



**Dear Committee Members**

**Dear Colleagues**

**I regret not to stay here, together with you  
at the Ordinary Meeting in Bangkok.**

**On my behalf Norbert Leist will give the report on the  
Tetrazolium Committee`s activities to you.**

**I am looking forward to see all of you again  
and wish you good and fruitful discussions.**

**With best greetings**

**Stefanie Krämer**



# ISTA Tetrazolium Committee

Chair: Stefanie Krämer

Report at the Ordinary Meeting 2005

Bangkok, Thailand

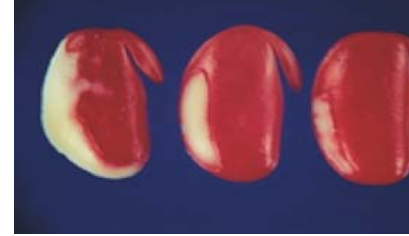


Session 25 April 2005, 10<sup>45</sup> - 11<sup>15</sup>



# List of Committee Members

<b>Chair:</b>	<b>Stefanie Krämer</b>	<b>Germany</b>
<b>Vice-Chair:</b>	<b>Ronald Don</b>	<b>United Kingdom</b>
	<b>Augusto Martinelli</b>	<b>Argentina</b>
	<b>Christofer Wood</b>	<b>United Kingdom</b>
	<b>Anny van Pijlen</b>	<b>Netherland</b>
	<b>Valerie Blouin</b>	<b>France</b>
	<b>Sharon Davidson</b>	<b>United States</b>
	<b>María Belén Aranguren</b>	<b>Argentina</b>
	<b>Teresita Farras</b>	<b>Uruguay</b>
	<b>Gary Duffy</b>	<b>Ireland</b>
	<b>Linda Maile</b>	<b>United Kingdom</b>
	<b>Irena Jumburga</b>	<b>Latvia</b>
	<b>Jose B. Franca- Neto</b>	<b>Brazil</b>
	<b>Izelle Allison</b>	<b>South Africa</b>
	<b>Sergio Pasquini</b>	<b>Italy</b>



# A RULES Development



**RULES Changes**

**Reorganisation of RULES and Annex**

**completed 2006**

**New version of Table 6 A Part II Tree and shrub seeds**

Discussion with FTS to make the table consistent with the RULES and Annexe e.g. solution percentage, optimum time hours, anatomical details **completed 2006**

**Introduction of new species:**

**Table 6 A Part I**

***Brassica, Glycine max***

**completed 2006**

**Table 6 A Part II**

***Larix, Picea***

**completed 2006**

**RULES Revision of paintings 6.5.2.A**

**completed 2006**

**RULES Proposals are elaborated according the TEZ Handbook**

**Final validation with ringtests**

**completed 2006**

			staining	evaluation and tissue to be observed				
1	Type	Minimum Time Hours		Solution percentage	Optimum Time Hours)		Maximum area of unstained, flaccid or necrotic tissue permitted	
1	2		3	4		5	6	7
<i>Brassica spp.</i>	W	18	Incise seed coat crosswise at one of the outer cotyledon, avoiding to touch the hypocotyl and the radicle	1	18	None	1/3 radicle, measured from radicle Tipp, 1/3 superficial necrosis on the the cotyledons not in connection with the hypocotyl	
<i>Glycine max</i>	BP	18	Leave seed intact	1	6	Remove seed coat to expose embryo	2/3 radicle, measured from radicle Tipp, 1/2 distal area of cotyledons	If the viability of hard seeds is to be determined, the seed coat can be incised at distal end of cotyledons and soaked in water (4 hours)
<i>Larix spp.</i>	Prepare the dry seeds	-	Cut transversely 1/3 from distal end of endosperm to open embryo cavity	1	18	Cut longitudinally through endosperm and expose embryo; remove seed coat if possible	None, including endosperm, except small superficial necrosis on the outer part of the endosperm, not in connection with embryo cavity	
<i>Picea spp.</i>	Prepare the dry seeds	-	Cut transversely 1/3 from distal end of endosperm to open embryo cavity	1	18	Extract embryo and remove seed coat	None, including endosperm, except small superficial necrosis on the outer part of the endosperm, not in connection with embryo cavity	Embryos shorter than 1/3 of the length of the embryo cavity are none-viable



