

Course Code : AGR 306
Course title : Weed Science
Credit hours : 2 (1+1) Full marks: 50 Theory: 25 Practical: 25

OBJECTIVES:

Upon the completion of this course, the students will be able to know the skill and scientific weed management principles and practices of common field crops.

I. SYLLABUS

Definition, characteristics, classification, dispersal of weed, losses caused and economic importance of weeds, competition between crops and weeds; concept of prevention, eradication and control, weed control methods, introduction to herbicides, mode of action of herbicides, herbicides and environment, and weed ecology.

II. COURSE OUTLINE

A. Lecture

S.N.	Topic	No. of Lectures
1.	Weed: concept, definition and economic importance	2
	1.1 Definition of weed, classification, dispersal of weed	
	1.2 Loss caused by weed and beneficial aspects of weeds	
2.	Characteristics of weeds Dormancy, viability and germination; growth habit; reproduction and multiplication; persistence and tolerance/resistance	1
3.	Crop weed competition Crop-weed interference and general principles; Different factors of competition (nutrients, water, light, space), Allelopathy	1
4.	Concept and method of weed control	6
	4.1 Concept of weed control: prevention, eradication, control and management	
	4.2 Physical and cultural methods and approaches of weed control	
	4.3 Biological methods and approaches of weed control	
	4.4 Chemical methods and approaches of weed control	
	4.5 Biotechnological approaches of weed control	
	4.6 Integrated weed management: definition, concept and practices	
5.	Herbicides	4
	5.1 Definition; characteristics of ideal herbicides; usefulness and limitation of herbicides	
	5.2 Classification of herbicides: based on time of application, selectivity, site of application	
	5.3 Mode of action of herbicides	
	5.4 Herbicides and environments	
6.	Weed ecology	1
Total		15

B. Practical

S.N.	Topic	No. of Practicals
1.	Identification of weeds	1
2.	Survey of weeds in crop fields and other habitats	2
3.	Critical period of crop weed competition	1
4.	Herbarium preparation of weeds	1
5.	Estimation of weed density, weed control efficiency and weed index	1
6.	Weed control of field crops	2
7.	Study of commonly available herbicides in the market, their nomenclature and label information	1
8.	Calculation of herbicides requirement for different formulation	2
9.	Study of herbicide application equipment and calibration	1
10.	Herbicide application methods and precautionary measures	1
11.	Field study and control of problematic weeds—sedges, bermuda grass or parasitic weeds	1
12.	Economics of weed control practices	1
Total		15

REFERENCES

- Crafts, A.S. and W.W. Robbins. 1973. Weed Control. Tata McGraw-Hill Publishing Co. Ltd., New Delhi.
- Gupta, O.P. 1999. Scientific Weed management, Mrs. Saraswati for Agro Botanica, J.N. Vyas Nagar, Bikaner, India
- Gupta, O.P. 2004. Modern Weed Management. Agro Bios (India), Jodhpur.
- Lantican, R. M. 2001. The Science and Practices of Crop Production. SEAMEO SEARCA. UPLB. Philippines Publication.
- Rao, V.S. 1998. Principle of Weed Science, Oxford and IBH publishing co. New Delhi
- Reddy, S. R. 2007. Principles of Agronomy. Kalyani Publishes. Ludhiana. Third revised edition.
- Reddy, T.Y. and G.H. S. Reddi. 1997. Principles of Agronomy. Kalyani Publishers. Ludhiana. Second revised edition.
- Singh, C. 1997. Modern Techniques of Raising Field Crops. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
- Subramanian, S., A. Mohammed Ali and R. Jayakumar. 1991. All about Weed Control. Kalyani Publishers, Ludhiana.
- Thakur, C. 1977. Weed Science. Metropolitan Book Co. Pvt. Ltd., New Delhi.

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