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Comparative Fungal Growth from Diverse Floral Tissues On PDA

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ABSTRACT

Objective: This research work was done toisolation, culture, observed the growth of fungusfrom the different parts of infected plants like leaf, fruits, roots, vegetable and to identified which parts of plants were more infected in a particular period by which types of fungus.

Methods: Thepieces of sterilized plant disease were transferred into the sterilized petri-plates on solidified PDA medium and timely observed the growth of fungus for 2 weeks, growth culture were identified based on their structural morphology and methylene blue stains were used in microscopic examination.

Results: From this research work we observe that incubated growth of fungus for 2 weeks, from their leaf parts of plants were infected more faster byfungus then other parts like fruits, roots and vegetables,

Conclusion: The plants were effectively destroyed by the four fungi that were isolated from various plant components, and it was discovered that the infection caused a decrease in output.

Keywords: Infected plant parts, microscopic examination, mould**,** yeast, spores ‘candida and yeast-like structure.

I. INTRODUCTION

The kingdom of fungi is distinct from that of bacteria, plants and animals. They are belonging to heterotrophic types of organisms. Which means they needed to survive on organic substances from outside sources. Multicellular filaments and solitary cells are developed by fungi which is called hyphae and that form a mycelium, some fungal also developed in single cells it depends open the types of fungal characteristics.[1] They have capabilities of reproduce in both sexually and asexually types, generally by the production of fruiting bodies and spores on specific form. Somes Fungal primarily reproduce by vegetative growth because they are unable to grow specific reproduction system. Examples yeasts, mushrooms and Molds[2].

Plants play an important role to fulfilling the needs of human and animals in this world. Most of the plants were infectious by various fungal pathogens[3]. Phyto fungal pathogens were causes numerous serious problems worldwide in different fields like agriculture and food industries, mostly fungi are invisible to the naked eye, they grow in raising temperatures areas in tropical and subtropical regions. Not only that it also produced many mycosis and mycotoxins, which are very dangerous and injurious to humans and livestock and causemultiple number of diseases in different parts like Dermes, Subcutaneous, systemic circulation etc[4]. This research work was done to observed the growth of fungus from the different parts of infected plants like leaf, fruits, roots, vegetable and to identified which parts of plants were infected more by which types of fungus in particular period[5].

II. Materials and Methods

Collection of diseases samples

Plants infected samples were collected from Daramdin in the Soreng district of Sikkim located at a latitude of 27.13 °N and a longitude of 88.17 °E

Plants under study

We used different plants parts for the experiments which included:

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Vegetable-Tomato, Fruit – carrot, Plants leaf

and Potato(root)

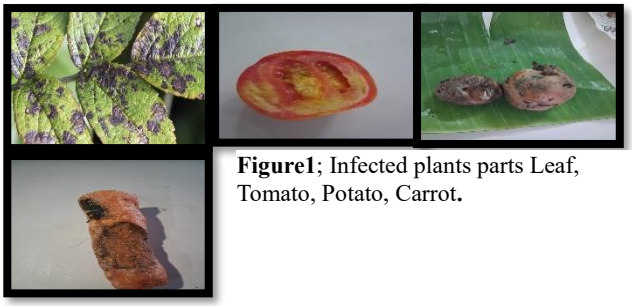


Figure1; Infected plants parts Leaf, Tomato, Potato, Carrot**.**

The Media

In this research work natural media were used for isolation and maintenance of the growth of fungus, Potato Dextrose Agar (PDA).



Figure 2;Potato Dextrose Agar (PDA) Media

Isolation of phytopathogenic fungi

Fungal diseases may infect a various of plants parts including roots, stems, leaf, flowers and fruits. They can cause distinctive outwards symptoms like spots, blights, rots and wilts etc, infected portion of different plants parts were collected and chopped into little pieces[6]. Pieces surface was treated for 30 to 45 seconds using a 0.1% mercuric chloride (HgCl2) solution, then cleaned 5 to 6 times using distilled water that has been sterilized. After that, sterile blotting paper was used to remove excess water which are presents on diseases parts[7,8].

In each sterilized Petri-plate prepared, PDA sterilized medium was poured approximately 20 ml and keep the petri-plate in cool areafor solidify. Then the pieces of sterilized plant disease were transferred into the sterilized petri-plates where solidified PDA medium was prepared. The petri-plates were incubated at 28 ±1 °c temperature in BOD and timely observed the growth of fungus for 2 weeks. Then pure culture fungus was preserved in refrigerator at 5 °c to prevent contaminated and used for future studies[9,10].



Figure 1; Prepared PDA media keep in Autoclave for sterilized.

