

Course Code : AGR 204

Course title : Commercial Crops

Credit hours : 3 (2+1)

Full marks: 75 Theory: 50

Practical: 25

OBJECTIVES:

Upon the completion of this course, the students will be able to know about the principles and practices of common commercial crop production with respect to Nepalese Agriculture..

I. SYLLABUS

Importance, origin, history, distribution, yield, soil and climatic requirements, improved cultural practices: land preparation, crop rotation, manure and fertilizer application, recommended varieties, seeds and sowing, intercultural operations, water and weed management, harvesting, storage, current status of research, constraints and opportunities of the following crops with reference to Nepal; Sugar crops- sugarcane, Fiber crops-jute and cotton, narcotic crops-tobacco, Tuber crops-potato.

II. COURSE OUTLINE

A. Lecture

S.N.	Topic	No. of Lectures
1.	Tobacco	6
1.1	Economic importance, distribution, yield and ecology - relation to temperature, moisture, light and soil	
1.2	Raising tobacco seedlings and their transplanting	
1.3	Fertilizer management: effects of N, P and K on growth and development and dosing, timing and methods of application of NPK fertilizers	
1.4	Plant management: soil loosening, weeding, irrigation, topping and desuckering	
1.5	Methods of harvesting, curing: definition and methods: Flue curing.	
1.6	Air curing, Fire curing and sun curing	
2.	Potato	5
2.1	Economic importance, distribution, yield and ecology - relation to temperature, moisture, light and soil	
2.2	Seed and sowing: requirements of good seed, seed preparation, seed treatment, dormancy	
2.3	Planting time, seed rate, seed size and spacing, methods of planting	
2.4	Fertilizer management: effects of N, P and K on growth and development and dosing, timing and methods of application of NPK fertilizers	
2.5	Plant management: Soil loosening, earthing up, weeding, irrigation, and haulm pulling. Harvesting and storage.	

3.	Jute	5
3.1	Economic importance, distribution, yield and ecology - relation to temperature, moisture, light and soil	
3.2	Fertilizer management: effects of N, P and K on growth and development and dosing, timing and methods of application of NPK fertilizers	
3.3	Sowing of jute, plant management: gap filling, hoeing, weeding, thinning, irrigation	
3.4	Harvesting and post harvest operations including steeping, retting and extraction	
3.5	Jute fiber and its defects.	
4.	Sugarcane	8
4.1	Economic importance, distribution, yield and ecology - relation to temperature, moisture, light and soil	
4.2	Planting materials, types of planting materials, planting time seed selection, seed preparation and treatment	
4.3	Planting methods: Flat, Furrow, Ridge and furrow, Trench, Deep trench	
4.4	IISR8626, spaced transplantation technique and Ring or pit	
4.5	Fertilizer management: effects of N, P and K on growth and development and dosing, timing and methods of application of NPK fertilizers	
4.6	Plant management: intercropping, earthing up, weeding, irrigation, detrashing, propping and tying and harvesting	
4.7	Ratoon management: definition, extent of ratooning, yield, reasons for low yield from ratooning and advantages	
4.8	Ratoon management: Variety, plant crop and harvest, time of harvest, method of harvest, stubble shaving, shoulder breaking, fertilizer application and water management	
5.	Cotton	6
5.1	Economic importance, distribution and yield	
5.2	Ecology - relation to temperature, moisture, light and soil	
5.3	Cotton fiber and its quality: staple length, fineness, strength and ginning percentage.	
5.4	Seed preparation and sowing.	
5.5	Fertilizer management: effects of N, P and K on growth and development and dosing, timing and methods of application of NPK fertilizers.	
5.6	Plant management: crust breaking, thinning, weeding, irrigation, topping, defoliation, and desiccation. Harvesting and Gossypol.	
<hr/> Total		30
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B. Practical

S.N.	Topic	No. of Practical
1.	Classification and morphological characteristics of tobacco.	1
2.	Differences between two species of tobacco.	1
3.	Raising tobacco seedlings.	1
4.	Classification and morphological characteristics of potato	1
5.	Morphology of potato tuber.	1
6.	Classification and morphological characteristics of sugarcane including noble cane and nobilization.	1
7.	Numerical problems in relation to seed rate yield estimation and commercial cane sugar (CCS).	1
8.	Classification and morphological characteristics of cotton.	1
9.	Branching and flowering in cotton.	1
10.	Characteristic of cotton species.	1
11.	Numericals problem related with fertilizers dose, yield estimation and seed rate of cotton.	1
12.	Classification and morphological characteristics of jute.	1
13.	Differences between two species of jute.	1
14.	Fibre layers in jute.	1
15.	Analysis of boll weight of cotton/ statistical analysis of crop yield.	1
Total		15

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- Sundaraj, D. D. and G. Thulasidas. 1993. Botany of Field Crops. Second Edition. Macmillan India Limited
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