

## Red Rot Disease (*Colletotrichum falcatum*) of Sugarcane and their Integrated Management

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### Abstracts:-

Sugarcane (*Saccharum officinarum* L.) is the significant cash crop and agri industrial product worldwide. India is the world's largest producer and consumer of sugar, thus it has to produce a lot of sugarcane. However, red rot disease is the main threat to sugarcane, red rot disease is also known as cancer disease of sugarcane it cause severe lossess in yield and quality of the sugarcane as the fungus *Colletotrichum fulcatum* responsible for this disease is highly variable in nature. hence it cause the frequent breakdown of resistant varieties. Keeping in the view the seriousness of the disease the present review summerize as the distribution mode and source of infection discription of causal pathogen and integrated disease management. *Colletotrichum fulcatum* Pathogen is a facultative saprophytic in nature.

**Keywords:** Cash crop, Red rot, Fungal disease, *Colletotrichum fulcatum*, Facultative saprophyte.

### Introduction:-

Red rot disease of sugarcane is one of the major and devastating diseases of sugarcane crop. Red rot disease also known as cancer of sugarcane, it was first time reported from Java in 1893. In India first time red rot disease reported from Godavari delta of Andhra pradesh in 1901. The name red rot was given by E. J. Butler.

**Causal organism of red rot :***Colletotrichum falcatum*

**Teleomorphic or perfect Stage :***Glomerella tucumanensis*

**Systemic Position of *Colletotrichum falcatum***

**Kingdom :** Fungi  
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**Phylum** : Ascomycota  
**Class** : Sordariomycetes  
**Order** : Glomerellales  
**Family** : Glomerellaceae  
**Genus** : *Colletotrichum*  
**Spicies** : *falcatum*

### Disease Symptoms:-

A Charecterstic symptom for this disease is observed in the field during rainy season. Disease symptoms appear all aerial part of plant, early symptoms appear as leaf drooping and losses of their colour, Latter the setts are rotten within and the rind losses its natural bright colour become dull



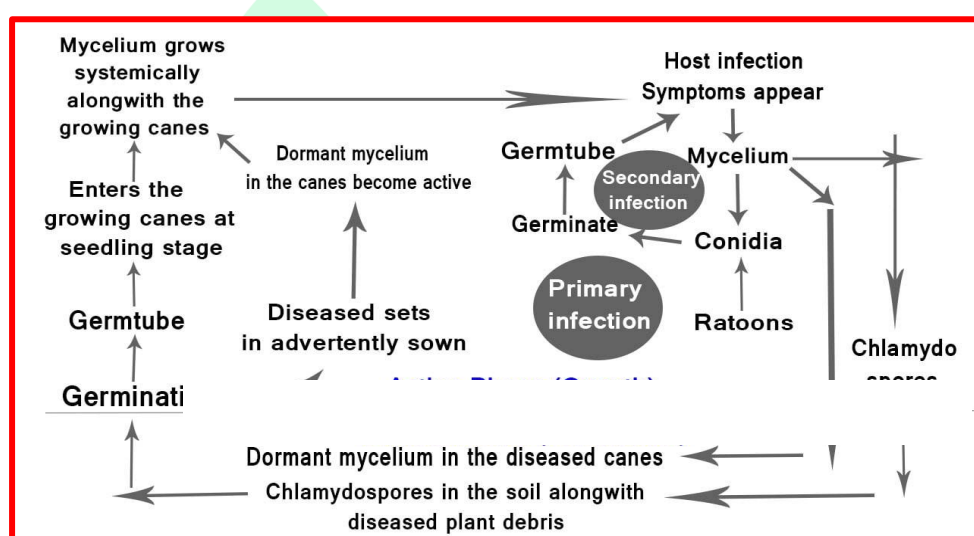
and shrink at the nodes of sugarcane. Setts are easily breakdown to near the nodes comprativially healthy sugarcane setts. In this disease affected plnat leaves (midrib) appear as red blood lesion with dark margin. When infected setts split longitudinally reddend pith can be seen and in severe stage reddening extending vascular bundle to pith. The diseased canes juice gives out an alcoholic odour. Acervuli-like black dots emerge close to the nodes.



**Fig.no. 2. Infected leaves and stems by Red rot disease of sugarcane**

### Disease cycle and Epidemiology:-

Red rot disease is seed borne as well as soil borne in nature. Infected setts which are used for planting are the main source of primary inoculums. During rainy season conidia disseminated through rain water and rain splash that is secondary infection for disease. Most favorable condition for disease development are 29 to 31 degree Celsius temperature, 85 to 100 percent relative humidity, rainy day and cloudy weather and disease severity increased if drought condition occurs during the initial growth phase of plant.



### Integrated Management of Red Rot of sugarcane

Different employees' experiences revealed that there is not just one way to control sugarcane Red Rot Disease. Consequently an integrated strategy is required to control the disease. Integrated management programme all the participating organizations viz. cane research institute, extension agencies, factories and farming communities have to involve themselves to achieve the disease management successfully in an integrated manner. Among the integrated approach's key components are –

1. Grow resistant variety if available like Co 98015, Co 98016, Co 285, Cos -109, Cos -443, Bo. 3, Bo. 32 etc.
2. Select a field for planting having no history of red rot and field should be well drained.
3. Avoid ratooning the crop.
4. Use healthy and disease free setts for planting.
5. Moist hot air treatment of sets at 54 degree Celsius for 2 hrs.

6. Proper water management in the field and quarantine regulation.
7. Replacement of susceptible varieties as for as possible.

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