



Subject Module
 Department of Agrotechnology
 Faculty of Agriculture
 University of Islam Malang

Module Handbook

Module Title	Integrated Pest Management
Module Level, if available	Undergraduate, Study Program of Agrotechnology
Subject Code	MKB 40533
Headings, if available	-
Subject (MK)	Integrated Pest Management (IPM)
Semester	4
Course Coordinator	Ir. Abdul Basit, MP.
Teaching Team	-
Language of instruction	Indonesian Language/English
Linkages with the Curriculum	Study Program : Agrotechnology Specialization: Agrotechnology Type: Compulsory /Elective
Learning Methods and Duration	<ol style="list-style-type: none"> 1. Lecture: 100 minutes/meeting (8 meetings) 2. Research Based Learning through Laboratory Work, experiment : 170 minutes/meeting (6 meetings) 3. Assignments and Presentation (individual and group)
Student Study Load	<ol style="list-style-type: none"> 1. Lecture: 100 minutes/meeting (8 meetings) 2. Laboratory Work: 170 minutes/meeting (6 meetings) 3. Assignments/quiz/presentation 4. Attendance: 75% of total attendance
Credit Weight	3 credits
Requirements for Passing the Subject	<ul style="list-style-type: none"> • Attendance >75% • The final score of all the components of the learning evaluation >44 <p>The final score component:</p> <ul style="list-style-type: none"> • 25% Midterm Exam • 25% Final Exam • 20% Laboratory Work • 20% Assignments/Presentation (individual and group) • 10% Presence
Prerequisite Subject	----

<p>Learning Outcomes</p>	<p>The expected learning outcomes are:</p> <ol style="list-style-type: none"> 1. Have an attitude of creative and innovative thinking in their work in accordance with professional ethics in the field of agriculture (ILO 1) 2. Able to solve problems that arise in the field of agrotechnology and related fields of science (ILO 5) 3. Able to apply agricultural practices based on Good Agricultural Practices (ILO 8) 4. Able to work independently or in a team, and use various methods of communication. (ILO 4)
<p>Learning Content</p>	<p>After completing this subject, students are able to:</p> <ol style="list-style-type: none"> 1. Mastering the basic concepts of Integrated Pest Management (IPM). 2. Review the impact of IPM practices on human health and the environment. 3. Assess and identify basic elements, main components, potential components in the implementation of the IPM system. 4. Apply Good Agricultural Practices through IPM for producing healthy food products. 5. Able to analyze, develop strategies and implement pest control based on the concept of Integrated Pest Management (IPM). <p>The topics include:</p> <ol style="list-style-type: none"> 1. Introduction <ul style="list-style-type: none"> • The importance of crop protection using the IPM concept and its relation to crop production. 2. The negative impact of using synthetic pesticides on environmental damage 3. IPM Principle <ul style="list-style-type: none"> • Definition, basic principles and concepts of IPM • IPM Implementation Needs • History of IPM Implementation 4. Pesticides, health of agricultural products and human health 5. Main Aspects/Foundations of IPM <ul style="list-style-type: none"> • Economic Aspects • Ecological Aspects • Social Aspects 6. Main Elements of IPM <ul style="list-style-type: none"> • Natural Control • Sampling and Monitoring • Economic Threshold • Biological and Ecological Pest 7. Main Components of IPM <ul style="list-style-type: none"> • Biological Control • Host Plant Resistance • Culture Technic Control • Physical and Mechanical Control • Chemical Control (Pesticide) 8. Potential Components of IPM <ul style="list-style-type: none"> • Pest Control with Microbes • Use of sex pheromones • Use of Juvenile Hormones

	<ul style="list-style-type: none"> • Infertile Male Techniques / Chemosterilant • Insect Growth Regulator / IGR <p>9. Application of IPM in the Field</p> <ul style="list-style-type: none"> • Potentials and constraints for the Implementation of HDI in the Field • IPM Field School
Test Terms and Forms	<p>Examination requirements: A minimum of 75 % attendance to attend the final exam</p> <p>Forms of examination: Essay</p>
Learning Media	LCD Projector, Screen, Design of Learning Management System, Practicum Manual
References	<p>Main references:</p> <ol style="list-style-type: none"> 1. Anonymous. 2000. Pengendalian Hama Terpadu untuk Padi; suatu Pendekatan Ekologi. Program Nasional Pelatihan dan Pengembangan PHT. Proyek Prasarana Fisik BAPPENAS. Jakarta. 202 h. 2. Agrios, G.N. 1980. Plant Pathology. Academic Pres. New York. 703 p. 3. Baskoro W. 1992. Pengantar Praktis Pengendalian Hama Terpadu. Fakultas Pertanian Universitas Brawijaya Malang. 16 h. 4. Hidayat N. 2000. Entomologi Pertanian. Penerbit Orba Sakti. Bandung. 5. Kalshoven, L.G.E. 1981. The Pest of Crops in Indonesia. Ichtiar Baru-Van Hoeve. Jakarta. 701p. 6. Triharso. 2004. Dasar-dasar Perlindungan Tanaman. Gadjah Mada University Press. Yogyakarta. 363p. 7. Untung, K. 2006. Pengantar Pengelolaan Hama Terpadu. Edisi Kedua. Gadjah Mada University Press. Yogyakarta. 384p. <p>Supporting references:</p> <ol style="list-style-type: none"> 1. Al Qur'an dan Terjemahannya 2. Undang-Undang (UU) No. 12. Tahun 1992. Tentang Sistem Budidaya Tanaman 3. Peraturan Pemerintah (PP) No.6 Tahun 1995. Tentang Perlindungan Tanaman 4. Oka, I.N. 2005. Pengendalian Hama Terpadu dan Implementasinya di Indonesia. Gadjah Mada University Press. Yogyakarta. 5. Pracaya. 2007. Hama dan Penyakit Tanaman. Edisi Revisi. Penebar Swadaya. Jakarta 6. Sinaga, S.M. 2009. Dasar-dasar Ilmu Penyakit Tumbuhan. Penebar Swadaya. Jakarta