

Date - 08-02-2024

Dept. of Botany - B.Sc - part - III Home

online class, J.S. College, Ara.

Dr. Sumit Pandit

paper - II - Group - B plant pathology

Question → Name five bacterial diseases of crop plants of your locality describe their symptoms?

Ans → Like fungi, bacteria are also strong pathogens which infects our various crop plants and cause great harm to our economy. Following are some important bacterial diseases which are prevalent in our locality.

	Name of crop plant	Name of bacterial disease	Name of bacteria.
1	Rice (paddy)	Leaf blight	Xanthomonas Compositis . P. V. oryzae.
2	Wheat	yellowing rot of ears	phythomasia tritici
3	wheat	Pendu disease	Cozynebacterium tritici
4	Lemon (Citrus)	Citrus Canker	Xanthomonas citri
5	potato	Ring rot.	Cozynebacterium sepedonium.

Symptoms :- (i) **Leaf blight of rice** - The most apparent symptom of this disease is the leaf blight phase during this phase, linear yellow to straw coloured strips with wavy margin develop on both the edges of leaf.

(ii) **yellowing rot of Ears of wheat** → The leaf stalks and inflorescence become twisted and the spikelets turn into yellow slimy mass due to the attack of bacterium. The diseased spikes do not produce grain.

(iii) **Pendu disease of wheat** → The lower leaves become wrinkled and the middle leaves twisted. A bright yellow sticky stringy substance is exuded which envelop the whole ear.

(iv) **Citrus Canker** → The infection occurs almost in every part of the host plant, such as stem, leaves, fruits etc. The disease appears on plant parts on small rounded yellowish patches.

(v) **Ring rot of potato** → The infection begins from the aerial part of potato. The leaves become wilted and lastly they die. The stem also wilt to some extent.

The most characteristic symptom is the ring rot of potato tuber. The infected tuber when cut into halves, a creamy yellow or light brown, cheesy rot in the tissue surrounding the vascular bundle is seen. There remains a distinct gap between the cortex and vascular system of the infected tuber.

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online class, J.T. College, Ara

Dr. Sunil Pandit

Question - Discuss phosphorus cycle?

Group - B. paper - II

Ecology - Time - 9:00 - 10:00

Ans → The phosphorus cycle is sedimentary type of mineral cycle. The plants take phosphorus in the form of orthophosphate from soil. The animals eat them and thus phosphorus is transferred to animals. Due to death and decay this again becomes available to soil from where the plants take it. The transfer of phosphorus take a cycle pathway which involves following steps:-

- (i) The chief sources of phosphorus are phosphatic rocks and natural deposits of phosphorus.
- (ii) The phosphorus is released in the form of orthophosphate by weathering of rocks mainly.
- (iii) Major part of phosphorus reaches into oceans with lead drainage in the form of dissolved phosphate and only small amount remains available to the plants in the form of soluble orthophosphate from soil.
- (iv) This phosphorus is transferred to animals through the food chain.
- (v) After death and decay of plants and animals phosphorus is released in the form of inorganic phosphate which return to the soil.
- (vi) Only a small amount of phosphorus is utilized by the plants that continues in the phosphorus cycle.
- (vii) Large amount of phosphorus reaches to the oceans and becomes deposited in shallow or deep sediments.
- (viii) Some phosphorus takes part in the teeth and bone formation of animals which after a very long time becomes available to soil from where the plants take it.

