To check the effect of heavy metals on *Aspergillusniger* and *Tricothecium roseum*

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Abstract- Effect of different heavy metals on two very hazardous fungal specie has been tested so that pharmaceutical industries and agricultural industries can use the information to prevent and control the disease spread by these fungi.

INTRODUCTION

Heavy metals are used in day-to-day life since time immemorial and is also the area of great interest to many scientist. Today many of the scientist are working to know the mechanism of repulsion of microbes from heavy metals.

In the foregoing experimental setup we are concerned with the effectiveness of heavy metals against *Tricothecium roseum* and *Aspergillus niger* which are the fungal species causing pink rot (in fruits) and aspergillosis (in humans) respectively.

This experiment will help the agricultural sector as well as pharmaceutical sector to fight against such hazardous pathogens destroying the crop and disturbing human health too.

PROCEDURE

Fourteen plates of PSM agar were prepared in which 7 plates were swabbed with *Tricothecium roseum* and other seven with *Aspergillus niger* using a sterilised cotton swab. To get the perfect lawn of fungal specie.

At the centre of the swabbed plate few a pinch of different heavy metals were placed to check there effect on fungal species.

List of the heavy metals used

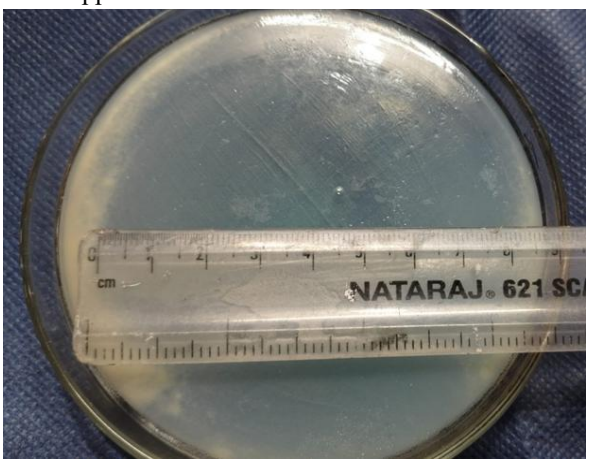
Heavy metals	Symbols
Copper	Cu
Potassium	K
Sulphur	S
Barium	Ba
Zinc	Zn
Aluminium	Al
Lead	Pb

OBSERVATION

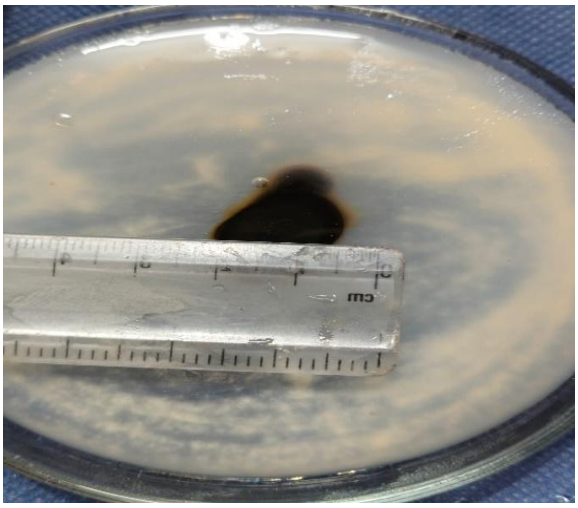
Heavy metals show the ZONE OF INHIBITION which is the clear zone where no growth had took place.

- Observation of *Tricothecium roseum* plate:

