

21PATH372 DISEASES OF FIELD AND HORTICULTURAL CROPS AND THEIR MANAGEMENT-II (*Rabi Crops*)

Hours Per Week :

L	T	P	C
1	-	2	2

Total Hours :

L	T	P
15	-	30

COURSE DESCRIPTION AND OBJECTIVES:

This course makes the students learn and understand major diseases and their symptoms on field and Horticultural crops and available management practices to control them

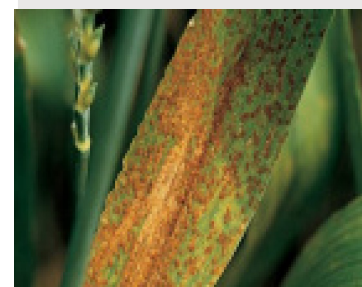
COURSE OUTCOMES:

Upon completion of the course, the student will be able to achieve the following outcomes:

COs	Course Outcomes
1	Understand the etiology and identifying various diseases caused by fungi, bacteria and viruses in different crops
2	Assess the impacts of the diseases on field and horticultural crops and formulate eco-friendly and economically sustainable disease management strategies

SKILLS:

- ✓ *Identify diseases of Field and Horticultural Crops*
- ✓ *Understand biology, nature of damage and symptoms of damage of pathogens*
- ✓ *Suggest better management practices for diseases of Field and Horticultural Crops*
- ✓ *Prepare IDM modules for different diseases of Field and Horticultural Crops*



Source:

<https://images.app.goo.gl/yPHvcRHhMnirdXocA>

ACTIVITIES:

- o Field visit for the diagnosis of field problems
- o Collection and preservation of plant diseased specimens for Herbarium
- o Depth understanding of epidemiology of pathogens

UNIT - 1

Cereals & Others : Wheat- rusts, loose smut, flag smut, karnal bunt, powdery mildew, *Alternaria* blight and tundu; Barley - Covered smut, stripe disease, rust and loose smut; Sugarcane - red rot, smut, wilt, grassy shoot, ratoon stunting and Pokkah Boeng; Post harvest diseases

UNIT - 2

Pulses & Oil seeds: Gram (Bengal gram) - rust, dry root rot, wilt, grey mould and *Ascochyta* blight; Black & Green gram - *Cercospora*, *Corynospora* leaf spot, bacterial leaf spot, angular black spot, anthracnose, powdery mildew, rust, web blight, yellow mosaic, leaf crinkle and cuscuta; Pea - downy mildew, powdery mildew and rust; Lentil: rust and wilt; Sunflower - *Sclerotinia* stem rot, *Rhizopus* leaf rot and *Alternaria* blight; Rapeseed & Mustard - *Alternaria* blight, white rust, downy mildew, club root and *Sclerotinia* stem rot; Post harvest diseases. Symptoms, etiology, disease cycle and management of major diseases of following horticultural crops (Grown during *Rabi* season)

UNIT - 3

Fruits: Mango - anthracnose, malformation, bacterial blight and powdery mildew red rust and Loranthus; Citrus -canker and gummosis; Guava - wilt and anthracnose, Papaya - foot rot, anthracnose, leaf curl, mosaic and powdery mildew, Ber – Powdery mildew, Sapota – flat limb. Banana – Panama wilt, bacterial wilt, *Erwinia* rhizome rot, Sigatoka, bunchy top, banana mosaic, banana bract mosaic, Pomegranate – Anthracnose, bacterial blight.

Grape vine - downy mildew, powdery mildew and anthracnose, *Alternaria* leaf spot and rust; Apple - scab, powdery mildew, fire blight and crown gall; Peach - leaf curl; Strawberry - leaf spot; Potato - early and late blight, black scurf, leaf roll and mosaic, scab and apical leaf curl; Post harvest diseases. Coconut – Stem bleeding, Ganoderma wilt, bud rot, grey blight, tatipaka disease, Oil palm – Bunch rot and spear rot, Tea – Blister blight, Coffee – Rust

UNIT - 4

Vegetables: Cucurbits - downy mildew, powdery mildew and wilt; Onion and Garlic - purple blotch and *Stemphylium* blight; Chillies - anthracnose and fruit rot, wilt and leaf curl; Turmeric - leaf spot; Coriander - stem gall; Betelvine and garlic – *Phytophthora* root and stem rot, Sclerotial wilt, Fusarial wilt, Anthracnose: Post harvest diseases

UNIT - 5

Ornamental crops: Marigold - *Alternaria* blight, wilt and *Bortytis* blight; Rose - dieback, powdery mildew and black leaf spot; Chrysanthemum - wilt, stunt, *Septoria* blotch. Jasmine - rust. Crossandra – wilt; Post harvest diseases

LABORATORY EXPERIMENTS**LIST OF EXPERIMENTS**

1. Rice Diseases
2. Wheat, Barley and Sugarcane diseases
3. Bengal gram, Black gram, Green gram, Pea, and Lentil diseases

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4. Groundnut, Rape seed and Mustard diseases
 5. Mango and Citrus diseases
 6. Grape and Apple diseases
 7. Guava and papaya diseases
 8. Ber and sapota diseases
 9. Banana and Pomegranate diseases
 10. Field visits for the diagnosis of diseases
 11. Coconut and Oil plum diseases
 12. Tea, Coffee, Cucurbits and Chillies diseases
 13. Turmeric, Coriander and Betelvine diseases
 14. Mulberry, Rose, Chrysanthemum and crossandra diseases
 15. Field visits for the diagnosis of crop diseases

REFERENCES:

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2. Singh, R.S. 2005. *Plant Diseases*. Oxford & IBH Publications, New Delhi
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4. Singh, R.S. 1999. *Diseases of Vegetable crops*. Oxford & IBH Publications, New Delhi
5. Chaube, H.S and V.S. Pundhir, 2012. *Crop Diseases & Their Management*. PHI Pvt. Ltd, New Delhi

