



DEPARTMENT OF AGRONOMY
Faculty of Agricultural Sciences
University of the Punjab, Lahore



Course Outline

Programme	B.Sc. (Hons.) Agriculture (Agronomy)	Course Code	AGR-407	Credit Hours	3 (2-1)
Course Title	MEDICINAL AND SPECIAL CROPS				
Course Introduction					
Basic knowledge and importance of medicinal and special-purpose crops					
To introduce a production technology for medicinal and special-purpose crops					
Learning Outcomes					
On the completion of the course, the students will:					
<ol style="list-style-type: none"> 1. Get Introduced to the economic importance, origin, and history of medicinal crops. 2. To know about the IPM and precision farming for particular purpose crops. 3. To know about the processing and marketing of medicinal crops. 4. Identification of seed and crop plants 					
Course Content				Assignments/Readings	
Week 1	2.1. Medicinal and special purpose crops: Tea, Aloe Vera (T)			Altaf, Z. and A. Qarshi. 2013. Medicinal Plants. Qarshi Industries, Lahore	
	2.1.1.	Economic Importance			
	2.1.2.	Origin			
	2.1.3.	History			
	2.1.4.	Adaptation			
	2.1.5.	distribution and production technology			
	Practical Work				
	Identification of seed and crop plants: tea, aloe, mint, aloe vera, chamomile kava, red sorrel				
Week 2	2.2. Medicinal and special purpose crops: Mint, Aloe vera			Narayan, D.P., S.S. Purohit, A.K. Sharma and Tarun, K. 2003. A Handbook of Medicinal Plants. Agrobios, India.	

	<p>2.2.1. Economic Importance</p> <p>2.2.2. Origin</p> <p>2.2.3. History</p> <p>2.2.4. Adaptation</p> <p>2.2.5. distribution and production technology</p>	
	<p>Practical Work</p> <p>Identification of seed and crop plants: jojoba, castor bean, jatropha, plantains, salicornia, safflower</p>	
Week 3	<p>2.3. Medicinal and special purpose crops: chamomile, kava</p> <p>2.3.1. Economic Importance</p> <p>2.3.2. Origin</p> <p>2.3.3. History</p> <p>2.3.4. Adaptation</p> <p>1.3.5. Distribution and production technology</p>	Ravindra, S. 2004. Agro-Techniques of Medicinal Plants. Daya Publishing House, New Delhi, India.
	<p>Practical Work</p> <p>Identification of seed and crop plants: poppy, tobacco, indigo, oil palm, fennel, ajwain, fenugreek, sweet basil</p>	
Week 4	<p>2.4. Medicinal and special purpose crops: red sorrel, jojoba</p> <p>2.4.1. Economic Importance</p> <p>2.4.2. Origin</p> <p>2.4.3. History</p> <p>2.4.4. Adaptation</p> <p>1.4.5 Distribution and Production Technology</p>	Narayan, D.P., S.S. Purohit, A.K. Sharma and Tarun, K. 2003. A Handbook of Medicinal Plants. Agrobios, India.
	<p>Practical Work</p> <p>Identification of seed and crop plants: balangu, haloon, kalonji, guar, senna, quinoa, bitter gourd</p>	
Week 5	<p>2.5. Identification of seed and crop plants: balangu, haloon, kalonji, guar, senna, quinoa, bitter gourd</p>	Ravindra, S. 2004. Agro-Techniques of Medicinal Plants. Daya Publishing House, New Delhi, India.

	<p>2.5.1. Economic importance</p> <p>2.5.2. Origin</p> <p>2.5.3. History</p> <p>2.5.4. Adaptation</p> <p>2.5.5. distribution and production technology</p>	
	<p>Practical Work</p> <p>Demonstration of improved sowing methods</p>	
Week 6	<p>2.6. Medicinal and special purpose crops: Plantains, salicornia</p> <p>2.6.1. Economic importance</p> <p>2.6.2. Origin</p> <p>2.6.3. History</p> <p>2.6.4. Adaptation</p> <p>2.6.5. distribution and production technology</p>	<p>Altaf, Z. and A. Qarshi. 2013. Medicinal Plants. Qarshi Industries, Lahore</p>
	<p>Practical Work</p> <p>Demonstration of improved sowing methods</p>	
Week 7	<p>2.7. Medicinal and special purpose crops: Saff flower, poppy</p> <p>2.7.1. Economic importance</p> <p>2.7.2. Origin</p> <p>2.7.3. History</p> <p>2.7.4. Adaptation</p> <p>2.7.5. distribution and production technology</p>	<p>Narayan, D.P., S.S. Purohit, A.K. Sharma and Tarun, K. 2003. A Handbook of Medicinal Plants. Agrobios, India.</p>
	<p>Practical Work</p> <p>Demonstration of improved sowing methods</p>	
Week 8	<p>2.8. Medicinal and special purpose crops: Tobacco, indigo</p> <p>2.8.1. Economic Importance</p> <p>2.8.2. Origin</p> <p>2.8.3. History</p> <p>2.8.4. Adaptation</p> <p>2.8.5. distribution and production technology</p>	<p>Altaf, Z. and A. Qarshi. 2013. Medicinal Plants. Qarshi Industries, Lahore</p>
	<p>Practical Work</p> <p>Revision of Syllabus</p>	

