Seed Captain ®

International Seed Academy

In cooperation with:

Rhino Research Group

PRI Wageningen

Naresuan University, Thailand

A HOLISTIC APPROACH ON SEED VIGOR

25 – 29 July 2011

NARESUAN UNIVERSITY, THAILAND

OVERVIEW OF THE MODULE

This module will give the participants deeper insights in the different aspects of seed vigor- and stress tolerance, the physiological background and methods for analyses. This first module is a must for professionals in the seed industry to get a full understanding in seed technology and the effects onto seed quality, and to maximize the outcome of all further modules.

Seed vigor is a very complex item: seed maturity, degradation during treatments and storage, germination speed combined with sellable transplants, seed health combined with water, cold and oxygen stresses, longevity and storability, official methods (ISTA) versus new and advanced techniques such as: ethanol essay, oxygen consumption, chlorophyll fluorescence, R-tests, invigorating treatments and the use of the seed analyzer.

Collection of different aspect of seed vigor will be focused in depth and emphasis will be given in choosing the right method to analyze the particular aspect of vigor.

The necessary attention will be given to the advance techniques and technologies that are available, with their advantages. It will also highlight the latest development related to vigor analyzing methods and finally, we will also discuss the different possibilities in order to acquire these technologies and how to setup these systems in the most efficient way.

A complete and holistic approach is needed if we want to fully understand the seed potential; therefore it deserves a necessary attention.

AIM OF THE MODULE

Our goal is to bring the latest development in seed vigor into the reach of the Asian seed industry. We want to highlight the differences between the different possibilities and study their advantages and inconveniences.

We want to build experience with these different technologies into the participants, give them a hands-on training and prepare them for further testing at their own workplaces.

Last, but definitely not least, we want to bring them in contact with the world's elite in the field of seed vigor. We want to create a network that will be beneficial for all participants and lecturers.

MODULE TENTATIVE

This agenda is still tentative and may change, due to the different arrangements with the lecturers as well as the availability of the different equipments

Day 1: Monday 25 July, 2011

Morning

- Intro of the course, general welcome and overview
- Lecture 1: Introduction of common seed samples

Afternoon

- Lecture 2: Seed development and maturation, an overview
- Lecture 3: Mean germination time and other parameters related to the speed of germination
- Seed vigor practicum 1: Hands-on training and demonstration on Mean germination time

Evening

- The role of APSA in relation to seed quality, speech

Day 2: Tuesday 26 July, 2011

Morning

- Lecture 4: Aerobic and anaerobic respiration and its relation to seed vigor
- Lecture 5: Tetrazolium staining; overview, principle and procedures.
- Lecture 6: Single seed oxygen measurement

Afternoon

- Seed vigor practicum 2, hands-on training and demonstration on tetrazolium staining
- Seed vigor practicum 3, hands-on training and demonstration on Q2 and single seed oxygen measurement

Evening

- The role of THASTA for the Thai Seed Industry, speech

Day 3: Wednesday 27 July, 2011

Morning

- Lecture 7: Seed damage and repair
- Lecture 8: Seed leakage
- Lecture 9: Spectral and image analyses

Afternoon

- Seed vigor practicum 4, hands-on training and demonstration on Electro conductivity
- Seed vigor practicum 5, hands-on training and demonstration on R-Test
- Seed vigor practicum 6, hands-on training and demonstration on Sinapine leakage

Day 4: Thursday 28 July, 2011

Morning

- Lecture 10: seed ageing
- Lecture 11: chlorophyll fluorescence
- Lecture 12: Seed health in relation to vigor

Afternoon

- Seed vigor practicum 7, hands-on training and demonstration on Tetrazolium staining
- Seed vigor practicum 8, hands-on training and demonstration on chlorophyll fluorescence
- Seed vigor practicum 9, hands-on training and demonstration on Ethanol assay

Day 5: Friday 29 July, 2011

Morning

- Lecture 13: Results and discussion on seed oxygen measurements
- Intro: drying & longevity module
- Evaluation of various tests with the common seed samples
- All round overview on seed vigor

Afternoon

- Departure to Bangkok

ORGANIZATION & VENUE

Co-organizer: Naresuan University, Phitsanulok Thailand

Named after the Great King Naresuan, Naresuan University was developed from a College of Education in 1967 and later established as the Phitsanulok Campus of Srinakharinwirot University in 1974. The university was officially granted university status on July 29, 1990 and the name "Naresuan University" was graciously given by His Majesty King Bhumibhol Adulyadej. Naresuan University has been emphasizing decentralization of education and equality of study opportunity for people in the lower north part of Thailand and other regional provinces.

Naresuan University (NU) is conveniently located in Phitsanulok province in the lower North of Thailand. It plays a significant role in contributing to the national educational effort and maintains a strong reputation as one of the top government educational institutions in Thailand. NU believes that high quality academic programs and life-long learning will bring International Recognition to the University.

Naresuan University currently houses 16 Faculties, 2 Schools, and 1 College. The university offers a wide range of disciplines in three Clusters: Health Sciences, Science and Technology, and Social Sciences. Presently, 88 curricula are offered in 56 Departments.

TRAVEL ITINERARY

We propose participants to book the following flights with Nokair from Bangkok (Don Mueang domestic airport) to Phitsanulok. Participants are expected to reach hotel on Sunday **24 July 2011,** welcome dinner will be organized at the hotel.

Departure: flight DB8412 from BKK (Don Mueang Airport Bangkok) to Phitsanulok Airport 1540/1630

Return: flight DB8413 from Phitsanulok airport to BKK (Don Mueang Airport Bangkok) 1700/1750

For more flight information visit the website at www.nokair.com

ACCOMODATION (will be booked and paid by the organizer)

- Hotel will be announced soon

WHO SHOULD PARTICIPATE?

- ✓ Everyone who is a professional seeds men can apply, a minimum knowledge on seed is however a must and a minimum understanding on seed technology is an advantage.
- ✓ Course is given in English, a decent understanding in English is necessary in order to follow the course.
- ✓ Participants may be affiliated with industry, research institutes, seed quality laboratories, universities and other governmental institutions.

The class will be restricted to 20 people maximum and 10 people minimum.

ENROLLMENT

The fee for this training is 68,000 THB. Included in this fee is:

- Lodging and food costs
- Tuition fee
- Course materials
- Use of equipment and consumables during the training

The number of participants is limited to 20 people and it is the payment date that will be used as reference.

For enrolment, please wire the course fee to: (Please add your name – company or institution and country, as well as your mobile number and/or email)

Account : RUNG RUENG CONSULTING

Account No : 323-0-994893

Swift Code : BKKBTHBK

Bank : Bangkok Bank Branch : Phichit

Bank Address : 16 Simala Road, Tambon.Nai Muang Amper.Muang Phichit 66000

Bank Telephone: +66 56 611573 , +66 56 611053

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