



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Crossing Techniques and Plant Breeding in Plants							
Course Code		ZBY521		Coure Level		Second Cycle (Master's Degree)			
ECTS Credit	7	Workload	178 (Hours)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		To teach how crossing is done and its importance in plants							
Course Content		What is hybridization? The purpose of crossbreeding includes fertilization biology in plants, characters in plants, gene-character relationship, pollination and control, male infertility and control, standard and hybrid seed production, isolation and importance, application of selection and backcrossing							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Case Study, Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Cross-Breeding and Hybridizing: The Philosophy of the Crossing of Plants, Considered With Reference to Their Improvement Under Cultivation; With a Brief Bibliography of the Subject (Classic Reprint) Hardcover – February 23, 2018 by Liberty Hyde Bailey .
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Week	Weekly Detailed Course Contents	
1	Theoretical & Practice	Theoretical: The importance and scope of crossbreeding Application: Tools used in crossbreeding
2	Theoretical & Practice	Theoretical: Hybridization techniques Application: Instrument sterilization in hybridization
3	Theoretical & Practice	Theoretical: Plant breeding and crossbreeding relationship Application: Pollen collection techniques
4	Theoretical & Practice	Theoretical: The importance of genetic characters in crossbreeding Application: Techniques for preserving pollen viability
5	Theoretical & Practice	Theoretical: Early and physiological infertility in crossbreeding Application: Pollination and Insulation distances
6	Theoretical & Practice	Theoretical: Parental control in crossbreeding Application: Determination and duration of plant pollen release time
7	Theoretical & Practice	Theoretical: Back-crossing techniques and purpose Application: Manual pollination technique
8	Intermediate Exam	Midterm exam
9	Theoretical & Practice	Theoretical: Crossbreeding and selfing Application: Wind pollination
10	Theoretical & Practice	Theoretical: Protection of phases Application: Bee pollination technique
11	Theoretical & Practice	Theoretical: Hybrid technology Application: Land cultivation patterns in hybrid seed production
12	Theoretical & Practice	Theoretical: Fertilization biology in plants Application: Detection of pollen viability
13	Theoretical & Practice	Theoretical: Selection criteria in plant breeding Application: Morphological markers
14	Theoretical & Practice	Theoretical: Qualitative and quantitative properties in plant breeding Application: Morphological character separation
15	Theoretical & Practice	Variety registration procedures
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	6	2	112
Lecture - Practice	14	2	2	56
Midterm Examination	1	4	1	5



Final Examination	1	4	1	5
Total Workload (Hours)				178
[Total Workload (Hours) / 25*] = ECTS				7
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	The importance of hybridization in plants
2	Pure line, hybrid plant
3	Fertilization biology
4	Hybrid seed production
5	Dusting, Fertilization and Insulation

Programme Outcomes (Agricultural Biotechnology Master)

1	Students learn various techniques and evaluates resources about agricultural biotechnology
2	Make the necessary projects in agricultural biotechnology and to conduct a study of the basic level independently
3	Students learns how to conduct a scientific research and prepares themselves for the scientists in the direction of their ideals.
4	Students may reveal new ideas in social and scientific issues and can benefit from the ideas and produce something new winning independent and teamwork skills.
5	Students can use its products for the benefit of humanity, they can produce technology and collaborate with industry

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	5	4	4	5	4
P2	5	4	5	5	5
P3	5	5	3	4	4
P4	4	4	4	3	5
P5	4	5	5	5	4

