

Research Note :

Influence of different carbon compounds on vegetative growth and sporulation of *Colletotrichum gloeosporioides* causing anthracnose of anthurium



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SUMMARY

Colletotrichum gloeosporioides was found to cause anthracnose of Anthurium. Studies on various carbon sources revealed that *C. gloeosporioides* produced maximum vegetative growth on dextrose followed by starch and lactose. Vegetative growth on remaining carbon sources was in the order of maltose, fructose, sorbitol, mannitol, citric acid and control. Profuse sporulation was recorded in the media in presence of starch and dextrose. Mannitol, sorbitol, lactose and fructose supported moderate sporulation. Poor sporulation was observed on maltose and citric acid sources.

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Colletotrichum gloeosporioides,
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Anthurium (*Anthurium* sp.) is a popular modern cut-flower having export potential. Anthurium is a tropical plant of great beauty and grown either for the showy cut flowers or for unusually attractive foliage. It is very popular with flower arranger because of bold effect and lasting qualities of cut flowers. These contribute to the elegance and attractiveness which are the prerequisites for a quality

In Maharashtra, mostly it is cultivated near urban cities like Mumbai and Pune as there is increasing demand for cut-flowers.

This wonder crop of 20th century is affected by a number of diseases incited by fungi, bacteria and viruses (Bhatt and Desai, 1989; Dilbar, 1992). It was observed that due to anthracnose disease, quality and quantity of the leaves and flowers are reduced, leading to economic losses. During the disease survey in October-November, 1995 *Colletotrichum gloeosporioides* was observed to cause the anthracnose disease on the leaves and spikes of Anthurium at the Department of Horticulture, College of Agriculture, Dapoli.

Looking to the destructive nature of the

pathogen and importance of the disease, systematic investigation was carried out on the effect of carbon sources on the growth and sporulation of the pathogen .

In order to study the effect of various carbon sources on the growth and sporulation, the amount of carbon present in fifty grams of sucrose in the selected basal medium was replaced with an equivalent amount of other carbon compounds. Richard's broth of 100 ml. quantity was prepared by replacing sucrose with each carbon source. Twenty five ml. medium was distributed in each 100 ml. conical flask. Four replications per treatment were maintained. One additional treatment was kept as control without adding any carbon source. These flasks after sterilization were inoculated with the test fungus of 10 days old culture and incubated at room temperature ($27 \pm 1^{\circ}\text{C}$) for 10 days.

Of all the elements essential for growth of fungi, carbon occupies an unique position. It forms almost 50 per cent of the total dry weight of the fungal cells. Fungi differ in their ability to utilize various carbon compounds for growth. It was considered desirable to work out the

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