PORTFOLIO OF THE COURSE OF PLANT ENTOMOLOGY
(PPT 35215)
ODD SEMESTER 2021

LECTURER:

Dr. Ir. Yulia Pujiastuti, M.S
Dr. Ir. Arinafril

STUDY PROGRAM OF PLANT PROTECTION
DEPARTMENT OF PLANT PRST AND DISRASE
FACULTY OF AGRICULTURE
UNIVERSITAS SRIWIJAYA
2022

I. INTRODUCTION

The Plant Entomology course contains 3 credits (2 theoretical credits/face to face-course and 1 practicum credit). This course is offered to 5th semester students. This course is a compulsory subject, without any graduation requirements for other courses. Lectures are held face-to-face and online course as much 16 times, starting on August 8, 2021 and ending on November 24, 2021, including 10 practical works, group assignments, and independent assignments. Submission of assignments is done in the form of presentations or paper collection. The exam is carried out in two forms, namely the Mid-Semester Examination and the end-semester examination, and essay assignment as well.

This portfolio is an evaluation document of lecture plans, implementation, lecture evaluations and follow-up plans/improvement points. Therefore, the portfolio document for this course consists of:
1. Study plan
2. Implementation of lectures
3. Lecture evaluation
4. Reflection on the Implementation of Lectures
5. Follow-up Plan/Area for Improvement
6. Appendix

II. COURSE DESCRIPTION

The focus of Plant Entomology course is an understanding of the existence of plant pests that hinder agricultural production with all its aspects. The discussion includes definition of plant pests; plant pest organisms, insects, mites, mollusks, and pest vertebrates; the interaction of host plants with pests is related to the behavior of monophages, oligophages and polyphages. Mechanism of pest attack with the mouth of housetellate and mandible; host plant response to pest attack; symptoms of damage caused by pests and losses caused by plant pests. Techniques to determine the economic threshold value of pest attack. Learning is carried out through active learning methods in the form of discussion groups, exposures, and practical works.

III. COURSE IMPLEMENTATION

Teaching methods

Lectures are carried out using several methods, such as lectures, group discussions, student presentations, questions and answers and personal and group assignments. Before lectures, the lecturer prepares lecture materials which are uploaded on the Sriwijaya University e-learning application, students are required to download, read and understand it. When the lecture begins, the lecturer holds a pretest to determine students' understanding of the material to be discussed.
There are 2 lecturer teams teaching according to the plan as outlined in the RPS. The first lecturer teaches from the first week to the eighth week, closing with the Mid-Semester Examination. The second lecturer teaches from week 9 to week 16 and closes with the end of semester exam. The lecturer determines the assessment and assessment rubric in accordance with the CLO imposed on this course.

Course learning outcomes charged to courses are in the form of learning outcomes, subject learning outcomes, subjects, references, learning methods and time, independent task descriptions and time, indicators, and weights, which are detailed in the **Semester Learning Plan (RPS)** (Appendix 1).

Teaching methods based on CLO: Course Learning Outcome are divided into 4 CLOs, namely:
CLO-1: Capable of implementing logical, critical, systematic, and innovative thinking in the concept of development or implementation of knowledge and technology reflecting and concerning human values, in accordance with his/her expertise.
Sub CLO-1: Understanding the scope of Plant Pest Science
Sub CLO-2: Understanding the role and importance of plant pests in nature and in agro-ecosystems

CLO-2: Capable of recognizing as well as identifying plant pests and pathogens
Sub CLO-3. understand the grouping of types of pests that attack agricultural crops.
Sub CLO-4. know the basic theory of the causes of pest attacks and types of attacks
Sub CLO-5: knowing the external factors that play a role in the life of pests
Sub CLO-6. know the internal factors that play a role in the life of pests
Sub CLO-7. early detection of attacks based on pest behavior and seasonal abundance

CLO 3: Capable of recognizing and measuring damages caused by plant pest and diseases.
Sub CLO-8. understand about the growth rate of insects
Sub CLO-9. Understand and be able to explain the behavior of insects
Sub CLO 10-can explain the Life Table or insect life balance

CLO-4: Capable of identifying pest and plant pathogens quickly and accurately by implementing molecular bio-technology, both microscopic and macroscopically
Sub CLO-11. Understand and be able to explain the distribution pattern of insects
Sub CLO-12. Understand and be able to explain about Insect sampling (sampling)
Sub CLO-13. Understand and be able to explain about pest attack level assessment
Sub CLO-14. Understand and be able to explain the Insect Diversity Index

Course Delivery

Lectures are conducted once a week face to face and online via internet with a value of 2 credits covering 2 x 50 minutes, 60 minutes of independent assignments and 60 minutes of structured assignments. The practical works are carried out with a value of 1 credit for 2 x 60 minutes, reporting 1 x 60 minutes including practical works in laboratory and in the field. During lectures, assignments are conducted 4 times i.e. 2 times before midterm exam and 2 times before Finalterm exam. Examinations are held twice, namely midterm exam on week 8th and Finalterm exam on week 16th.

Assesment Method

During the lecture, assessment carried out is as follows:

1. Assignment 1.
2. Assignment 2.
3. Assignment 3
4. Assignment 4
5. Practical Work
6. Midterm Exam
7. Final Exam

The relationship among CLOs, lectures and assignments can be seen in the following table (Table 1).

Table1. The relationship among CLOs, lectures and assignment methods.

			Weight
CLO 1	Lecture 1-2	Assignment 1	
CLO 2	Lecture 3-4,	Assignment 2	
CLO 3	Lecture 11	Assignment 3	
CLO 4	Lecture 11, 12, 13,14	Assignment 4	
CLO 3	Lecture 5-7	Practical work	
CLO 1, CLO 2	Lecture 1-7	Midterm exam	
CLO 3, CLO 4	Lecture 9-15	Final exam	

Lecturing Evaluation

1. **Attendance Evaluation**

Lecturers and students' attendance were evaluated and the results are presented in the following table (Table 2.)

Table 2. Lecturer and students' attendance in the course of Plant entomology, Odd semester 2021

Class	Lecturer attendance	Student attendance
A and B	Yulia Pujiastuti : 8 times	Number of students: 80
	Arinafril : 8 times	Student with ≥85% attendance: 77
		Student with <85% attendance: 3

2. **Teaching evaluation**

The lecturer's teaching method is evaluated through a questionnaire given to students at the end of the lecture. Students are given the opportunity to assess lecturers based on how they feel during lectures when lecturers teach. In addition, their opinions were also asked about things that needed to be improved from the accepted teaching methods (Appendix 3).

