



# Zdenka Prochazkova



<b>Chair:</b>	<b>Zdenka Prochazkova</b>	<b>Czech Republic</b>
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	<b>Beti Piotto</b>	<b>Italy</b>
	<b>Heidi Røsok Bye</b>	<b>Norway</b>
	<b>Moctar Sacande</b>	<b>United Kingdom</b>
	<b>Dale Simpson</b>	<b>Canada</b>
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	<b>Isolde Ferraz</b>	<b>Brazil</b>
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# FTS Working Programme 2004 - 2007

## Introduction of New Methods/Species

Method name/Subject	Proposed finalisation	Final status
<i>Juniperus</i> germination	2007	Finalised in 2006

# 1-Introduction of New Methods/Species

1/1

*Juniperus* germination

B. Piotto

## Results

About 2500 abstracts were processed and 1010 (that cover a period between 1893 and 2006) were selected as the most suitable.

The selected abstracts were ordered by

i) author/date

i) subject (i.e. *Juniperus*, *Juniperus australis*, *Juniperus wallichiana*).

Within some of the abstract keywords were included.

The bibliography, in both versions, will be presented in rtf format as well as in html format.

## 2-Introduction of New Methods/Species

1/2 *Juniperus* germination

B. Piotto

### **Juniperus Bibliography by Author and Date - 2006 to 1893**

1. Abdullah-Al-Refai; El-Kateb, H; Stimm, B, and Mosandl, R. Quality and germination of seeds of *Juniperus excelsa* M.-Bieb. in the Kalamoun mountains, Syria. Forstliche Forschungsberichte Munchen. 2003; 192164-175; ISSN: 0174-1810.

**Keywords:** *Juniperus excelsa*/ forests/ germination/ mountain/ forests/ seed quality/ stratification

Abstract: *Juniperus excelsa* is the main tree species of forest stands in the upper elevations of the Kalamoun mountains in Syria. In this preliminary experiment seeds of juniper from four stands in different elevations (1900, 2100, 2200, 2250 m) were subjected to two pre-treatments with different duration period: warm stratification for three-months followed by 45 days warm stratification followed by 45 days cold stratification, and six months with 90 days warm followed by 90 days cold stratification. In comparison to the other three stands, the stand 2100 above sea level had more vigorous trees from which the seeds were collected. After stratification, seed samples were subjected to a standard germination test according to ISTA regulations. Juniper seeds originating from the Kalamoun mountains showed with 92.5% a high percentage of empty seeds. The better quality of seeds with less empty seeds (87%) were found in the stand which included the more vigorous juniper trees in 2100 m above sea level. Germination of seeds was significantly dependant on the duration period of the warm and cold stratification. The six months pre-treatment with 90 days cold followed by 90 days warm stratification led to germination of all sound viable seeds. Germinated seeds yielded of the shorter stratification period was only 17%. The results indicated that there is a real lack of knowledge about the reproductive biology and activity of the Kalamoun populations of *J. excelsa*.

2. Abido M. S. and Kurbaisa M. S. The present status of the Syrian juniper forests on the East Lebanon mountain chain. Arab Gulf Journal of Scientific Research . 2003; 21(1):64-70.

**Keywords:** *Juniperus excelsa*/ autecology/ environmental degradation/ nature conservation

# FTS Working Programme 2004 - 2007

## Introduction of Rule Changes

	<b>Subject</b>	<b>Proposed finalisation</b>	<b>Final status</b>
<b>1</b>	<b>Revision of pure seed definitions (PSD)</b>	<b>2006</b>	<b>Finalised in 2007</b>

*Abies alba*



wing removed

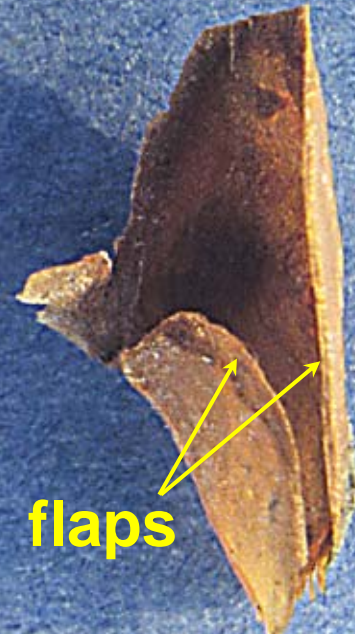
flaps

ISTA  
pure  
seed

abaxial



naked  
seed



flaps

intact  
integument  
not fused  
to seed

# FTS Working Programme 2004 - 2007

## Rules accompanying publications

	<b>Publication title</b>	<b>Proposed finalisation</b>	<b>Final status</b>
<b>1</b>	<b>ISTA Tree and Shrub Seed Handbook (1991) – revision</b>	<b>2007</b>	<b>Digital version available</b>

