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<b>Lectures</b>	Plant secondary metabolites and allelopathy
<b>Key words</b>	plant secondary metabolites, Terpenes, Phenolic compounds, alkaloids, Allelopathy, plant succession, plant interactions
<b>Learning objectives</b>	The objective is to understand that plants produce an important variety of chemical compounds. This production depends of numerous factors including abiotic factors as soil quality or water availability. Moreover, these compounds have many functions for the plant and are involved in several ecosystem processes like plant succession through allelopathy.
<b>Main subjects</b>	<ul style="list-style-type: none"><li>- Plant secondary metabolites (PSM)</li><li>- Production plant secondary metabolites</li><li>- Types of PSM</li><li>- Variations in productions of secondary metabolites</li><li>- Functions of PSM</li><li>- Allelopathy</li><li>- Methods in allelopathy</li><li>- Allelopathy in plant succession</li><li>- Allelopathy in plant invasion</li><li>- Use of allelopathy in agriculture</li></ul>
<b>Relevance to EduSaPMan</b>	The lecture concerns the secondary metabolism of plants. This metabolism covers interactions of the plant with its environment and is essential for its survival in the environment. The lecture highlights the importance of some abiotic stresses as water and soil quality in the production of secondary metabolites and then fit perfectly into the network. Moreover, the secondary metabolites are involved in plant-plant interactions. Variations of production due to by climate change induced modifications of these interactions and ecosystem functioning. Therefore, the lecture is relevant for the key topics of the network: plant-soil-water.

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Eesti Maaülikool  
Estonian University of Life Sciences

## Recommended literature

Allelopathy Current Trends and Future Applications Editors: Zahid A. Cheema, Muhammad Farooq, Abdul Wahid. Springer Publish. ISBN: 978-3-642-30594-8 .

Fernandez, C; Monnier, Y; Santonja, M et al. 2016. The Impact of Competition and Allelopathy on the Trade-Off between Plant Defense and Growth in Two Contrasting Tree Species. *Frontiers in plant science* 7: 594.

Fernandez, C; Santonja, M; Gros, R et al. 2013. Allelochemicals of *Pinus halepensis* as Drivers of Biodiversity in Mediterranean Open Mosaic Habitats During the Colonization Stage of Secondary Succession *J.Chem Ecol.* 39 (2): 298-311.

Ormeno, E; Baldy, V; Ballini, C et al. 2008. Production and diversity of volatile terpenes from plants on calcareous and siliceous soils: Effect of soil nutrients. *J.Chem Ecol.* 34 (9): 1219-1229.

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