3. **Results Evaluation**

The evaluation of the results consists of evaluating calculation of value and evaluating the achievement of CLO

a. Student grade achievement

The final score is determined based on the results of the assessment of the 6 forms of assessment above (point C), plus the attendance score. The weight of the assessment for all forms of assessment can be seen in Table 3 below

Table 3. Method of assessment and contribution weight to the final score

Assesment methods	Weight (%)
Assignment 1	7.5
Assignment 2	7.5
Assignment 3	7.5
Assignment 4	7.5
Practical work	10
Midterm exam	25
Final exam	35
Total	100

Of the final score, the assessment refers to the Decree of the Chancellor of the Republic of Indonesia concerning Academic Guidelines for undergraduate programs (Table 4). The numerical value is 0-100, then the value is converted to the letter value for determining the student achievement index. The results of calculating student scores are shown in Table 5.

Table 4. Universitas Sriwijaya grading system

No	Numerical grade	Letter grade	Grade point
1	86-100	A	4
2	71-85	B	3
3	56-70	C	2
4	40-55	D	1
5	<40	E	0

Table 5. Distribution of grades achievement of the students attending Plant Virology 2022

No	Letter grade	% students
1	A	82.50
2	B	15.00
3	C	1.25
4	D	1.25
5	E	0
	Total	100

a. CLO achievement

Each student is calculated the achievement of his/her CLO score, then the total achievement of all students in the class is calculated. CLO are calculated starting from CLO-1, CLO-2, CLO-3 and CLO-4. The resulting values for the achievement of CLO-1, CLO-2, CLO-3 and CLO-4, 88.75%, 57.5%, 92.5% and 91.25% respectively. The overall final score is 85.28. (Appendix 4). The lowest score for is CLO-2 score in which CLO-2 is capable of recognizing as well as identifying plant pests and pathogens. The assessment made on assignment 2 and midterm is still low, with a value of 57.5%.

IV.REFLECTION

Achievement of CLO when calculated with a satisfactory score (> 85%) occurred in CLO-11, CLO-3 and CLO-4. This indicates that CLO-2 has not yet been achieved. CLO-2 is supported by assessments on assignment 2 and midterm. CLO-2is supported by lecture material 3 and 4. The material given should be more clearly explained. In addition, it needs to be more discussion between students and lecturers and among students. Because CLO-2 is also supported by the midterm value, the explanation of material lecture up to the midterm may still need to be carried out in much more detail. From the side of students who

scored C and D, they did not follow the rule of lectures which explained in the first meeting. Both of them did not follow the mid-term and when given opportunity, they did not use it as they are.

V. FOLLOW UP ACTION

Some suggestions appear to overcome this situation. For the implementation of lectures in the coming year, keeping in mind that there are still materials that are not understood by students, especially to achieve CLO-2. Mmore concrete actions must be taken, namely by conducting more intensive discussions. In addition, a more tangible action is student participation in lectures, including following all assignments and exams conducted by lecturers. This is a must for the students concern

Appendix 1. RPS/Semester Learning Plan of Plant Entomology

	UNIVERSITAS SRIWIJAYA FAKULTAS PERTANIAN JURUSAN HAMA DAN PENYAKIT TUMBUHAN PROGRAM STUDI PROTEKSI TANAMAN
RENCANA PEMBELAJARAN SEMESTER	

A.IDENTITAS MATA KULIAH

Mata kuliah	: Ilmu Hama Tumbuhan	Kode: PPT 2207 / PPT 35215	Semester : 4	Sks : 3 (2-1)
Bahan Kajian	:Hubungan Organisme Pengganggu Tumbuhan dengan Tanaman			
Deskripsi mata kuliah	: Mata kuliah ini lebih dikhususkan pada pemahaman mengenai keberadaan hama tumbuhan yang penghambat produksi pertanian dengan segala aspeknya. Pembahasan meliputi pengertian hama tumbuhan; organisme hama tumbuhan, serangga, tungau, moluska, dan vertebrata hama; interaksi tumbuhan inang dengan hama terkait dengan perilaku monofag, oligofag dan polifag. Mekanisme serangan hama dengan alat mulut houstelata dan mandibulata; respons tumbuhan inang terhadap serangan hama; gejala kerusakan akibat hama dan kerugian yang ditimbulkan akibat serangan hama tumbuhan. Teknik menentukan nilai ambang ekonomi serangan hama.			
CPMK	LO -GS – 1: Capable of implementing logical, critical, systematic, and innovative thinking in the concept of development or implementation of knowledge and technology reflecting and concerning human values, in accordance with his/her expertise. LO -SS -1 : Capable of recognizing and measuring damages caused by plant pest and diseases. LO-SS-2: Capable of recognizing as well as identifying plant pests and pathogens LO –SS 14: Capable of identifying pest and plant pathogens quickly and accurately by implementing molecular bio-technology, both microscopic and macroscopically.			
Dosen Pengampu	Dr.Ir.Yulia Pujiastuti,M.S. (YP) Dr. Ir. Arinafril (AR)	Dosen Penanggung Jawab : Dr.Ir.Yulia Pujiastuti,M.S.(YP)		

B. PROGRAM PEMBELAJARAN

CPMK	Kemampuan Akhir yang diharapkan di setiap tahapan pembelajaran (Sub-CPMK)	Pokok bahasan	Referensi	Metoda pembelajaran dan waktu	Deskripsi tugas mandiri dan waktu	Indikator	Bobot (%)	Dosen
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CPMK-1	Sub CPMK-1: Memahami ruang lingkup Ilmu hama tumbuhan	Definisi dan ruang lingkup Ilmu hama tumbuhan, arti penting hama dalam menurunkan tingkat produksi pertanian,	Anandrao, 2020.	Kuliah TM (2x50')	Membaca kontrak kuliah dan RPS (2x60')	Ketepatan menjelaskan sedikitnya 3 alasan organisme pengganggu tumbuhan sebagai penghambat produksi pertanian	5	YP
	Sub CPMK-2: memahami peranan dan pentingnya hama tumbuhan di alam dan dalam agroeksistem	Peranan dan pentingnya hama tumbuhan: Hama sebagai salah satu komponen agroekosistem	Hill. 2008	Kuliah TM (2x50')	Membaca referensi dan membuat **assignment** (3x60')	Ketepatan menjelaskan posisi organisme pengganggu Tumbuhan dalam agrosekosistem	7.5	YP
CPMK-2	Sub CPMK-3: memahami pengelompokan jenis hama yang menyerang tanaman petanian.	Pengelompokan jenis hama yang menyerang tanaman petanian	Abrol, 2014	Kuliah TM (2x50') Praktikum mengenal berbagai kelompok hama (2x60')	Membaca referensi dan membuat laporan praktikum (3x60')	Ketepatan menjelaskan tentang pengelompokan OPT dari kelompok Verteberata,	7.5	YP