# FTS Working Programme 2004 - 2007

## Training and educational workshops

	<b>Workshop subject</b>	<b>Proposed Date</b>	<b>Final status</b>
<b>2</b>	<b>Tree and Shrub Seed Seminar (Purity, Germination, TEZ)</b>	<b>12-15.09.2006</b>	<b>Finalised Italy, Verona F. Gorian</b>

Castelvecchio Verona  
September, 12-15 2006





**Peri, VR-  
ITALY**

**June, 13-15  
2008**

**FTS, MOI, TEZ WORKSHOP  
ON TREE SEED**





## Research Note

### Seed size and chilling affect germination of *Larix decidua* Mill. seeds

F. GORIAN<sup>1</sup>, S. PASQUINI<sup>1</sup> AND M.I. DAWS<sup>3</sup>

<sup>1</sup>State Forestry Service, National Centre for the Study and Conservation of Forest Biodiversity, via del Ponte, 256-37020 Peri, Verona, Italy.

<sup>2</sup>Seed Conservation Department, Royal Botanic Gardens Kew, Wakehurst Place, Ardingly, West Sussex, RH17 6TN, United Kingdom.

### Summary

We tested whether seed size and cold chilling impact on seed germination for seven populations of the conifer species *Larix decidua*. For all seven populations, seed germinability was positively related to seed mass: larger seeds germinated to a higher percentage. In addition, cold chilling also had a positive affect on germination for all seven populations. Our data suggest that the selection of the larger seeds in the population and cold chilling are likely to be of benefit for seedling production of this species.



# FTS Working Programme 2004 - 2007

## Proficiency Tests

	<b>Proficiency Test Subject</b>	<b>Proposed date</b>	<b>Final status</b>
<b>1</b>	<b>Tree and Shrub Seed Germination – 1<sup>st</sup> round with 1 species</b>	<b>2007</b>	<b>Evaluation of questionnaires</b>

# Proficiency Tests

1

**Tree and Shrub Seed  
Germination – 1<sup>st</sup> round  
with 1 species**

**Zdenka Prochazkova**

## Summer 2006

**distribution of a questionnaire (top 10 species + methods) to all ISTA and also non-ISTA laboratories.**

## April 2007

**preliminary evaluation of the returned questionnaires.**

**Preliminary evaluation of questionnaires (top 10 species + methods)**

**53 laboratories from 31 countries responded**

**46 ISTA labs, 7 non-ISTA labs**

**14 ISTA labs - scope for testing of FTS seeds**

**156 species**

**ISTA Rules - 103 species**

**Table 2, Part 2 – 97 species**

**Table 2, Part 1 - 2 species (*Atriplex*)**

**Table 2, Part 3 – 3 species (*Artemisia*)**

## PURITY

***Abies alba* - 7 labs**

*Abies* spp. – 8 labs

*Fagus sylvatica* , *Picea abies* – 6 labs

*Pinus sylvestris* – 5 labs

*Pinus* spp. – 11 labs

## GERMINATION

***Pinus sylvestris* – 10 labs**

*Pinus* spp. (14 species) – 13 labs

*Picea abies* – 7 labs

*Picea* spp. (4 species) – 10 labs

*Abies alba*, *Fagus sylvatica* - 6 labs

## TETRAZOLIUM

*Abies alba, Fagus sylvatica, Prunus avium* - 7 labs

*Abies* spp. (3 species) – 8 labs

*Prunus* spp. (9 species) – 12 labs

*Acer* spp. (5 species) – 11 labs

*Fraxinus* spp. (3 species) – 10 labs

## MOISTURE

Data has not been evaluated yet.

# FTS Working Programme 2004 - 2007

## Special Projects

	<b>Project name/subject</b>	<b>Proposed finalisation</b>	<b>Final status</b>
<b>1</b>	<b>Harmonisation of the ISTA and AOSA Rules</b>	<b>2007</b>	<b>Finalised in 2006</b>

# Special Projects

1 Harmonisation of the ISTA and AOSA Rules

V. Vankus

## GOAL

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 2005-2007.**

**Work is ongoing with the AOSA rule proposal expected in 2007.**

# Special Projects

1 Harmonisation of the ISTA and AOSA Rules

V. Vankus

**Also, a study at two to three AOSA laboratories on the germination method of *Juniperus virginiana* and *Taxodium distichum* was started.**

**Assuming the current ISTA germination methods are observed to be equal to or better than other methods studied, a rule proposal will be submitted to AOSA in 2007 that will match the ISTA method. At the current time neither species are part of the AOSA rules.**



**My thanks go to all the members and  
new members of the ISTA FTS  
Committee for their availability for the  
next 3 years**

**Zdenka Prochazkova, chair**

**Thank you for your attention**



# Zdenka Prochazkova