## **B Publications**

### **Reorganisation of Tetrazolium Handbook**

Update of information

Inclusion of theoretical background

Rearrangement of test methods

**completed 2007**

### **Continue Tetrazolium Working Sheets Part I**

40 new species

**completed 2006**

### **Continue Tetrazolium Working Sheets Part II**

12 new species

**completed 2006**

### **New Working Sheets Part III Tropical and Subtropical Species**

**open**

suggestions from the Tropical Areas are expected

### **Revision of ISTA Tetrazolium Working Sheets**

**completed 2006**

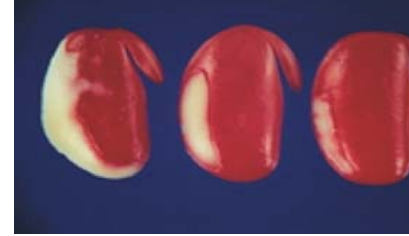
# Continue Tetrazolium Working Sheets Part I



<i>Adonis spp.*</i>	<i>Helichrysum bracteatum</i>
<i>Ageratum spp.*</i>	<i>Lepidium sativum</i>
<i>Allium ursinum</i>	<i>Lepidium spp.</i>
<i>Aster spp.</i>	<i>Lepidium virginicum</i>
<i>Barbarea spp.</i>	<i>Meconopsis spp.</i>
<i>Bellis perennis</i>	<i>Passiflora spp.</i>
<i>Callistephus chinensis*</i>	<i>Perilla spp.</i>
<i>Catharanthus spp.</i>	<i>Pimpinella spp.</i>
<i>Cicer arietinum</i>	<i>Polygonum spp.</i>
<i>Cichorium spp.</i>	<i>Quamoclit spp.</i>
<i>Cirsium spp.</i>	<i>Rhinanthus spp.</i>
<i>Coreopsis grandiflora*</i>	<i>Ricinus communis</i>
<i>Coreopsis tinctoria</i>	<i>Rudbeckia hirta</i>
<i>Cosmos spp.*</i>	<i>Salvia spp.*</i>
<i>Dahlia spp.*</i>	<i>Securinega spp.</i>
<i>Foeniculum vulgare</i>	<i>Urtica spp.</i>
<i>Gazania spp.*</i>	<i>Valeriana officinalis</i>
<i>Gentiana lutea</i>	<i>Valerianella spp.</i>
<i>Gentiana septemfida</i>	<i>Veronica spp.</i>
<i>Glechoma hederacea</i>	<i>Zinnia spp.*</i>

\* Working sheets finalised

## Continue Tetrazolium Working Sheets Part II



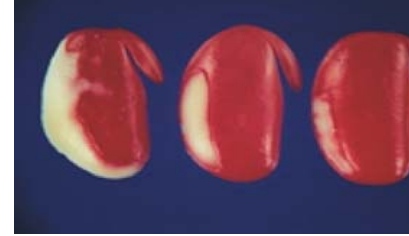
-	<i>Chamaedorea elegans</i>
	<i>Chimonanthus praecox</i>
-	<i>Citrus limon</i>
	<i>Citrus reticulata</i>
-	<i>Gossypium spp.</i>
-	<i>Musa spp.</i>
-	<i>Pachypodium spp.</i>
-	<i>Panax ginseng</i>
-	<i>Phoenix spp.</i>
-	<i>Pittosporum spp.</i>
	<i>Yucca spp.</i>
	<i>Zelkova spp.*</i>

