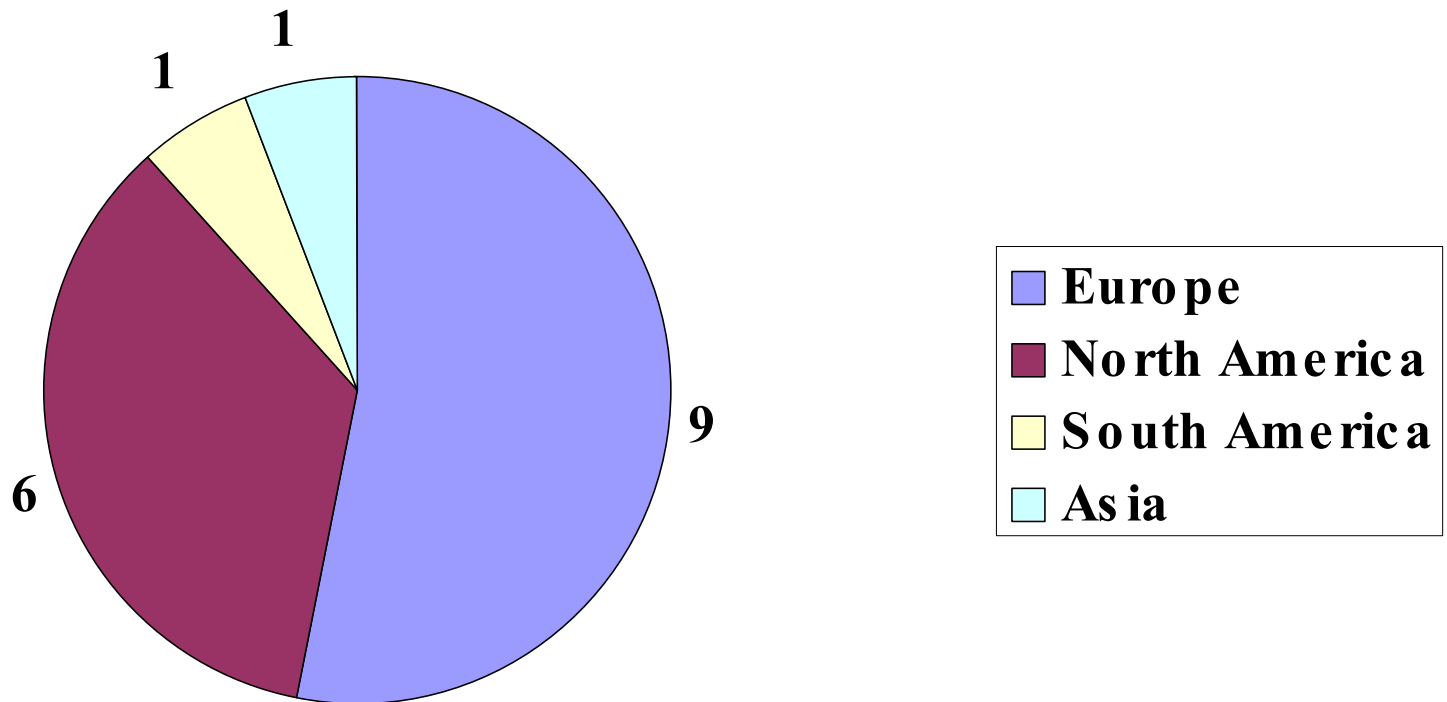


Activity report
ISTA
Forest Tree and Shrub Seed
Committee
2004 - 2005

ISTA Ordinary Meeting
Bangkok, 2005

FTS membership

17 members from 10 countries



FTS members

Czech Republic	Zdenka Prochazkova (Chair)
Germany	Stefanie Krämer
Italy	Fabio Gorian, Beti Piotto
Norway	Heidi Røsok Bye
Slovakia	Elena Foffova
United Kingdom	Peter Gosling, Hugh W.Pritchard (Vice- chair), Moctar Sacandé , <u>Christopher B. Wood</u>
Canada	D.G.W. Edwards, Dave Kolotelo, Dale Simpson
United States	Kari Fiedler, Robert P. Karrfalt, Victor Vankus, <u>Jill Barbour</u>
Brazil	Fatima C.M. Pina-Rodrigues
Malaysia	Daniel Baskaran

A Rules Development

A.1 Introduction of New Methods

	Method name/Subject	Proposed finalisation	Collaboration
1	Tropical tree seed germination (25 species)	2007	
2	<i>Juniperus</i> germination	2007	
3	Comparative tests of <i>Abies</i> germination	2007	
4	Comparative tetrazolium tests of <i>Abies</i>	2007	TZ

FTS Activity report 2004 - 2005

A.1 Introduction of New Methods

	Method name/Subject	Leader	Members
1	Tropical tree seed germination	H. Pritchard	Ch. B. Wood, M. Sacandé

Seeds of 13 species have been screened for germination as a first step in choosing a short-list of species for further testing and possible introduction into the rules.

