Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFS0028 Chemical defences in forest trees, 3.0 credits

Syllabus approved

2007-09-17

Subjects

Biology

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

PhD student

Objective, including learning outcomes

After completion of the course, the student should be able to:
- describe the common defence mechanisms in broadleaved trees and conifers
- describe and discuss how the capacity of trees to defend themselves varies and is

affected by environmental conditions
- understand the basics of liquid chromatographic analysis of plant metabolites
- describe the central ecological hypotheses that deal with plant defence and allocation patterns, and to be able to discuss their own projects in light of these hypotheses

Content

In individual literature studies, the students will gain information about the general mechanisms of chemical defence in forest trees; biosynthesis and biochemistry of carbon-based secondary metabolites; genotypic, spatial and temporal variation in defensive chemistry; and the central ecological hypotheses that have been formulated in attempt to explain the variation in tree chemical defence. The literature will be critically reviewed in supervised discussions, group works and individual presentations. In a laboratory exercise, phenolic secondary metabolites are extracted from plant materials and quantified and identified using liquid chromatography analysis. Students are welcome to use their own plant materials.

Requirements for examination

Active participation in compulsory tasks.

Additional information

Individual work (literature studies, preparation for discussions).
Discussions, group work and a short individual presentation (compulsory).
Laboratory exercise (compulsory).

Responsible department

Department of Southern Swedish Forest Research Centre