special Projects

	TCOM	Project name/subject	Proposed finalisation	Collaboration
1	GMO	Accreditation	2005	ISTA Secretariat

PART 2

COMMITTEE MEMBERSHIP LIST

Chair:	Norbert Leist	Germany
Strategy Working Group		
Chair:	Norbert Leist	Germany
	Michael Kruse	Germany
	Enrico Noli	Italy
	Michael Muschick	ISTA Secretariat
	Bettina Kahlert	ISTA Secretariat
	Bernard Le Buanec	ISF Secretariat
	Doris Dixon	United States
	Jean-Marie Debois	OECD Secretariat

Rules Chapter Working Group (dissolve in April 2005)

Proficiency Test Working Group

Chair:	Bettina Kahlert	ISTA Secretariat
	Sylvain Gregoire	France
	Christoph Haldemann	Switzerland
	Kirk Remund	United States
	Jean-Louis Laffont	France
	Quentin Schultz	United States
	Don Cerwick	United States
	Anja Matzk	Germany

Exchange of Information Working Group

Chair:	Enrico Noli	Italy
	Christoph Haldemann	Switzerland
	David Zhang	France
	Greta de Both	Belgium
	DaNell Jamieson	United States

Further members

Eugenia Barros	South Africa
Sofia Ben Tahar	France
Olfat H. El Bagoury	Egypt
Erik Gatignol	France
Leopold Girsch	Austria
Lutz Grohmann	Germany
Timothy J. Gutormson	United States
Ljubomir Horvath	Slovak Republic
Henk Joos	Belgium
Benjamin Kaufman	United States
Nigel John Kilby	Finland
Berta Killermann	Germany
Michael Kruse	Germany
Satish Rai	United States
Brian Savoy	United States
Sandra Seeman	United States
Chris Sikolas	Greece
Michael Star	United States
David Stimpson	United States
Michael Sussman	United States
Ana Laura Vicario	Argentina

PART 3

PROJECT PROGRESS

A Project 1: Rules Chapter for specified trait(s) testing

B Project leader: Michael Kruse

C Summary

At the last Ordinary Meeting of the Association, voting delegates supported the inclusion of rules for the testing of specified trait(s) including the detection, identification and quantification of genetically modified seed into Chapter 8 'Species and Variety Testing' of the ISTA International Rules for Seed Testing. The new Chapter 8 will come into force February 1st, 2006.

A Project 2: Workshop Proceedings 'ISTA/FAO Workshop on Varietal Verification and GMO Detection'

B Working Group: Christoph Haldemann, Rainer Knoblauch, Norbert Leist, Enrico Noli

C Summary

The Workshop Proceedings 'ISTA/FAO Workshop on Varietal Verification and GMO Detection' are a comprehensive picture of the figures presented and explained during the workshop. The first version was written for the workshop in Buenos Aires, Argentina, in December 2001. Since then they were continually improved and distributed to the participants to reconsider the content of the workshop.

A Project 3: Workshop 'ISTA/FAO Workshop on Varietal Verification and GMO Detection'

B Working Group: Christoph Haldemann, Rainer Knoblauch, Norbert Leist, Enrico Noli

C Summary

In 2005, two 'ISTA/FAO Workshops on Electrophoretic Methods and PCR-Techniques for Varietal Verification and GMO Detection' were held in Beijing, China, in February and in Kingston, Jamaica, in May.

Two ISTA Workshops on Statistical Aspects of GMO Detection were held in 2005 (see Activity Report of Statistics Progress Report).

A Project 4: ISTA Proficiency Tests on specified trait(s) testing

B Working Group Leader: Bettina Kahler

C Summary

In 2005, two proficiency tests were carried out:

5th ISTA Proficiency Test on specified trait(s) testing on *Gycine max* (L.) Merr

For this proficiency test three different soybean seed lots were provided: a non GM, a GTS 40-3-2 (GTS40) and a A2704-12 (A2704) seed lot. Each participating laboratory received a set of 12 samples each of 3 000 seeds. Three samples were negative (no GM seeds added) and 9 samples were positive. Five out of the 9 positive samples were the same for all laboratories: 2 samples contained 0.2% GTS 40 seeds and 3 samples contained 1.0% A2704 seeds. Four samples differed in their specified trait(s) content between the laboratories. One-third of the labs received either samples with a GTS 40 content of 0.5%, 1.0% or 1.5%.

58 laboratories reported evaluable results. The results of the qualitative testing of this proficiency test showed that the laboratories did not have any problems to detect the GTS40 seeds but about 45% laboratories were not able to detect the A2704 samples correctly. 86% of the laboratories performed a quantitative test either by sub-sampling quantification or RT PCR. A detailed summary of the results can be obtained from the ISTA Secretariat.

6th ISTA Proficiency Test on specified trait(s) testing on *Brassica napus* L.

Participating laboratories received 10 samples each of 3 300 seeds. The results of this proficiency test will be submitted in February 2006.

A Project 5: Accreditation

B Working Group Leader: Joël Léchappé

C Summary

With the positive vote of the ISTA Membership at the Ordinary Meeting in Bangkok, Thailand 2005, to include the performance based approach in the ISTA Rules, ISTA will with the accreditation of laboratories for the detection, identification and quantification of GM seeds in seed lots in February 2006. The aim is to provide reliable and reproducible testing results on international level through the ISTA accredited laboratories. For the implementation of accreditation two new relevant documents have been written and published: Principles and Conditions for Laboratory Accreditation under the Performance Based Approach and Performance Data Evaluation for the presence of seed with specified trait(s) in seed lots (see also Activity Report of the Statistics Committee).

The documents can be downloaded from the ISTA Website.