Insect Mass Production

Obligatory module or **Selective module**	**Pembiakan Massal Serangga**	**PNH 4130**
Semester	Odd semester	
Module level	Undergraduate	
Module Coordinator	Dr. Ir. Nugroho Susetya P, M.Si.	
Lecturer(s)	Dr. Ir. Nugroho Susetya P, M.Si. Dr. Ir. Witjaksono, M.Sc.	
Type of Module	50 minutes lecture Practical	
Status	E (elective courses)	
Exam	Written	
Number of participants		
Credit Points:	2/1 (5.02 ECTS)	
Description:	The importance of insects to humans and nature encourages in-depth research on many aspects of insect life. Therefore, knowledge about mass breeding becomes important to support the implementation of these studies. The most important things about breeding are most of the topics discussed at this time (1) facilities and infrastructure, (2) nutrition and food (naturally well-made), and (3) techniques for breeding several types of insects that have unique characters.	
Academic goal (competency):	a. Students are able to understand the potential for mass breeding outside of their natural habitat. b. Students are able to understand the techniques of preparing facilities and infrastructure for mass breeding of insects. c. Students are able to understand the nutritional needs of insects, both those that come from nature (natural) and artificial. d. Students are able to understand the techniques and strategies for breeding mass insects effectively and efficiently for various purposes.	

Course outcomes:

CO1 = understanding the principles of insect mass production
CO2 = understanding the insect production technology
CO3 = understanding effective and efficient mass production strategies for insects

Contents:

1. Introduction: the importance of insect mass production
2. Means and infrastructure of insect mass production
3. Nutritional requirements in insects
4. Insect feed (natural and artificial)

5. Techniques of designing rearing grounds, mating, and spawning insects
6. Techniques of preparing and making artificial feed
7. Leaf-eating herbivorous STDs: Spodoptera litura or Crocidolomia binnotalis
8. Mass production of insect sucker herbivore suckers: brown plant hopper or aphids
9. Mass production herbivorous insectivorous root: uret
10. Mass production carnivorous insects (predators): koksi beetles
11. Mass production carnivorous insects (parasitoids): sugar cane borer parasitoids
12. STDs producing beneficial insects: honey bees or silkworms

Which previous course required? Agricultural Entomology

Literature:

1. Paulson, G.S., 2005. Handbook to the construction and use of insect collection and rearing devices: A guide for teachers with suggested classroom applications. Springer.
2. Smith, C.N., 1966. Insect colonization and mass production. Academic Press, New York and London.

Materials provided: PPT dan hand out

Requirements for exam:70% attendance

Teaching method(s)	Classes Special assignment related to the subject matters

Workload (hrs).

1. Theoretical of course:12 times
2. Lab work:6 times
3. Home studies:related to the chapter discussed in the class