						Moluska, Aves dan inverteberata		
	Sub CPMK-4: mengetahui teori dasar penyebab terjadinya serangan hama dan tipe serangan	Teori dasar serangan hama**:** Interaksi Trofik dan Stabilitas	Nawaz and Ahmad. 2015	Kuliah TM (2x50') Diskusi kelompok (2x60')	Mengumpulkan artikel tentang penyebab terjadinya hama dan tipe serangan serta **assignment** (3x60')	Ketepatan menjelaskan tentang tipe alat mulut berkaitan dengan tipe serangan	7.5	YP
CPMK-3	Sub CPMK-5 mengetahui faktor eksternal yang berperan dalam kehidupan hama	Faktor eksternal dan pengaruhnya dalam kehidupan hama: Siklus Hidup	Nawaz and Ahmad. 2015	Kuliah TM (2x50') Praktikum lapangan tentang factor abiotik (2x60')	Membaca referensi dan membuat laporan praktikum (3x60')	Ketepatan menjelaskan faktor biotik dan abiotic dalam kehidupan hama	7.5	YP
	Sub CPMK-6: mengetahui faktor internal yang berperan dalam kehidupan hama	Faktor internal dan pengaruhnya dalam kehidupan hama: Siklus Hidup	Nawaz and Ahmad. 2015	Kuliah TM (2x50') Praktikum laboratorium kompetisi hama (2x60')	Membaca referensi dan membuat laporan praktikum (3x60')	Ketepatan menjelaskan faktor internal (keturunan) dan kompetisi dalam komunitas terhadap siklus hidup hama	7.5	YP
CPMK-4	Sub CPMK-7: deteksi dini serangan berdasarkan perilaku hama, dan kemelimpahan musim (*seasonal abundance*)	Perilaku hama dan kelimpahan musim: Behavior and seasonal abundance	Hill, 2008	Kuliah TM (2x50') Praktikum mengenal perilaku serangga	Membaca referensi dan membuat laporan praktikum (3x60')	Ketepatan menjelaskan faktor yang dapat mempengaruhi perilaku	7.5	YP

				(2x60')		hama dan kelimpahan di ekosistem		
	Ujian Tengah Semester (120 menit) YP							
	Sub CPMK-8: memahami tentang Laju pertumbuhan serangga	Laju pertumbuhan serangga	Vishwakarma, R. and R. Kumar. 2022	Kuliah TM (2x50') Praktikum mengenal perhitungan laju pertumbuhan serangga (2x60')	Membaca referensi dan membuat laporan praktikum (3x60')	Ketepatan menjelaskan faktor-faktor (sedikitnya 3 faktor) yang menyebabkan terjadinya laju pertumbuhan serangga	7.5	AR
CPMK-5	Sub CPMK-9: Memahami dan dapat menjelaskan tentang Perilaku serangga	Perilaku serangga : monofag, oligofag, polifag	Abrol, 2014	Kuliah TM (2x50") Praktikum mengenal tipe-tipe jenis pakan serangga (2x60')	Membaca referensi tentang perilaku serangga dan membuat laporan praktikum (3x60')	Ketepatan menggambarkan perilaku serangga dasarkan tipe alat mulut dan pengelompokan nya	7.5	AR
	Sub CPMK-10: dapat menjelaskan Life Table atau neraca kehidupan serangga	Life Table atau neraca kehidupan serangga	Vishwakarma, R. and R. Kumar. 2022	Kuliah TM (2x50') Praktikum mengenal penghitungan Life Table (2x60')	Membaca referensi tentang Life Table dan membuat laporan praktikum (3x60')	Ketepatan menjelaskan tentang komponen lfe table untuk peramalan kehidupan serangga	7.5	AR
CPMK-6	Sub CPMK-11: Memahami dan dapat menjelaskan tentang pola sebaran serangga	Pola sebaran serangga	Abrol, 2014	Kuliah TM (2x50') Diskusi tentang pola sebaran hama di tropis dan subtropis	Membaca referensi tentang pola persebaran serangga dan **membuat assignment** (3x60')	Ketepatan menjelasakn tentang pola sebaran serangga berdasarkan musim, komunitas	7.5	AR

				(2x60')		dan populasi		
	Sub CPMK-12: Memahami dan dapat menjelaskan tentang Pengambilan sampel serangga (sampling)	Pengambilan sampel serangga (sampling)	Alford, 2007	Kuliah TM (2x50') Praktikum lapangan sampling (2x60')	Membaca referensi tentang sampling dan membuat laporan praktikum (3x60')	Ketepatan menggambarkan teknik sampling serangga sesuai dengan habitatnya	7.5	AR
CPMK-7	Sub CPMK-13: Memahami dan dapat menjelaskan tentang penilaian tingkat serangan OPT	Berbagai peralatan sampling serangga	Alford, 2007	Kuliah TM (2x50') Praktikum lapangan pengenalan peralatan sampling (2x60')	Membaca referensi tenatng peralatan sampling dan membuat laporan praktikum (3x60')	Ketepatan menjelaskan jenis-jenis alat yg digunakan sampling serangga sesuai dengan habitatnya	7.5	AR
	Sub CPMK-14: Memahami dan dapat menjelaskan tentang Indeks keanekaragaman serangga	Indeks keanekaragaman serangga	Vishwakarma, R. and R. Kumar. 2022	Kuliah TM (2x50') Diskusi kelompok (2x60')	Membaca referensi tentang index keanekaragaman dan **membuat assignment** (3x60')	Ketepatan menjelaskan sedikitnya 3 indeks keanekaragaman serangga	7.5	AR
	Ujian Akhir Semester							

