Schedule of the ECOBIO training

Kasetsart University

18-22 novembre 2013

Monday 18 November

8h30 – Registration

8h45 – Presentation of the Ecobio training: introduction of the trainers, outlines of the schedule, distribution of working documents. (*Frederic Gay*)

09h00– General introduction: objectives, content and methods of the training course (*Denis Fabre and Anne Clement-Vidal)*

09h15– Canopy structure and functioning (*Denis Fabre*)

- ✓ Ecophysiology of plant development, LAI, radiation and light interception
- ✓ Plant phenology, thermal time, photoperiodism

10h45 – Coffee Break

11h15–Photosynthesis: at the organ level, limiting factors, method of measurements, application in ecophysiology. (*Denis Fabre*)

12h15 – Lunch Break

13h30 – Photosynthesis: chlorophyll fluoresecence, theory and application (*Denis Fabre*)

14h00-17h00 – Practical works on the topic of the day : Li6400, fluorimeter, porometer, LAI 2000, SPAD… (*Denis Fabre*)

Tuesday 19 November

09h00 – Water balance in the soil-plant-atmosphere system and water stress (*Denis Fabre*)

- ✓ Water dynamics in the soil-plant-atmosphere system
- ✓ Impact of water stress on the plant functioning
- ✓ Methods for the assessment of water stress

10h45 – Coffee Break

11h15 – Biochemical markers of stress : oxidative stress, defense mechanisms at cell level, diagnostic tools (*Anne Clement Vidal*)

12h30 – Lunch Break

14h00-17h00 – Practical works on the topics of the day (*Participants will be split in 2 groups*).

- ✓ Groupe A (*Anne Clément Vidal*). Biochemical tools: proline analysis, water content, enzyme activity.
- ✓ Groupe B (*Denis Fabre*). Ecophysiological tools: soil water status, tensionic, infrared thermometer, pressure bomb, osmometer, gas exchange

Wednesday 20 Novembre

09h00 **–** Plant components: major components, main functions, critical threshold, mass balance, energy content. (*Anne Clement Vidal*)

10h30 – Coffee Break

11h00 **–** Plant **components**: methods

- ✓ Sample preparation: lyophilisation, grinding, extraction, filtration…
- ✓ Sample analysis: spectrophotometry, enzyme analysis, chromatography…

12h30 – Lunch Break

14h00-17h00 **–** Practical works on the topics of the day (*Participants will be split in 2 groups*).

Groupe A (*Denis Fabre*). Ecophysiological tools: soil water status, tensionic, infrared thermometer, pressure bomb, osmometer, gas exchang

Groupe B (*Anne Clement Vidal*). e Biochemical tools: proline analysis, water content, enzyme activity.

Thursday 21 Novembre

Field trip to the Chachoengsao Rubber Research Centre (CRRC)

8h00 **–** Departure from Kasetsart University

10h30 **–** Data acquisition, case studies, phenotyping approach (*Denis Fabre*)

1***2h30 – Lunch Break***

14h00 **–** Practical works on the topics of the day

- ✓ Presentation of the Rubberflux site (*Frederic Gay*)
- ✓ Data acquisition: Campbell dataloggers, direct/remote connection (*Denis Fabre and Frederic Gay*)

16h00 **–** Departure from CRRC

Friday 22 November

09h00 – Analysis of data collected during the practical works (*Denis Fabre and Anne Clement Vidal*)

10h30 – Coffee Break

11h00 – Introduction to experimental design, sampling strategy…Application (*Denis Fabre and Anne Clement Vidal*)

12h00 – General discussion, training summary, training assessment by the participants

13h00 – Lunch and end of the training

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