Plant Immunology

Special Subjects
Elective 2 credit

MIYAMOTO. Koji

1. Course Description

After we overview on plant innate immunity, recent findings on signal transduction pathways from recognition of pathogens to defense responses such as production of phytoalexins and pathogenesis, related proteins will be introduced. Reading original papers covering recent topics on plant innate immunity will also be conducted.

2. Course Objectives

The aim of this course is to understand basic mechanisms of plant innate immunity. Direction and possibility of breeding of disease resistant plants and development of plant defense activators will also be discussed.

3. Grading Policy

Learning results will be evaluated by the quality of presentation.

4. Textbook and Reference

Textbook
Reference materials will be distributed.

5. Requirements(Assignments)

Basic knowledge of plant biochemistry, plant molecular biology, instrumental analysis, biochemistry, and organic chemistry are needed to understand this lecture.

6. Note

7. Schedule

[1]	Plant immunity
[2]	Perception of biotic elicitors in plants
[3]	How to read a scientific paper (Identification of the chitin elicitor-binding protein CEBiP in rice)
[4]	How to read a scientific paper (Identification of CERK1, a receptor-like kinase important for chitin elicitor signaling in Arabidopsis)
[5]	How to read a scientific paper (Identification of CERK1, a receptor-like kinase important for chitin elicitor signaling in Arabidopsis)
[6]	How to read a scientific paper (Chitin receptor complex in rice)
[7]	How to read a scientific paper (Chitin receptor complex in rice)
[8]	Biological roles of plant hormones in plant disease resistance How to read a scientific paper (Biological roles of jasmonic acid in plant disease resistance)
[9]	How to read a scientific paper (Biological roles of jasmonic acid in plant disease resistance)
[10]	Defense response of plants and infection strategies of pathogens
[11]	How to read a scientific paper (Defense response of plants and infection strategies of pathogens)
[12]	How to read a scientific paper (Defense response of plants and infection strategies of pathogens)
[13]	How to read a scientific paper (Defense response of plants and infection strategies of pathogens)
[14]	Recent advances in study on rice defense responses
[15]	Breeding of disease resistant plants and development of plant defense activators Summaries