Work load: Kuliah TM 1400 menit, praktikum 1440 menit, diskusi kelompok 360 menit, tugas mandiri 4800 menit, ujian 240 menit = 8000 menit = 133.33 jam = **5,3 ECTS**

Referensi:

1. Anandrao, L.M. 2020. Handook of Agricultural Entomology. Delve Publishing.

2. Metcalf, R.L. and W.H. Luckmann. 1994. Introduction to Insect Pest Management.
3. David V. Alford , 2007. Pests of Fruit Crops: A Color Handbook (Plant Protection Handbooks).
4. Jim M Waller, M Bigger and Rory J Hillocks. 2007. Coffee Pests, Diseases and their Management.
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https://doi.org/10.1016/C2012-0-00720-X
7. Nawaz and Ahmad. 2015. Insect Pest Management in Conservation Agriculture. Springer International Publishing.
8. Vishwakarma, R. and R. Kumar. 2022. Manage ment of Insect Pests in Vegetable Crops
Concepts and Approaches. Apple Academic Press.

Appendix 2. Scoring Rubric

3.1. Paper assignment scoring rubric

Scoring component	Score 5	Score 4	Score 3	Score 2	Score 1
Format, organization and focus. Weight 15%	Well organized, follow the format accordingly and the focus of assignment is as intended.	Well organized, follow the format accordingly but up to 20% of the assignment is out of focus	Not well organized, partially follow the format accordingly but up to 40% of the assignment is	Not well organized, not follow the format and to 40% of the assignment is out of focus	Not organized, and more than a half of the assignment is out of focus.
Discussion. Weight 60%	Very good and comprehensive discussion supported by references as required.	Good and comprehensive discussion and partially supported by references.	Fairly good and but not comprehensive discussion and partially supported by references.	Not enough discussion and partially supported by references.	No discussion and no reference.
Vocabulary and spelling. Weight 10%	Very good choice of words, good sentences and paragraph with nil spelling mistake.	Good choice of words, good sentences and paragraph with few spelling mistakes.	Fairly good choice of words, good sentences in less organized with few spelling mistakes.	Less appropriate choice of words, not organized paragraphs, with some spelling	Not appropriate choice of words, not organized paragraph with a lot of spelling mistakes.
References. Weight 7.5% %	More than 80% of the references are published in the last 10 years.	80-100% of the references are published in the last 10 years.	50-80% of the references are published in the last 10 years.	30-50% of the references are published in the last 10 years.	Less than 30% of the references are published in the last 10 years.
Assignment submission. Weight 7.5%	On schedule submission	One day late submission	Two days late submission	Three days late submission	More than three days late submission

3.2. Examination essay scoring rubric

Score	description
5	Assignment shows complete understanding of the questioned problem in the exam by including all requirements and presenting them in flow sentences and paragraphs, with very good description and discussion and no typographical mistakes
4	Assignment shows good understanding of the questioned problem in the exam by including all requirements and presenting them in flow sentences and paragraphs, with considerable good description and discussion and minimum typographical mistakes
3	Assignment shows enough understanding of the questioned problem in the exam by including most requirements and presenting them in flow sentences and paragraphs, with fairly good description and discussion and quite a lot of typographical mistakes
2	Assignment shows less understanding of the questioned problem in the exam by including few requirements and presenting them in less organized sentences and paragraphs, with not enough description and discussion and a lot of typographical mistakes
1	Assignment shows no understanding of the questioned problem in the exam.

Appendix 3. FFEDBACK QUESTIONNAIRE

QUESTIONNAIRE FOR THE FEEDBACK OF TEACHING PROCESS PLANT PROTECTION STUDY PROGRAMME FACULTY OF AGRICULTURE, UNIVERSITAS SRIWIJAYA

All students of Plant Protection Study Programme are expected to fill out this questionnaire honestly. This questionnaire is designated to appreciate and or to criticize the performance of all lecturers in Teaching Process conducted in Plant Protection Study Program, Faculty of Agriculture, Universitas Sriwijaya. No student's personal information, e.g. Name, ID Number, Mobile Number, et cetera, are requested. Students need to tick (√) the option beside the number in box of every question which is chosen.

Evaluated lecturer's name :…….

Subject taught :…….

1	Suitability of course content to those published in Semester Learning Plan	Unsuitable	Less suitable	Suitable	Very suitable
		1	2	3	4
2	Easiness of getting learning resources	Not easy	Less easy	Easy	Very easy
		1	2	3	4
3	Teaching approach	Not interesting	Less interesting	Interesting	Very interesting
		1	2	3	4
4	Classroom management	Fairly good	Good	Very good	excellent
		1	2	3	4
5	Timekeeping ability	Unpunctual	Less punctual	Punctual	Very punctual
		1	2	3	4
6	Communication skill	Ineffective	Less effective	Effective	Very effective
		1	2	3	4
7	Suitability of questions in examinations to the course content	Unsuitable	Less suitable	Suitable	Very suitable
		1	2	3	4
8	Difficulty of question in the examinations	Very easy	Easy	Less difficult	Difficult
		1	2	3	4
9	Closeness of gained mark with student's expectation	Far	Close	Very close	Precise
		1	2	3	4
10	Availability of learning materials in the e-learning system	Not uploaded	Uploaded in the same day of lecture	Uploaded within three days before	Uploaded a week before lecture's day

				lecture's day	
		1	2	3	4
11	Suitability of assignments to course content published in Semester Learning Plan	Unsuitable	Less suitable	Suitable	Very suitable
		1	2	3	4
12	Execution of midterm and final examinations	Not done at all.	Done, but not as scheduled	Done as scheduled, but different from schedule in Semester Learning Plan	Done as scheduled in Semester Learning Plan
		1	2	3	4
13	Number of lectures delivered for the entire semester.	Less than 12 times	12-13 times	14-15 times	16 times
		1	2	3	4

This part will be filled in by Study Program Administrator or Quality Assurance Task Staff

Final score = $\frac{\Sigma x_i}{Nz} \times 100$

X_i = score of each answered question

N = number of question

Z = highest score

Predicate

< 55: not good

55-70: fairly good

>70-85: good

>85: very good

Conclusion : …….

