Plant Biotechnology

Syllabus Number 5I364
Special Subjects
Elective 2 credit
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1. Course Description

This class will provide several topics on plant biotechnology, including instrumental analysis; database; tissue culture; industrial use; molecular breeding; GMO; genome editing; NPBT; current topics of plant biotechnology.

2. Course Objectives

This class aims to provide an understanding of basic fundamentals of plant biotechnology, including instrumental analysis, database, tissue culture, and explore examples of those industrial applications, such as molecular breeding, GMO, genome editing and NPBT. The class also includes current topics of plant biotechnology.

3. Grading Policy

Progress report and Take-home Examination (20%), Practical Test (80%)

4. Textbook and Reference

Textbook
A handout and resources will be provided throughout the course.
Reference
N/A

5. Requirements(Assignments)

N/A

6. Note

7. Schedule

[1] Instrumental analysis of phytohormones
[2] Industrial applications of phytohormones
[3] Basic technique of molecular analysis 1
[4] Basic technique of molecular analysis 2
[5] Bioresource, database
[6] Plant stem cell
[7] Tissue culture
[8] Biomass
[9] Molecular breeding
[10] GMO (gene modified organism)
[11] Genome editing
[12] NPBT(New Plant Breeding Techniques)
[13] Current topics of plant biotechnology 1
[14] Current topics of plant biotechnology 2
[15] Final Exam and its review in practice