Week 9	MIDTERM EXAM	
Week 10	2.9. Medicinal and special purpose crops: Oil palm, fennel 2.9.1. Economic Importance 2.9.2. Origin 2.9.3. History 2.9.4. Adaptation 2.9.5. distribution and production technology	Narayan, D.P., S.S. Purohit, A.K. Sharma and Tarun, K. 2003. A Handbook of Medicinal Plants. Agrobios, India.
	Practical Work Studies on the phenological development of crops	
Week 11	1.10 Medicinal and special purpose crops: Ajwain, Fenugreek 10.1.1. Economic Importance 10.1.2. Origin 10.1.3. History 10.1.4. Adaptation 10.1.5. distribution and production technology	Altaf, Z. and A. Qarshi. 2013. Medicinal Plants. Qarshi Industries, Lahore
	Practical Work Studies on the phenological development of crops	
Week 12	1.11. Medicinal and special purpose crops: Sweet basil, sesamum 1.11.1. Economic Importance 1.11.2. Origin 1.11.3. History 1.11.4. Adaptation 1.11.5. distribution and production technology	Altaf, Z. and A. Qarshi. 2013. Medicinal Plants. Qarshi Industries, Lahore
	Practical Work Optimization of soil types for medicinal plants	
Week 13	1.12. Medicinal and special purpose crops: Balangu, haloon, kalonji 1.12.1. Economic Importance 1.12.2. Origin 1.12.3. History 1.12.4. Adaptation 1.12.4. distribution and production technology	Narayan, D.P., S.S. Purohit, A.K. Sharma and Tarun, K. 2003. A Handbook of Medicinal Plants. Agrobios, India.
	Practical Work Optimization of soil types for medicinal plants	

Week 14	1.13. Medicinal and special purpose crops: Guar, Senna, Quinoa, Bitter gourd 1.13.1. Economic Importance 1.13.2. Origin 1.13.3. History 1.13.4. Adaptation 1.13.5. distribution and production technology	Altaf, Z. and A. Qarshi. 2013. Medicinal Plants. Qarshi Industries, Lahore
	Practical Work Methods for extraction of valuable ingredients of medicinal plants	
Week 15	1.14. Integrated pest management and precision farming for special-purpose crops 1.14.1. Economic Importance 1.14.2. Origin 1.14.3. History 1.14.4. Adaptation 1.14.5. distribution and production technology	Reddy, S.R. 2004. Principles of Field Crop Production. 2nd Ed. Kalyani Publishers, New Delhi, India.
	Practical Work Methods for extraction of valuable ingredients of medicinal plants	
Week 16	1.15. Processing, Post harvest technology, products, utilization and marketing of medicinal crop 1.15.1. Economic Importance 1.15.2. Origin 1.15.3. History 1.15.4. Adaptation 1.15.5. Distribution and production technology	Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4th Ed., the MacMillan Co., New York.
	Practical Work Methods for extraction of valuable ingredients of medicinal plants	

Textbooks and Reading Material

1. Textbooks.
In the detailed course outline, one may mention chapters of the textbook with the content topics
2. Suggested Readings
 - 2.1. Books
 1. Altaf, Z. and A. Qarshi. 2013. Medicinal Plants. Qarshi Industries, Lahore.
 2. Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4th Ed., the MacMillan Co., New York.

3. Narayan, D.P., S.S. Purohit, A.K. Sharma and Tarun, K. 2003. A Handbook of Medicinal Plants. Agrobios, India.
 4. Palaniappan, and K. Annadurani. 2006. Organic farming; theory and practice. Scientific Publishers, Jodhpur, India.
 5. Ravindra, S. 2004. Agro-Techniques of Medicinal Plants. Daya Publishing House, New Delhi, India.
 6. Reddy, S.R. 2004. Principles of Field Crop Production. 2nd Ed. Kalyani Publishers, New Delhi, India.
 7. Sharma, K. 2005. Hand Book of Agriculture. Indian Council of Agricultural Research, New Delhi
 8. Sharma. R. 2004. Agro-techniques of Medicinal Plants. Daya Publishing House, Delhi.
- 2.2. Journal Articles/ Reports

Note:

1. It is preferable to use the latest available editions of books. Mention the publisher & year of publication.
2. The References/ bibliography may be by the typing manual of the concerned faculty/subject. Preferably follow the APA 7th Edition publication manual.

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: Type s and Number with Calendar

1. Assignment (10 Marks)
2. Continuous assessment (Quizzes) (10 Marks)
3. Class participation Discussion, field trip, regularity, punctuality (5 Marks)

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%	There is a 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 papers, research proposal development, fieldwork, report writing, etc.
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