

Week 4	2.1.7 Nutrient Management	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
	2.1.8 Insect pest and diseases of wheat crop and their control	
Week 5	3.1 Cotton	Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4 th Ed., The Macmillan Co., New York.
	3.1.1 Origin, 3.1.2 History, 3.1.3 Morphology, 3.1.4 Adaptation, distribution, economic importance	
Week 6	3.1.5 Agro-technology of Cotton crop	Khalil I.A and A. Jan. 2002. Cropping Technology. National Book Foundation, Islamabad.
	3.1.6 Insect pest and diseases of Cotton crop and their control	
Week 7	4.1 Maize	Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4 th Ed., The Macmillan Co., New York.
	4.1.1 Origin, 4.1.2 History, 4.1.3 Morphology, 4.1.4 Adaptation, distribution, economic importance	
Week 8	4.1.5 Agro-technology of Maize crop	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
	4.1.6 Insect pest and diseases of Maize crop and their control	
Week 9	MID TERM EXAM	
Week 10	5.1 Rice	Martin, J.H., R.P. Waldren and D.L.
	5.1.1 Origin,	

	5.1.2 History, 5.1.3 Morphology, 5.1.4 Adaptation, distribution, economic importance	Stamp. 2006. Principles of Field Crop Production, 4 th Ed., The Macmillan Co., New York.
Week 11	5.1.5 Agro-technology of Rice crop	
	5.1.6 Insect pest and diseases of Rice crop and their control	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
Week 12	6.1 Sugarcane	Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4 th Ed., The Macmillan Co., New York.
	6.1.1 Origin, 6.1.2 History, 6.1.3 Morphology, 6.1.4 Adaptation, distribution, economic importance	
Week 13	6.1.5 Agro-technology of Sugarcane crop	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
	6.1.6 Insect pest and diseases of Sugarcane crop and their control	
Week 14	7.1 Potato	Malik, M.N. 1994. Horticulture. National Book Foundation, Islamabad
	7.1.1 Origin, 7.1.2 History, 7.1.3 Morphology, 7.1.4 Adaptation, distribution, economic importance	
Week 15	7.1.5 Agro-technology of Potato crop	
	7.1.6 Insect pest and diseases of Potato crop and their control	
Week 16	8.1. Management constraints and technological measures to optimize crop productivity	Khan, S. R. A. 2001. Crop Management in

		Pakistan with Focus on Soil and Water. Directorate of Agricultural Information, Punjab. Lahore.
Week 17	9.1 Modern techniques for crop improvement	Khan, S. R. A. 2001. Crop Management in Pakistan with Focus on Soil and Water. Directorate of Agricultural Information, Punjab. Lahore.
Week 18	FINAL TERM EXAM	
Practical Course Contents		Assignments/Readings
Week 1	1.1 Demonstration of improved sowing methods	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
Week 2	1.2 Demonstration of improved sowing methods	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
Week 3	2.1 Raising of rice nursery	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
Week 4	2.2 Transplanting of rice nursery	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
Week 5	3.1 Delinting of cotton seed by conventional and modern techniques, its impact on seed germination and seedling establishment	Khalil I.A and A. Jan. 2002. Cropping Technology. National

		Book Foundation, Islamabad.
Week 6	4.1 Techniques of maintaining optimum plant population under field conditions	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
Week 7	4.2 Techniques of maintaining optimum plant population under field conditions	Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad
Week 8	MID TERM EXAM	
Week 9	5.1 Plant characteristics and phenological development of major crops	Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4 th Ed., The Macmillan Co., New York.
Week 10	5.1 Plant characteristics and phenological development of major crops	Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4 th Ed., The Macmillan Co., New York.
Week 11	6.1 Introduction to sugar industry	
Week 12	7.1 Plant mapping for estimating crop yields for major crops	
Week 13	7.2 Plant mapping for estimating crop yields for major crops	
Week 14	8.1 Ecosystem analysis (ESA) of different crops	
Week 15	8.2 Ecosystem analysis (ESA) of different crops	
Week 16	FINAL TERM EXAM	
Textbooks and Reading Material		

Textbooks.

1. Khalil I.A and A. Jan. 2002. Cropping Technology. National Book Foundation, Islamabad.
2. Khan, S. R. A. 2001. Crop Management in Pakistan with Focus on Soil and Water. Directorate of Agricultural Information, Punjab. Lahore.
3. Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4th Ed., The Macmillan Co., New York.
4. Stoskopf, N.C. 1981. Understanding Crop Production. Reston. Pub. Co., Inc. Reston, Virginia.
5. Malik, M.N. 1994. Horticulture. National Book Foundation, Islamabad
6. Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. National Book Foundation, Islamabad

Teaching Learning Strategies

1. White board and markers
2. Slide projector or multimedia
3. Overhead projector
4. Photocopy machine or photocopying facilities
5. Reference books
6. Journals
7. Internet (web sited literature)
8. Field Tours

Assignments: Types and Number with Calendar

1. What are the Agro-physiological factors limiting yield potential of crops? (Mid Term)
2. Concepts and components of Good Agricultural Practices (GAP) (Final Term)

Assessment

Sr. No.	Elements	Weightage	Details
1.	Midterm Assessment	35%	Written Assessment at the mid-point of the semester.
2.	Formative Assessment	25%	Continuous assessment includes: Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc.

3.	Final Assessment	40%	Written Examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.
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