Appendix 4. Score sheet of the course of Plant Entomology

PROGRAM STUDI :	**PROTEKSI TANAMAN**
TAHUN AKADEMIK :	**2021/2022 (SEMESTER GANJIL)**
NAMA MATA KULIAH :	**ILMU HAMA TUMBUHAN (3 SKS)**
RUANG :	**R. SEMINAR HPT**
DOSEN :	**DR. IR. YULIA PUJIASTUTI, M.S. / DR. IR. ARINAFRIL**
JADWAL :	**SELASA (13:20 - 15:00 WIB)**

			as 1	as2	as 3	as 4	Practical work	MIdterm	Final Term	Final Score	Grade		CLO Achievment		
NO.	**NIM**	**NAMA**	7.50%	7.50%	7.50%	7.50%	10%	25%	35%			CLO 1	CLO 2	CLO3	CLO4
1	05081181924002	RIAN ADRIAN	90	86	87	86	90	89	86	87.55	**A**	Yes	Yes	Yes	Yes
2	05081181924004	HERDINAWATI	90	85	88	86	90	88	87	87.65	**A**	Yes	Yes	Yes	Yes
3	05081181924005	LIDYA KARLINA	90	85	88	87	88	88	90	88.54	**A**	Yes	Yes	Yes	Yes
4	05081181924006	RIA LESTARI	90	84	88	87	90	89	87	87.90	**A**	Yes	Yes	Yes	Yes
5	05081181924009	INDAH WULAN SUCI	90	84	88	86	90	87	93	89.42	**A**	Yes	Yes	Yes	Yes
6	05081181924012	CINDI AZZAHRA	90	83	87	88	90	88	86	87.18	**A**	Yes	NO	Yes	Yes
7	05081181924076	NURCAHAYA PURBA	90	89	90	87	88	90	95	91.24	**A**	Yes	Yes	Yes	Yes
8	05081181924078	SITI MAHANI	90	80	86	87	90	84	86	85.85	**A**	Yes	No	Yes	Yes
9	05081181924079	ANGGUN DAMAR ADELIA	90	81	86	86	90	88	91	88.60	**A**	Yes	No	Yes	Yes
10	05081181924082	MERI AGUSTIN	90	86	88	86	87	88	84	86.41	**A**	Yes	Yes	Yes	Yes
11	05081281924019	MEIRIZQI NURLAILATUS SHOLICHAH	90	82	87	88	87	88	90	88.22	**A**	Yes	No	Yes	Yes
12	05081281924020	SHINTA AMALIA RAHMADANI	90	81	86	87	87	70	80	80.04	**B**	No	No	Yes	NO
13	05081281924021	SHAKEILLA ARETHA ZELIKA	90	81	86	86	92	89	84	86.60	**A**	Yes	No	Yes	Yes
14	05081281924029	HESTI	90	82	87	87	87	70	80	80.18	**B**	No	No	Yes	No

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15	05081281924031	ESTER MAHARANI	90	82	87	87	87	86	82	84.80	A	Yes	No	Yes	Yes
16	05081281924033	FARID ALGIFANI	90	82	87	86	87	70	80	80.06	B	NO	NO	Yes	NO
17	05081281924034	MUHAMMAD AL FATIH ABDURROSYID	90	89	90	87	88	87	86	87.34	A	Yes	Yes	Yes	Yes
18	05081281924037	MUTIARA RAIHANAH ALIFIA	90	81	86	87	87	88	81	84.78	A	Yes	NO	Yes	Yes
19	05081281924039	ARDHANSYAH PRADANA MAULANA LATIF	90	83	87	87	87	86	86	86.38	A	Yes	NO	Yes	Yes
20	05081281924040	AMARISYA SHAFA LUZIA	90	81	86	87	87	87	90	87.68	A	Yes	NO	Yes	Yes
21	05081281924041	M BAGAS TIYANTARA	90	81	86	88	87	87	88	87.10	A	Yes	NO	Yes	Yes
22	05081281924043	ANDES TRIANI	90	81	86	86	90	88	90	88.25	A	Yes	NO	Yes	Yes
23	05081281924044	MUHAMMAD ASDHYSHANI	90	84	88	87	87	88	86	87.05	A	Yes	Yes	Yes	Yes
24	05081281924069	YUSI ANANDA	90	82	87	87	87	90	87	87.55	A	Yes	NO	Yes	Yes
25	05081281924070	NYAYU FARLANIA WULANDARI	90	83	87	86	87	86	86	86.25	A	Yes	NO	Yes	Yes
26	05081281924075	ZAHRATUL FAUZIAH	90	84	88	87	87	88	84	86.35	A	Yes	Yes	Yes	Yes
27	05081281924077	EGO ALPIAN	90	85	88	88	88	70	80	80.58	B	NO	NO	Yes	Yes
28	05081281924080	LOVIGA BR BANGUN	100	82	93	87	90	70	86	83.70	B	Yes	NO	Yes	Yes
29	05081381722046	AGUNG PRAYOGO	60	60	70	65	70	0	68	49.93	D	NO	NO	NO	NO
30	05081381722053	HUMAIROH	90	81	86	87	87	87	80	84.26	B	Yes	NO	Yes	NO
31	05081381924047	KHAIRUNNISA PUTRI	92	88	90	90	92	86	81	86.05	A	Yes	Yes	Yes	Yes
32	05081381924048	AZZAHRA NUR DWI LESTARI	84	82	83	67	75	86	80	80.71	B	NO	NO	NO	NO
33	05081381924053	ROHIMA RAHMAH	90	90	88	87	87	88	81	85.69	A	Yes	Yes	Yes	Yes
34	05081381924054	RONI SALEH ARDIANSYAH	90	82	87	87	87	88	85	86.35	A	Yes	NO	Yes	Yes
35	05081381924055	ERDI MEFIYANTO	90	85	88	86	87	88	84	86.32	A	Yes	Yes	Yes	Yes
36	05081381924056	PUTRI GINA	90	88	89	88	88	86	85	86.69	A	Yes	Yes	Yes	Yes
37	05081381924058	RILWA WALLINGGA	90	90	87	87	87	88	85	87.05	A	Yes	Yes	Yes	Yes
38	05081381924059	RAUDHATUL FATRICIA	90	86	88	87	87	90	90	89.03	A	Yes	Yes	Yes	Yes