Germination testing involved incubation on 1 % agar-water at 30°C, for the nine species of palm, a range of temperatures for two *Combretum* species, 25°C for *Sterculia quinqueloba* and lower temperatures for the altitudinal species *Widdringtonia whytei*. Sources of seed included the 'trade' and collaborators in Malawi and Burkina Faso.

For the palms, germination levels and mean times to germination were: *Phoenix dactylifera* (50%; 16 d); *Archontophoenix cunninghamiana* (50%; 70 d); *Chamaeodorea tepejilote* (55%; 56 d); *Cocothrinax barbadensis* (72%; 46 d); *Drymophloeus subdistichus* (80%; 20 d); *Dypsis carlsmithii* (78%; 10 d); *Gaussia maya* (93%; 41 d); *Livistona decipiens* (85%; 14 d); *Sabal mexicana* (78%; 13 d).

For *Widdringtonia whytei*, optimum germination occurred at 15°C, with lower levels at higher and lower temperatures. For *Combretum molle* and *Combretum zeyheri* high levels of germination (>85%) were observed at temperatures from 15 – 35°C. Good germination (>60 %) was observed in *Sterculia quinqueloba* seeds at 25°C, although germination was about 10 % lower on agar-water compared with sand as a substrate. Similar improvements in germination were observed for *Combretum molle* and *Combretum zeyheri* when sown in sand.

FTS Activity report 2004 - 2005

A.1 Introduction of New Methods

	Method name/Subject	Leader	Members
2	<i>Juniperus</i> germination	B. Piotto	K. Fiedler, M. Boydak J. Barbour

Goal:

information about germination of the different species of genus *Juniperus* will be collected (from published papers, direct sources, nurseryman, etc) and processed to prepare a sort of 'commented bibliography' which could be available on line in several web sites (ISTA, APAT, USDA FS NTSL, etc); as usual in Internet enquiries, search will be possible through key words so that to make it faster

With the cooperation of experts from the University of Cagliari (Dr. G. Bacchetta) we are at present defining the form to install in the web for introduction of information

FTS Activity report 2004 - 2005

A.1 Introduction of New Methods

	Method name/Subject	Leader	Members
3	Comparative tests of <i>Abies</i> germination	G. Edwards	K.Fiedler, E. Foffova, F. Gorian,:D. Kolotelo, Z. Prochazkova, Victor Vankus

To evaluate a new dormancy-breaking stratification-redry method in fir seeds (controlling seed moisture content during stratification = prechilling)

To compare with current prechilling prescriptions and tetrazolium test

A detailed working plan has been drawn up for a ring test to investigate the efficacy of the stratification-redry method of overcoming dormancy in fir seeds.

A preliminary comparison with current stratification prescriptions has been made, together with the results of simultaneous tetrazolium tests.

FTS Activity report 2004 - 2005

A.1 Introduction of New Methods

	Method name/Subject	Leader	Members
4	Comparative tetrazolium tests of <i>Abies</i>	Z. Prochazkova	K.Fiedler, E. Foffova, F. Gorian, D. Kolotelo, Victor Vankus

2004 A questionnaire will be sent to all ISTA laboratories testing forest tree seeds

2005 Comparative tetrazolium test of *Abies* species will be organized based on methods (“dry versus wet”) used in laboratories

2006 Evaluation of results

2007 Proposal of Rules changes

No progress yet

A Rules Development

A.3 Introduction of Rules Changes

	Subject	Proposed finalisation	Collaboration
1	Revision of pure seed definitions (psd)	2006	PC
2	Harmonisation Table 6. Tetrazolium tests with Table 2 Sampling	2006	TZ

FTS Activity report 2004 - 2005

A.3 Introduction of Rules Changes

	Subject	Leader	Members
1	Revision of pure seed definitions (PSD)	D.G.W. Edwards	Victor Vankus, Z. Prochazkova

A proposal to revise the ISTA Rules has been prepared (March 2004) but the FTS membership decided to apply first the proposed PSD in practice

Discussion about PSD 47. (Seed, **with or** without wing or integument, provided a portion of the testa is attached) with PC

A.3 Introduction of Rules Changes

	Subject	Leader	Members
2	Harmonisation Table 6. Tetrazolium tests with Table 2 Sampling	Z. Prochazkova	S. Krämer, K.Fiedler
2005 Data collection - in cooperation with Tetrazolium and Bulk and Sampling Committees			
2006 Proposal of new tables			
No progress yet			

B Publications

B.1 Rules accompanying publications

	Publication title	Proposed finalisation	Collaboration
1	ISTA Tree and Shrub Seed Handbook - revision	2007	
2	Seedling Evaluation Handbook	2007	GC

FTS Activity report 2004 - 2005

B.1 Rules accompanying publications

	Publication title	Leader	Members
1	ISTA Tree and Shrub Seed Handbook - revision	Zdenka Prochazkova	F. Gorian, E. Foffova, P. Gosling, D.Kolotelo. B.Piotto, H.Pritchard, D. Simpson, H.Rosok Bye

2004

The Secretariat was asked to scan the current version of the Handbook.