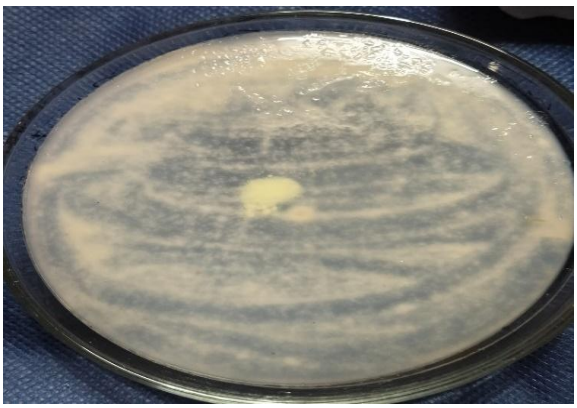
1. Copper –Zone of inhibition – 80mm



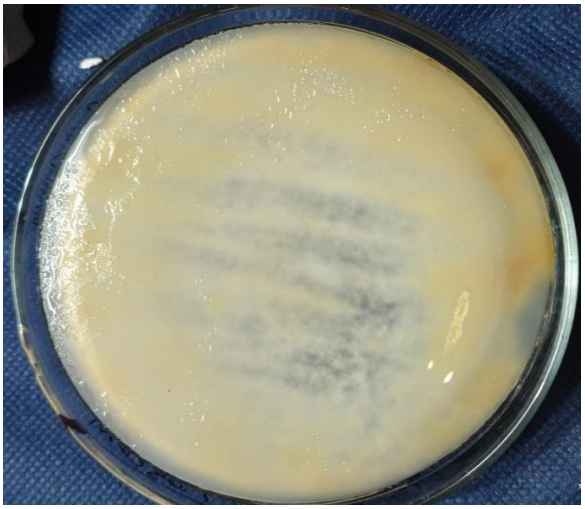
2. Potassium – zone of inhibition – 35mm



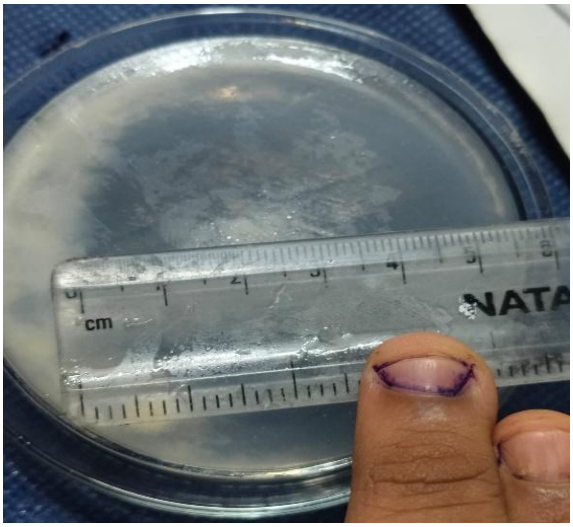
3. Sulphur – zone of inhibition – 0mm



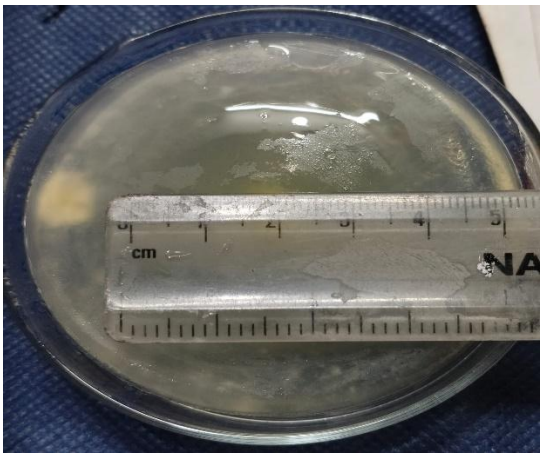
4. Barium – zone of inhibition – 0mm



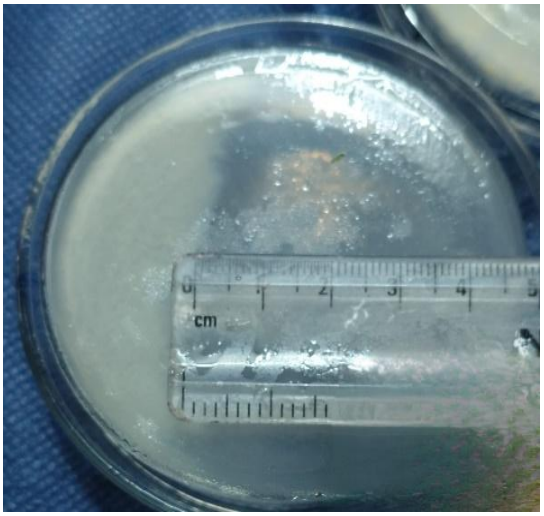
5. Zinc – zone of inhibition – 57mm



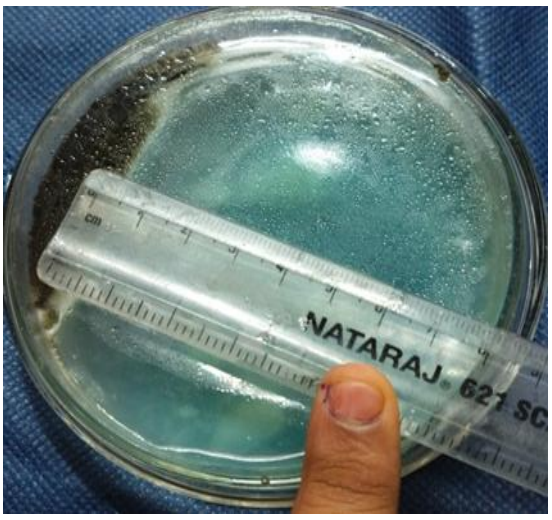
6. Aluminium – zone of inhibition – 35mm