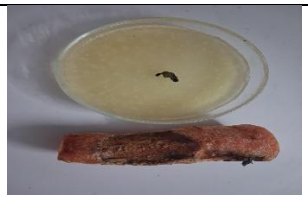


Figure 2; Carrot infected sampleon PDA media.



Figure 3;Tomato infected sample on PDA media.

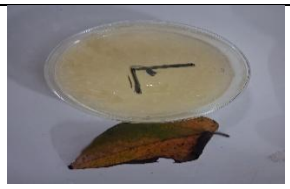


Figure 4; Leaf infected sample on PDA media.



Figure 5; Potato infected sampleon PDA media.



Figure 6; The petri-plates were incubated at **28**±1 °c temperature in BOD for fugal growth.

Examination of culture fungal

The isolated culture fungi were examined on the basis of their morphological and characterises using suitable media and slide culture through microscopic observation[11,12].

Report and discussion

The research work was completed and the outcomes of the current research were documented in table 1. Yeast, mould, spores and yeast-like structure some of them.

Growth culture of fungi was identified based on there each fungus morphology, microscopical and culture traits, from this research work we observe that incubated isolation fungus for 2 weeks,from their leafparts of plants were infected more faster byfungus then other parts like fruits, roots and vegetables[13],

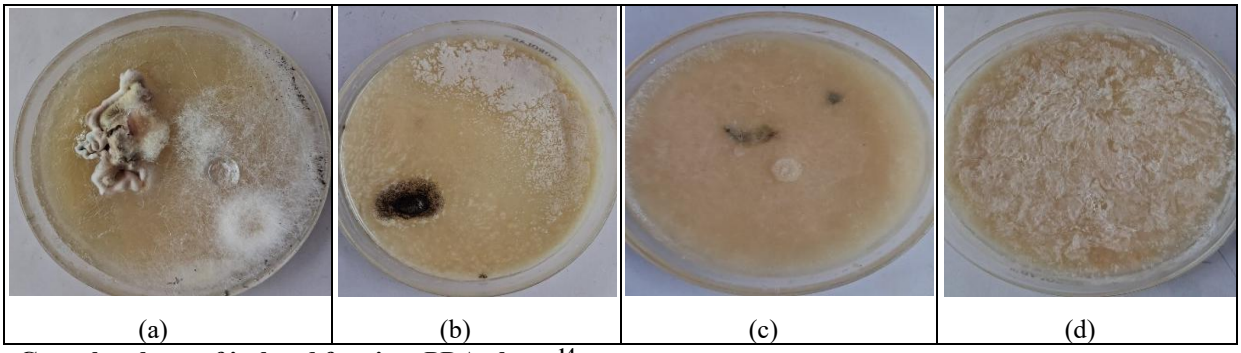
This study has yielded valuable information on the toxic fungus linked to plant parts that may havean

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impact on human health, agriculture output, and financial loss.

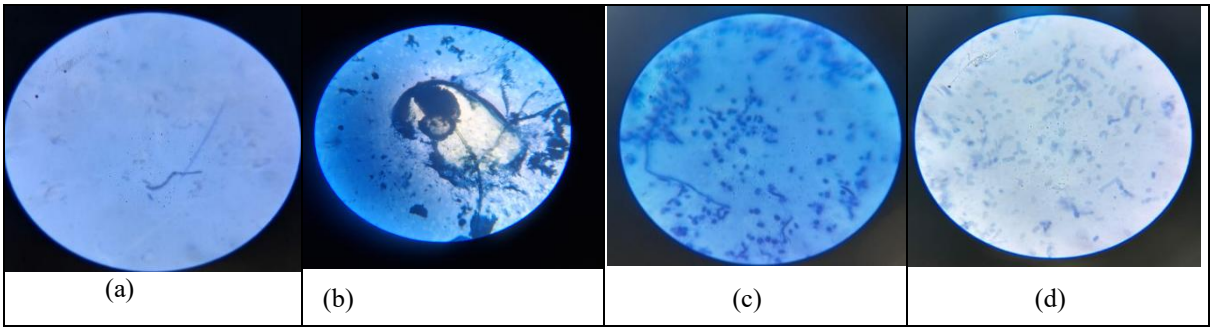
Table 1

S.No	PLANTS PARTS	FUNGUS IDENTIFY
A	LEAF	MOULD
B	VEGETABLE	SPORES
C	FRUIT	YEAST
D	ROOT	YEAST-LIKE STRUCTURE



(a) (b) (c) (d)

Growth culture of isolated fungi on PDA plates [14]



(a) (b) (c) (d)

Microscopic characteristics of isolated fungus and the appearance of spores[15]

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Conclusion: The plants were effectively destroyed by the four fungi that were isolated from various plant components, and it was discovered that the infection caused a decrease in output.

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