Chapter 1 – 9 has been scanned thanks a very kind cooperation of ISTA Secretariat (Bettina Kahlert)

First check and corrections are in progress

The authors of chapters will be asked for their kind cooperation.

B.1 Rules accompanying publications

	Publication title	Leader	Members
2	Seedling Evaluation Handbook	Peter Gosling	Zdenka Prochazkova

Draft proposals for clarifying the developmental stage at which germinating tree seeds can be classified as 'normal' seedlings

(additional chapter dealing especially with tree and shrub seed germination will be elaborated)

No progress yet

FTS Working Programme 2004 - 2007

C Workshops and Seminars

C.1 Training and education workshops

	Workshop subject	Proposed Date	Region
1	Tree and Shrub Seed Tetrazolium Workshop	06.2005	Europe Germany

C.1 Training and education workshops

	Workshop subject	Leader	Member
1	Tree and Shrub Seed Tetrazolium Workshop	S. Krämer	K.Fiedler

June 2005, Karlsruhe, Germany, Europe

July 11-15, 2005

D Proficiency Tests

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

FTS Activity report 2004 - 2005

D Proficiency Tests

	Proficiency Test Subject	Leader	Members
1	Tree and Shrub Seed Germination – 1 st round with 1 species	Zdenka Prochazkova	Elena Foffova, Victor Vankus

2004 - a proposal of the ISTA “Referee Samples Preparation Instructions For Referee Test Leaders” for forest tree seeds; species and method selection (based on a questionnaire - the most frequent methods and species used/tested in laboratories)

2005 - selection and preparation of samples for the 1st round of ring tests for 1 species (*Pinus?*)

2006 - 1st round of ring tests, evaluation of results

2007 – 1st round of Proficiency test

No progress yet

FTS Working Programme 2004 - 2007

E Special Projects

	Project name/subject	Proposed finalisation	Collaboration
1	Harmonisation of the ISTA and AOSA Rules	2007	
2	Publication of Proceedings of FTS Workshop, Prague 2003	2004	

FTS Activity report 2004 - 2005

E Special Projects

	Project name/subject	Leader - Members
1	Harmonisation of the ISTA and AOSA Rules	G. Johnson, V. Vankus

1.) Finalize report outlining differences. Identify 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.

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*)

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.

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.).

FTS Activity report 2004 - 2005

E Special Projects

	Project name/subject	Leader - Members
1	Harmonisation of the ISTA and AOSA Rules	G. Johnson, V. Vankus

SAMPLING

Samples and lots sealed , Provision for certification of samplers , Maximum lot size set , Intensity of sampling , Submitted sample size

MOISTURE CONTENT

SEEDS PER KILOGRAM OR POUND

PURITY

PSD, What to do with attached wings , Separation into parts and reporting

GERMINATION

Temperature variation , Extension of tests, Test conditions, Seedling Evaluation

TETRAZOLIUM

Many similarities and differences

EXCISED EMBRYO

OTHER

Referee Tests (Proficiency)

AOSA - Laboratories in each region organize one or two referees each year and report results at the annual meeting. Referees are for education, training, and to generate information and support for rule proposals.

ISTA – Referees are designed for proficiency testing and are compulsory for accreditation.

Accreditation of Seed Analysts

AOSA – Sets standards, provides training materials, and tests Seed Analysts for accreditation as Certified Seed Analysts (CSA) in Germination and Purity.

ISTA – No accreditation of Seed Analysts.

Accreditation of Laboratories

AOSA – Setting up a laboratory accreditation system with the US Department of Agriculture as the accrediting authority in the US. Laboratory Accreditation will be voluntary (not required for membership in AOSA). Agriculture Canada already accredits Canadian laboratories.

ISTA – Has operated a well developed laboratory accreditation system for three years and accredited many of the ISTA member laboratories.

E Special Projects

	Project name/subject	Proposed finalisation	Leader
2	Publication of Proceedings of FTS Workshop, Prague 2003	2004	Z. Prochazkova

In process

Proceedings will be published in May 2005

FTS Working Programme 2004 - 2007

C Workshops and Seminars

C.1 Training and education workshops

Organiser: Dr. Fabio Gorian

	Workshop subject	Proposed Date	Region
2	Tree and Shrub Seed Workshop (Purity, Germination, TEZ)	09.2006	Europe Italy

Thank you for your attention