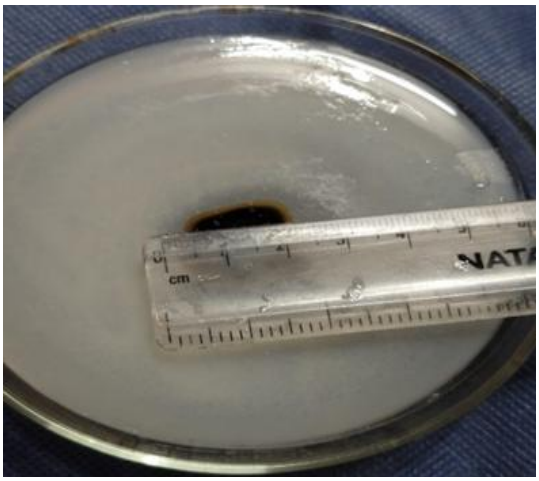
7. Lead – zone of inhibition – 45mm



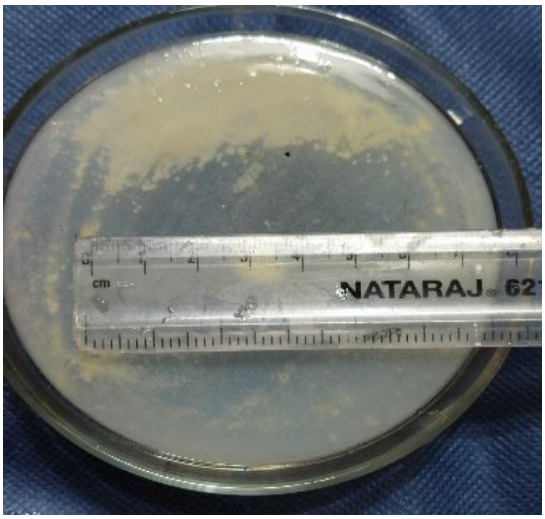
- Observation of *Aspergillus niger* plate:
  1. Copper – zone of inhibition –80mm



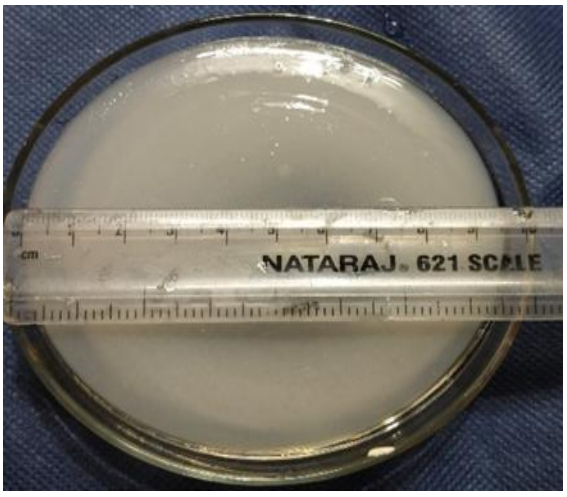
2. Potassium – zone of inhibition – 30mm



