

Agricultural Mycology

Obligatory module or Selective module	Agricultural Mycology	PNH 2208
Semester	IV	
Module level	Undergraduate	
Module Coordinator	Dr. Suryanti, S.P., M.P.	
Lecturer(s)	Dr. Ir. Arif Wibowo, M.Agr.Sc. Dr. Suryanti, S.P., M.P.	
Type of Module	Lecture: 1 hour and 40 minutes Laboratory work/Practical	
Status	C (Compulsory course)	
Exam	Written	
Number of participants	64	
Credit Points:	2/1 (5.02 ECTS)	
Description:	This lecture discusses the history and development of mycology, the role of fungi in human life, and fungal bioecology. The lecture activities are divided into (1) History and mycological development, (2) Fungal bioecology which concerns growth, nutrition, growth environment, mechanism and effect of plant pathogen fungal infections, and association of fungi with other bodies, (3) Characterization of fungi based on a classification system that is developing at this time.	
Academic goal (competency):	Students are able understand the role of fungi in human life, know the mechanism of growth and development of fungi, and know the characterization of the types of fungi that exist in the environment.	
Course outcomes: Students are expected to have the ability to:		
<ol style="list-style-type: none"> 1. Apply the role of fungi in general in agriculture 2. Manipulating environmental factors that influence the growth of fungi in relation to the control of plant diseases 3. Manipulate nutritional requirements for fungal growth in relation to control of plant diseases 4. Classifying plant pathogenic fungi in the world of living things 5. Identifying plant pathogenic fungi based on morphological characteristics of microscopy and macroscopies. 		
Contents: Introduction:		
<ul style="list-style-type: none"> - Objectives of the lecture, space and learning methods - History and development of agricultural mycology - The importance of fungi in human life 		
Biology and general characteristics of fungi:		

- Common structure of fungi (vegetative and reproductive structures)

- Life cycle and mold growth

Fungal growth and ecology:

- Environment and its influence on the viability and growth of fungi

Fungal growth and ecology:

- Nutrition needed for fungal growth

Fungal growth and ecology:

- Mechanisms and effects of fungal infections in plants and agricultural products

- Relationship of fungi with other bodies: Useful fungi

- Relationship of fungi with other bodies: Adverse fungi

Characterization, taxonomy and classification of fungi

- Basic taxonomy and classification

Characterization, taxonomy and classification of fungi

- Myxomycota

- Chromista

- Oomycota

Characterization, taxonomy and classification of fungi

- Zigomycota

Characterization, taxonomy and classification of fungi

- Basidiomycota

Characterization, taxonomy and classification of fungi

- Ascomycota

Characterization, taxonomy and classification of fungi

- Imperfect fungi

The strategy of using and developing fungi

Which previous course required? Plant Protection, Phytopathology

Literature:

Books

1. Alexopoulos C.J., C. W. Mims & M. Blackwell. 1996. Introductory Mycology. John Wiley & Sons. New York.
2. Kendrick, B. 2002. The Fifth Kingdoms. Mycolog.com
3. Watling, R., J.C. Frankland, A.M. Aimsforth, S. Isaac, C.H. Robinson. 2002. Tropical Mycology, CABI Publ. Walingford

Journals:

1. Jurnal Perlindungan Tanaman Indonesia (JPTI): <http://jurnal.ugm.ac.id/jpti>
2. Jurnal Fitopatologi Indonesia (JFI) : journal.ipb.ac.id/jfi
3. American Phytopathological Society (APS) : www.apsnet.org

Materials provided: Hand out of power points and related articles

Requirements for exam: 75% attendance set by the Faculty of Agriculture

Teaching method(s)	Lectures, discussion, and assignment
---------------------------	--------------------------------------

Workload (hrs).

1. Theoretical of course: 14 time in class
2. Lab work: pres test, laboratory work, report, post test and field work.
3. Home studies: assignments