

Course Code : AGR 102

Course title : Cereal crops

Credit hours : 3 (2+1)

Full marks: 75

Theory: 50

Practical: 25

OBJECTIVES:

Upon the completion of this course, the students will know about improved agronomical practices of cereal crop production and the opportunities, constraints and current research status in cereal crops researches

I. SYLLABUS

Introduction and importance, origin, distribution, area, production and productivity, improved cultural practices, land preparation, recommended varieties, nursery raising methods, seed treatments, seed rate, sowing time, sowing methods, fertilizers, weed and water management, Maturity judging, harvesting, threshing, cleaning, drying and storage, current status of research, yield and constraints and opportunities in rice, wheat, maize, millet, buck wheat and barley

II. COURSE OUTLINE

A. Lecture

S.N.	Topics	No. of Lectures
1.	Rice	10
1.1	Introduction and importance, origin distribution, area, production and productivity in nepal	
1.2	Soil and climatic requirement and their effect on production	
1.3	Morphology, growth and development	
1.4	Taxonomy – indica, japonica and javanica, important varieties and hybrids of rice in Nepal	
1.5	System of rice culture, land preparation and puddling	
1.6	Raising of nurseries: wet, dry, dapog and modified dapog nurseries, seed rate, seed treatment and spacing	
1.7	Mineral nutrition and fertilizer management: N, P, K, zinc, iron and bio-fertilizers, integrated nutrient management, steps for increasing fertilizer use efficiency in rice	
1.8	Water use and water management practices: water requirement, critical stages, Weeds and weed control: crop-weed competition, principles and methods of weed control	
1.9	Maturity judging, harvesting, threshing, cleaning, drying and storage	

2.	Wheat	6
2.1	Introduction and importance, origin, distribution, area, production and productivity, ecologies in Nepal	
2.2	Morphology, growth and development	
2.3	Soil and climatic requirement, classification, important varieties	
2.4	Land preparation, seed treatments, seed rate, sowing time, sowing methods	
2.5	Mineral nutrition and fertilizer management, Water use and water management practices	
2.6	Weeds and weed controls, maturity judging, harvesting, threshing, cleaning, drying and storage	
3.	Rice wheat system in Nepal Coverage, status, factor affecting yield in system, management issues	1
4.	Maize	6
4.1	Introduction and importance, origin, distribution, area, production and productivity in Nepal	
4.2	Soil and climatic requirement, classification, important varieties and hybrids	
4.3	Morphology, growth and development	
4.4	Land preparation, seed treatments, seed rate, sowing time, sowing methods	
4.5	Mineral nutrition and fertilizer management, Water use and water management practices	
4.6	Weeds and weed controls, maturity judging, harvesting, threshing, cleaning, drying and storage	
5.	Finger millet	2
5.1	Introduction and importance, origin, distribution, area, production and productivity	
5.2	Land preparation, seed treatments, seed rate, sowing time, sowing methods, fertilizers, weed and water management, Maturity judging, harvesting, threshing, cleaning, drying and storage	
6.	Buckwheat	1
6.1	Introduction and importance, origin, distribution, area, production and productivity	
6.2	Land preparation, seed treatments, seed rate, sowing time, sowing methods, fertilizers, weed and water management, Maturity judging, harvesting, threshing, cleaning, drying and storage	
7.	Barley Introduction and importance, origin, distribution, area, production and productivity, land preparation, seed treatments, seed rate, sowing time, sowing methods, fertilizers, weed and water management, Maturity judging, harvesting, threshing, cleaning, drying and storage	1
8.	Introduction to minor cereals Sorghum, Pearl millet, Foxtail, Proso millet and triticale	1
9.	Current status of cereal research in Nepal	1
Total		30

B. Practical

S.N.	Topic	No. of Practicals
1.	Field preparation for cereal crops	2
2.	Raising of rice seedlings	1
3.	Sowing of cereal crops	1
4.	Study of growth stages of rice, wheat and maize	2
5.	Practices on numerical exercises of fertilizers and pesticides requirements of cereal crops	2
6.	Fertilizer application on the cereal crops	2
7.	Maturity judging of cereal crops	1
8.	Identification and control of major weeds of rice, wheat and maize	1
9.	Yield estimation and harvesting of cereal crops grown during the season	1
10.	Study of plant biometrics of cereal crops	1
11.	Visit and study of various researches conducted at research sites of National Maize Research Program	1
Total		15

REFERENCES

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