

<p>Contents, objectives</p> <p>Contents:</p> <p>Lecture: In the lecture the application of molecular methods in weed science and weed management is presented, focusing on the naturally occurring herbicide resistance in weeds. The genetic basis will be taught with regard to transgenic and non transgenic herbicide tolerance in cultivated plants. The possibilities of the use of molecular techniques for the detection of herbicide resistance in weeds will be discussed. New findings by the so called –omics (genomics, proteomics and metabolomics) on the interaction of weeds with their environment are of importance in the development of new herbicides and will be discussed as well as alternative transgenic approaches in weed management.</p> <p>Practical: A one week practical will be held after the lecture. In the practical actual resistance problems in weeds are presented. Resistance detection methods will be presented and carried out on the protein level (target assay) and on the genetic level (SNP-analysis’) and the possible use for a sustainable herbicide weed management will be discussed.</p> <p>Kompetenzen: Understanding the basic principles of the interactions between herbicides and the target plant and herbicide selectivity. Resistance mechanisms in weeds and mechanisms of tolerance in cultivated plants are understood, can be distinguished and practical consequences be drawn. Students have a fundamental understanding of the development and distribution of herbicide resistance in weeds.</p>		<p>C/H PER SW</p> <p>6 C/4 H PER SW</p> <p>Workload:</p> <p>180 h</p> <p>Contact time:</p> <p>60 h</p> <p>Self study time:</p> <p>120 h</p>			
<p>Type of instruction and examination</p> <table border="1" style="width: 100%;"> <tr> <td>Lecture (40h), Lab course (20h during the semester)</td> </tr> <tr> <td>Examination: Written exam, 45 min</td> </tr> <tr> <td>Examination prerequisite: Participation in the lectures and lab course</td> </tr> </table>		Lecture (40h), Lab course (20h during the semester)	Examination: Written exam, 45 min	Examination prerequisite: Participation in the lectures and lab course	
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<p>Type of module</p> <p>Elective module</p>	<p>Entrance requirements</p> <p>none</p>				
<p>Frequency</p> <p>Winter</p>	<p>Duration</p> <p>One semester</p>				
<p>Language</p> <p>English</p>	<p>Number of students</p> <p>20</p>				
<p>Coordinator Dr. Jean Wagner</p>					