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39	05081381924060	DWI RAHAYU PUTRI SIANIPAR	90	90	87	88	87	87	86	87.19	**A**	Yes	Yes	Yes	Yes
40	05081381924063	MUHAMMAD HASANUL ICHSAN	90	90	90	88	90	88	81	86.23	**A**	Yes	Yes	Yes	Yes
41	05081181924001	VIRA PUSPITASARI	90	85	88	87	87	89	87	87.65	**A**	Yes	Yes	Yes	Yes
42	05081181924003	DHANILLO DJULIAN	90	85	89	87	90	89	90	89.05	**A**	Yes	Yes	Yes	Yes
43	05081181924007	KARINA AYUNINGTIAS	90	90	88	87	87	89	87	88.02	**A**	Yes	Yes	Yes	Yes
44	05081181924010	MIFTAH AJENGTIYAS NURSYAHIDAH RAHMAN	90	86	88	86	87	89	87	87.68	**A**	Yes	Yes	Yes	Yes
45	05081181924011	NURUL TRIAGTIN	90	90	89	87	90	70	78	80.50	**B**	NO	NO	Yes	Yes
46	05081181924013	SEPTYA AYU DWINTHA	90	90	89	88	90	88	83	86.79	**A**	Yes	Yes	Yes	Yes
47	05081181924071	ELLA APRIYANA	90	89	88	87	90	90	90	89.52	**A**	Yes	Yes	Yes	Yes
48	05081281924014	DELLA APRILIA	90	95	88	86	90	87	90	89.18	**A**	Yes	Yes	Yes	Yes
49	05081281924015	IRFAN MOHANDIS HARAKI	90	90	88	87	87	80	87	85.77	**A**	Yes	Yes	Yes	Yes
50	05081281924017	MESSA SYAHPUTRI	90	87	89	88	90	89	86	87.86	**A**	Yes	Yes	Yes	Yes
51	05081281924018	RIZKI PUTRI AMELIA	90	89	88	87	88	88	88	88.14	**A**	Yes	Yes	Yes	Yes
52	05081281924022	KHAIRI SARDILLA	90	81	89	87	87	88	87	87.18	**A**	Yes	Yes	Yes	Yes
53	05081281924023	MUHARI	90	85	88	86	86	88	86	86.92	**A**	Yes	Yes	Yes	Yes
54	05081281924024	DEO DATUS CRISTY PUTRA SIRAIT	90	82	88	86	90	75	79	81.39	**B**	Yes	NO	Yes	NO
55	05081281924027	RANTI NUR FADILLAH	90	81	89	88	86	88	86	86.78	**A**	Yes	NO	Yes	Yes
56	05081281924028	HUSAINI PURNAMA AJI	90	89	89	87	85	88	85	86.90	**A**	Yes	Yes	Yes	Yes
57	05081281924032	WINDA PRATIWI	90	89	88	87	86	86	86	86.76	**A**	Yes	Yes	Yes	Yes
58	05081281924035	AGUSTIAN KANDILA	90	87	88	86	84	87	84	85.94	**A**	Yes	Yes	Yes	Yes
59	05081281924036	HANA ELJA AZZAHRA	90	89	89	88	87	89	87	88.07	**A**	Yes	Yes	Yes	Yes
60	05081281924038	HELMI SYAPUTRA	90	85	88	86	86	87	86	86.67	**A**	Yes	Yes	Yes	Yes
61	05081281924045	SHERA MARGARETHA	90	83	89	88	86	87	86	86.68	**A**	Yes	NO	Yes	Yes
62	05081281924072	TIKA RAHMAWATI	90	84	88	87	87	89	87	87.57	**A**	Yes	Yes	Yes	Yes

63	05081281924073	RAJA BONAR LUBIS	90	87	88	86	92	86	87	87.47	**A**	Yes	Yes	Yes	Yes
64	05081281924074	TEZZIA NOFETRA	90	84	89	88	92	88	84	86.89	**A**	Yes	Yes	Yes	Yes
65	05081281924081	MEINI FITRIANA	90	90	88	87	87	86	87	87.27	**A**	Yes	Yes	Yes	Yes
66	05081281924083	NUR AMALIA NASUTION	90	90	89	87	88	88	88	88.29	**A**	Yes	Yes	Yes	Yes
67	05081381621049	ENDI DARMAWAN	90	85	89	87	85	80	85	84.60	**B**	Yes	NO	Yes	Yes
68	05081381924046	NANDA WAHYU SURYANA	90	84	88	87	86	86	86	86.38	**A**	Yes	NO	Yes	Yes
69	05081381924049	SARAH CAHYANI AHMAD	90	82	88	87	87	89	87	87.42	**A**	Yes	NO	Yes	Yes
70	05081381924050	MUHAMMAD MUIS	90	86	88	86	82	75	81	81.54	**B**	Yes	NO	NO	NO
71	05081381924051	EDHO ARYA SAPUTRA	90	84	88	87	79	75	78	80.11	**B**	Yes	NO	NO	NO
72	05081381924052	FAHMI NUR ILHAM FAJAR	90	82	89	87	87	88	87	87.25	**A**	Yes	NO	Yes	Yes
73	05081381924057	LUTFIAH PUTRI AZZAHRA	90	84	89	88	79	70	87	82.13	**B**	NO	NO	NO	Yes
74	05081381924061	MUHAMMAD WILDAN AL GHIFARY	90	85	88	87	87	88	87	87.40	**A**	Yes	Yes	Yes	Yes
75	05081381924062	NOVI ARISKA	90	86	89	88	86	80	86	85.15	**B**	Yes	NO	Yes	Yes
76	05081381924064	HARLIN NASUTION	90	84	89	87	83	80	83	83.64	**B**	Yes	NO	Yes	Yes
77	05081381924065	REYDO NUGRAHA	90	86	88	87	84	87	84	85.90	**A**	Yes	Yes	Yes	Yes
78	05081381924066	VERA FADHLIA AMY	90	84	88	86	84	87	84	85.71	**A**	Yes	Yes	Yes	Yes
79	05081381924067	AJENG TRI MUGHNIY	90	89	89	88	88	88	88	88.26	**A**	Yes	Yes	Yes	Yes
80	05081381924068	PENDI LUKITO	90	84	89	87	89	0	89	66.28	**C**	NO	NO	NO	Yes
		Jumlah	7176	6788	7020.5	6918.66	6967.568	6650	6827	6841.44	**(% Yes)**	88.75	57.5	92.5	91.25
		Rata-rata	89.70	84.85	87.76	86.48	87.09	83.13	85.34	85.52					

