Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFS0059 Chemical defences in forest trees, 3.0 credits

Syllabus approved

2010-03-28

Subjects

Biology/Forest Management

Education cycle

Third cycle

Grading scale

Pass / Failed
The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

English

Prior knowledge

The course is intended to PhD students in forestry, biology or a related field, but it is also possible for M.Sc. students with relevant training to take part.

Objective, including learning outcomes

After completion of the course, the student should:
- have a good knowledge of the biosynthetic pathways and characters of the defensive

chemicals that are commonly expressed in forest trees
- understand how the capacity of trees to defend themselves varies and is affected by environmental conditions and by forest management practices
- understand the basics of the currently employed chromatographic and molecular methods in plant metabolite research
- be able to describe the current ecological theories that deal with plant defense and allocation patterns.

Content

The topics of the literature and lectures given by invited experts cover the general aspects of chemical defense in forest trees; biosynthesis and biochemistry of phenolics and terpenoids; genotypic, spatial and temporal variation in defensive chemistry of woody plants; and the central ecological hypotheses that have been formulated in attempt to explain the variation in tree chemical defenses. Invited lecturers will present their relevant research activities and current methods. A laboratory demonstration of chromatographic analyses of phenolics or terpenoids is included. The participants will process the information from the different course moments in discussions and in a group work.

Requirements for examination

Active participation in discussions, group work and laboratory demonstration.

Additional information

The participants will study the literature individually. The lectures by the invited experts, discussions, group work and laboratory demonstration are organized during the last week of the course.

The course is organized within the frameworks of the Research School "Sustainable Management and Utilization of Forests" (www.phd-forestry.se).

Responsible department

Department of Southern Swedish Forest Research Centre