

# Efficiency of Fungicide against Dragon Fruit Canker and Diaporthe Disease Through Poison Food Technique in *In-Vitro* Condition

Dwity Sundar Rout and Abhijit Mishra

Centurion University of Technology and Management, Odisha, India

Email: routdwitysundar@gmail.com

**Abstract:** A lab experiment was conducted to evaluate different fungicides against *Lasiodiplodia* spp and *Diaporthe* spp by poisoned food technique in completely randomized design with 4 replications at plant pathology lab, Central Horticultural experiment station, Bhubaneswar. The pathogens were collected from diseased Dragon fruit plant of Central Horticultural Experiment Station, Bhubaneswar. They were grown in PDA medium to prepare pure culture. The fungicide namely Propineb, Pyroclostrobin (23.6%), Hexaconazole (5%SC), Difenconazole, Tebuconazole, Copper hydroxide, Copper oxychloride (50%WP) and combination. Fungicide Fenamidone + Mancozeb, Cymoxanil (8%) + Mancozeb (64%), Flupicolide (62.5%) + Propamocarb hydrochloride (625SC) were added in the PDA medium @500 ppm and 1000 ppm and mycelia bits of 10 mm diameter were inoculated at the center the measurement of mycelia radial growth was taken of the petri plates for 5 days. Among the fungicides, Tebuconazole showed cent percent inhibition both at 500 ppm as well as in 1000 ppm for *Lasiodiplodia* spp. Whereas Hexaconazole showed cent percent inhibition both at 500 ppm and 1000 ppm for *Diaporthe* spp.

**Keywords:** Poisoned food technique, Dragon fruit canker, *Diaporthe*

Poisoned food technique has been routinely employed to screen the effect of plants and their compounds against fungi. The antifungal activity is observed as reduction in the mycelial growth of fungus in poisoned plates when compared to the control plates.

## Introduction

In odisha some farmers are newly adopted Dragon fruit crop. Dragon fruit canker and dragon fruit *Diaporthe* disease can result in serious loss to farmers in Odisha. The principal objective of this study was to find a fungicide or fungicides which were effective against canker and *Diaporthe* disease. Several techniques have been developed

to evaluate the efficiency of fungicides in the laboratory, and in this instance the “so-called” poisoned food technique was used.

## Materials and methods

Propineb, Pyroclostrobin (23.6%), Hexaconazole (5%SC), Difenconazole, Tebuconazole, Copper hydroxide, Copper oxychloride (50%WP) and combination fungicides, Fenamidone + Mancozeb, Cymoxanil (8%) + Mancozeb (64%), Flupicolide (62.5%) + Propamocarb hydrochloride (625SC) were screened against dragon fruit canker and dragon fruit *diaporthe* disease.

Each fungicide was tested at concentration of 500ppm and 1000ppm. To screen all the fungicide