\* Working sheets finalised

- tropical species



## C Workshops and Seminars



- |             |                    |   |
|-------------|--------------------|---|
| <b>2004</b> | <b>Uruguay</b>     | <b>ISTA Workshop on Agricultural Species</b><br>5 days international, 2 days national |
| <b>2005</b> | <b>Germany</b>     | <b>ISTA Workshop on Tree and Shrub Species</b>  |
| <b>2006</b> | <b>Netherlands</b> | <b>ISTA Workshop on Agricultural Species</b>  |
| <b>2007</b> |                    | <b>ISTA Workshop on Tropical Species</b><br>suggestions expected                      |
| <b>2006</b> |                    | <b>Seminar planned for autumn</b>   |



# 10<sup>th</sup> Workshop on Tetrazolium Testing, Tree and Shrub Seeds

LUFA Augustenberg, Karlsruhe, Germany, July 11.-15. 2005

## Location

State Agricultural Testing and  
Research Institute,  
Department of Seed Testing and  
Applied Botany  
Messlerstr. 23  
D-76227 Karlsruhe  
Germany

Registration fee: 350/ 420 Euro  
Hotel available for 50 Euro/night  
Participants: 16 at maximum

## Are you interested in participation?

Please send the filled registration form to:

Ms. Steffi Krämer

E-mail: [Stefanie.Kraemer@lufa.bwl.de](mailto:Stefanie.Kraemer@lufa.bwl.de) or  
[Norbert.Leisi@bio-geo.uni-karlsruhe.de](mailto:Norbert.Leisi@bio-geo.uni-karlsruhe.de)

Fax: 0049 (0) 721 9468 387

Phone: 0049 (0) 721 9468 150

## Preliminary Programme

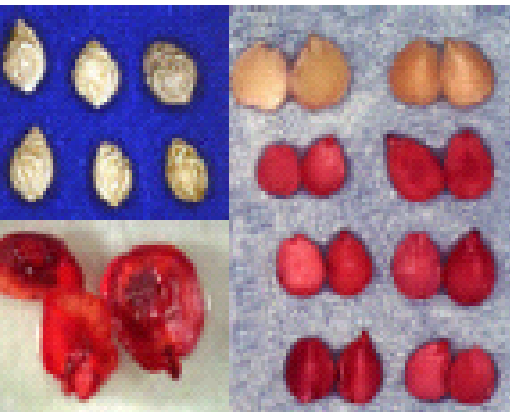
Lectures on History and develop-  
ment of Tetrazolium Testing and  
FTS in ISTA, Viability - germination -  
vigour, general and special aspects  
of Tetrazolium Testing.

Tetrazolium test in woody plants,  
Physiological aspects.

## Practical Work

with the ISTA Rules and Tetrazolium  
Working Sheets on *Abies*, *Larix*,  
*Pinus* large and small seeded;  
*Fagus*, *Genista*, *Prunus*, *Quercus*,  
*Sophora*, further species of interest.

Half day excursion to a woody seed  
production plant in the black forest.



## Proficiency Tests



**2005**     *Secale cereale*

***1<sup>st</sup> ISTA Tetrazolium Proficiency Test 04-1 on Wheat***

***Test Leader: Ronald Don (see Report on pages 38-39 in STI No. 129)***

**2007**     *Panicum maximum*

**2007**     *Medicago sativa*



## Special Projects

### ISTA Tetrazolium Vigour Comparative Test

*Test Leaders: Ronald Don (TEZ) and Gillian McLaren (VIG)*

*see Report on pages 41-43 in STI No. 129*

### Cooperation with FSC

*6 Working sheets on TEZ for Flower Seeds in finalisation*

### Evaluation of the questionnaire from 2001

open



**On behalf of Stefanie Krämer  
many thanks go to all collaborators  
including the FSC and FTS  
for sharing their spare time working with  
the Tetrazolium Committee.**

**She is looking forward on a fruitful teamwork with you,  
further on.**



***Thank you***