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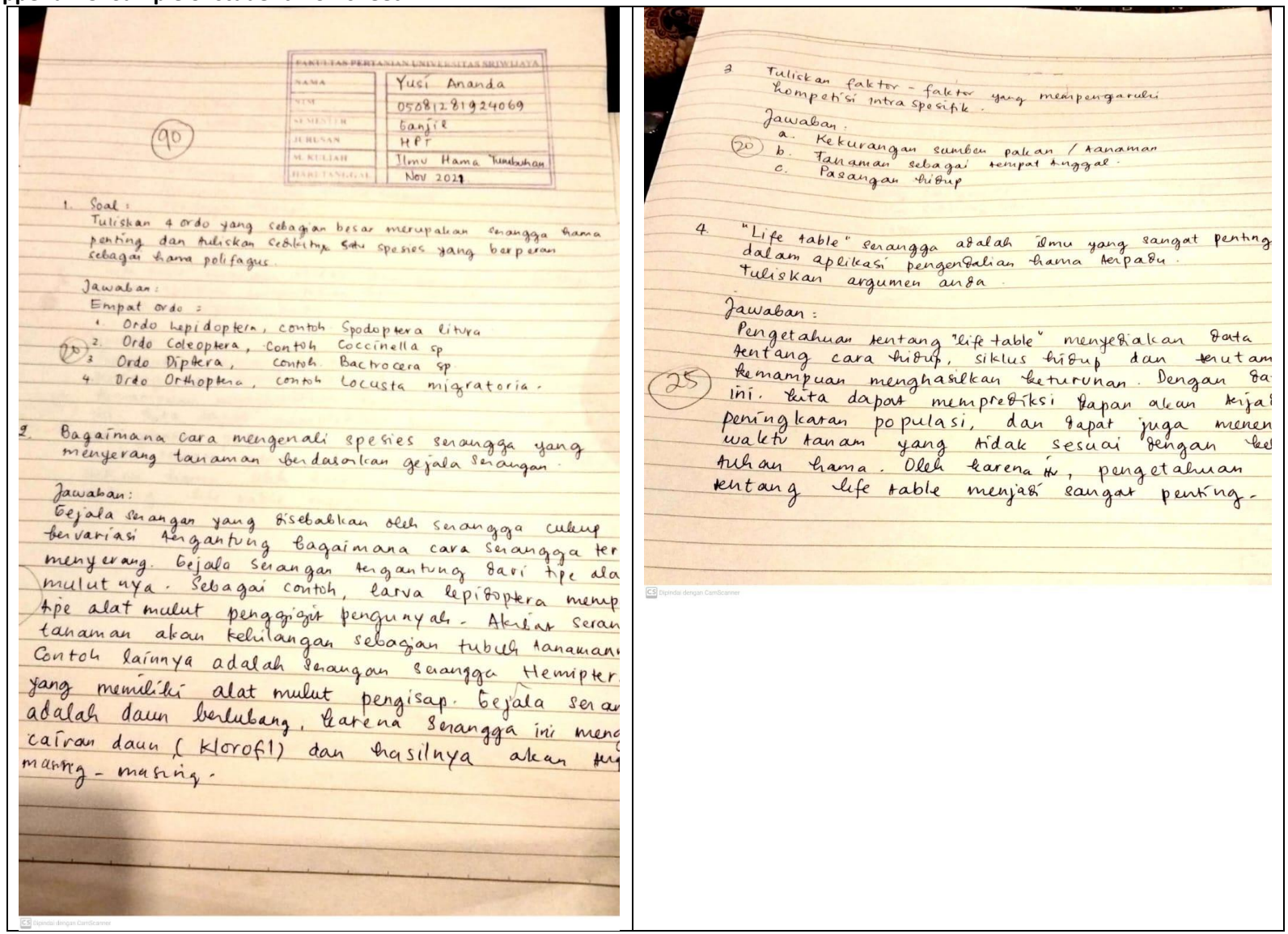
Appendix 5. Sample of student worksheet



FAKULTAS PERTANIAN UNIVERSITAS SRIWIJAYA

NAMA	Yusi Ananda
NIM	05081281924069
SEMESTER	Ganjil
JURUSAN	HPT
M. KULIAH	Ilmu Hama Tumbuhan
HARI/TANGGAL	Nov 2021

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1. Soal :
Tuliskan 4 ordo yang sebagian besar merupakan serangga hama penting dan tuliskan salah satu spesies yang berperan sebagai hama polifagus.

Jawaban :
Empat ordo :
1. Ordo Lepidoptera, contoh Spodoptera litura
2. Ordo Coleoptera, contoh Coccinella sp (20)
3. Ordo Diptera, contoh Bactrocera sp
4. Ordo Orthoptera, contoh Locusta migratoria.

2. Bagaimana cara mengenali spesies serangga yang menyerang tanaman berdasarkan gejala serangan.

Jawaban:
Gejala serangan yang disebabkan oleh serangga cukup bervariasi tergantung bagaimana cara serangga ter menyerang. Gejala serangan tergantung dari tipe ala mulutnya. Sebagai contoh, larva lepidoptera merup tipe alat mulut penggigit pengunyah. Akibat seran tanaman akan kehilangan sebagian tubuh tanaman Contoh lainnya adalah serangan serangga Hemipter yang memiliki alat mulut pengisap. Gejala sera adalah daun berlubang, karena serangga ini men cairan daun (klorofil) dan hasilnya akan ti manng - masing.

3. Tuliskan faktor - faktor yang mempengaruhi kompetisi intra spesifik.

Jawaban :
a. Kekurangan sumber pakan / tanaman (20)
b. Tanaman sebagai tempat tinggal.
c. Pasangan hidup

4. "Life table" serangga adalah ilmu yang sangat penting dalam aplikasi pengendalian hama terpadu. Tuliskan argumen anda.

Jawaban :
Pengetahuan tentang "life table" menyediakan data tentang cara hidup, siklus hidup dan terutam kemampuan menghasilkan keturunan. Dengan da ini. kita dapat memprediksi dapat akan terja peningkatan populasi, dan dapat juga menen waktu tanam yang tidak sesuai dengan ke hama. Oleh karena itu, pengetahuan tentang life table menjadi sangat penting. (25)

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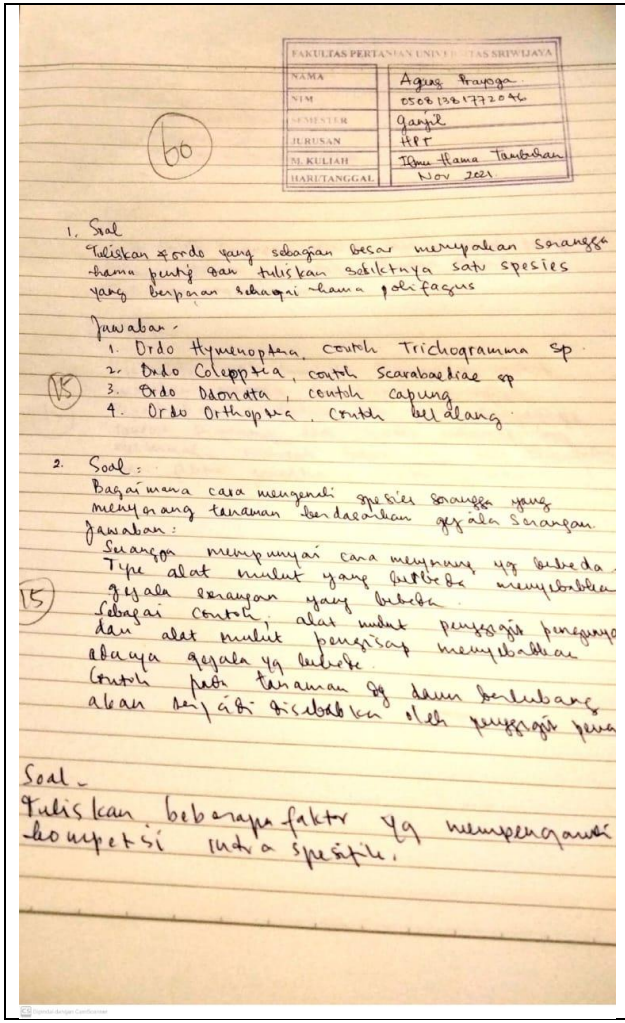

FAKULTAS PERTANIAN UNIVERSITAS SRIWIJAYA

NAMA	Agus Trapsa
NIM	05081281772046
SEMESTER	ganjil
JURUSAN	HPT
M. KULIAH	Ilmu Hama Tanaman
HARI/TANGGAL	Nov 2021

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1. Soal
Tuliskan 4 ordo yang sebagian besar merupakan serangga hama penting dan tuliskan salah satu spesies yang berperan sebagai hama polifagus

Jawaban :
1. Ordo Hymenoptera, contoh Trichogramma sp
2. Ordo Coleoptera, contoh Scarabaeidae sp
3. Ordo Odonata, contoh capung
4. Ordo Orthoptera, contoh belalang

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2. Soal :
Bagaimana cara mengenali spesies serangga yang menyerang tanaman berdasarkan gejala serangan

Jawaban :
Serangga mempunyai cara menyerang yg berbeda. Tipe alat mulut yang berbeda menyebabkan gejala serangan yang berbeda.
Sebagai contoh, alat mulut penggigit pengunyah dan alat mulut penghisap menyebabkan adanya gejala yg berbeda.
Contoh pada tanaman yg daun berlubang akan banyak disebabkan oleh penggigit pengunyah

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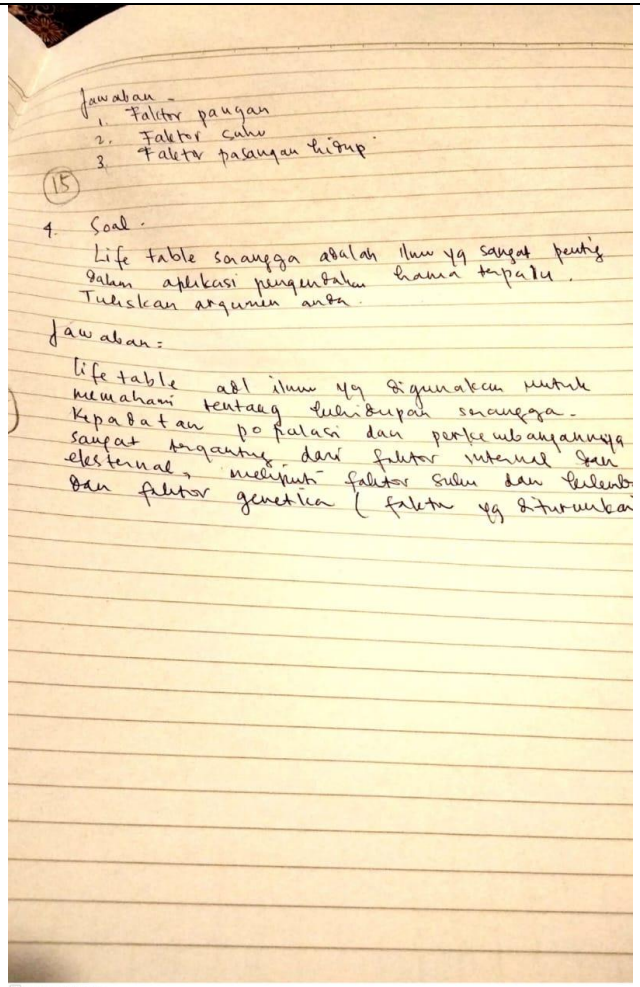
Soal.
Tuliskan beberapa faktor yg mempengaruhi kompetisi intra spesifik.



Jawaban :
1. Faktor pangan
2. Faktor cahu
3. Faktor pasangan hidup

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4. Soal.
Life table serangga adalah ilmu yg sangat penting dalam aplikasi pengendalian hama terpadu.
Tuliskan argumen anda.

Jawaban :
life table adl ilmu yg digunakan untuk memahami tentang kelimpahan serangga.
Kepadatan populasi dan perkembangannya sangat tergantung dari faktor internal dan eksternal, meliputi faktor suhu dan kelembaban dan faktor genetika (faktor yg diturunkan