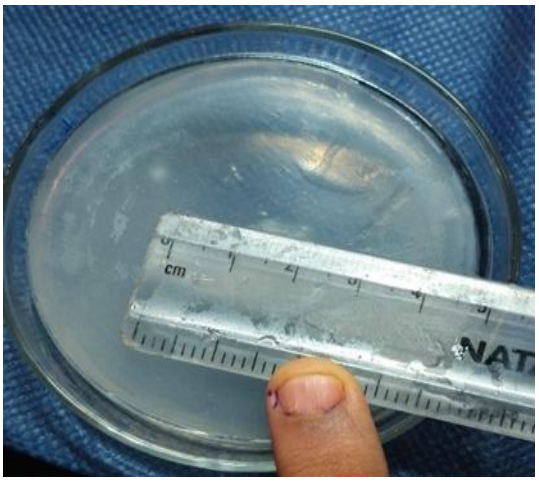
3. Sulphur – zone of inhibition – 65mm



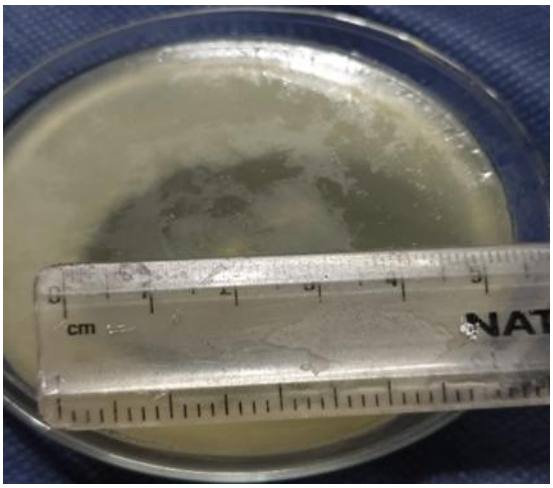
4. Barium – zone of inhibition – 95mm



5. Zinc – zone of inhibition – 47mm



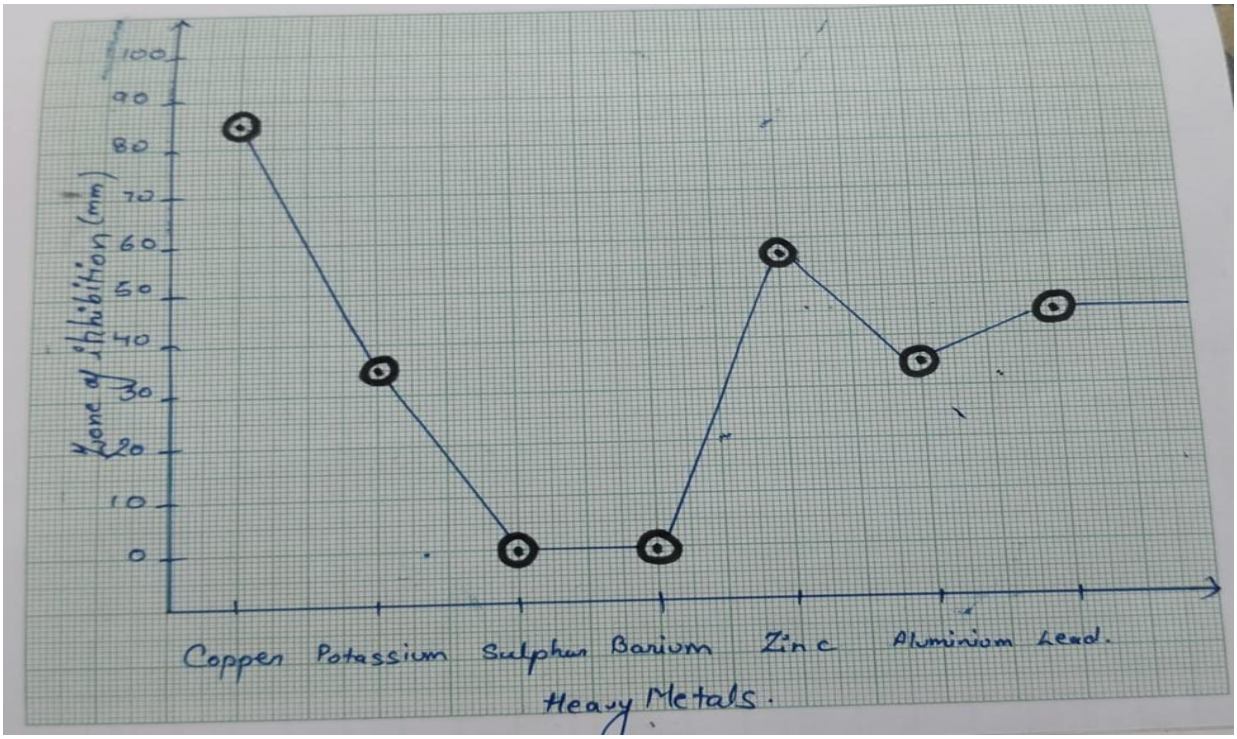
6. Aluminium – zone of inhibition – 50mm



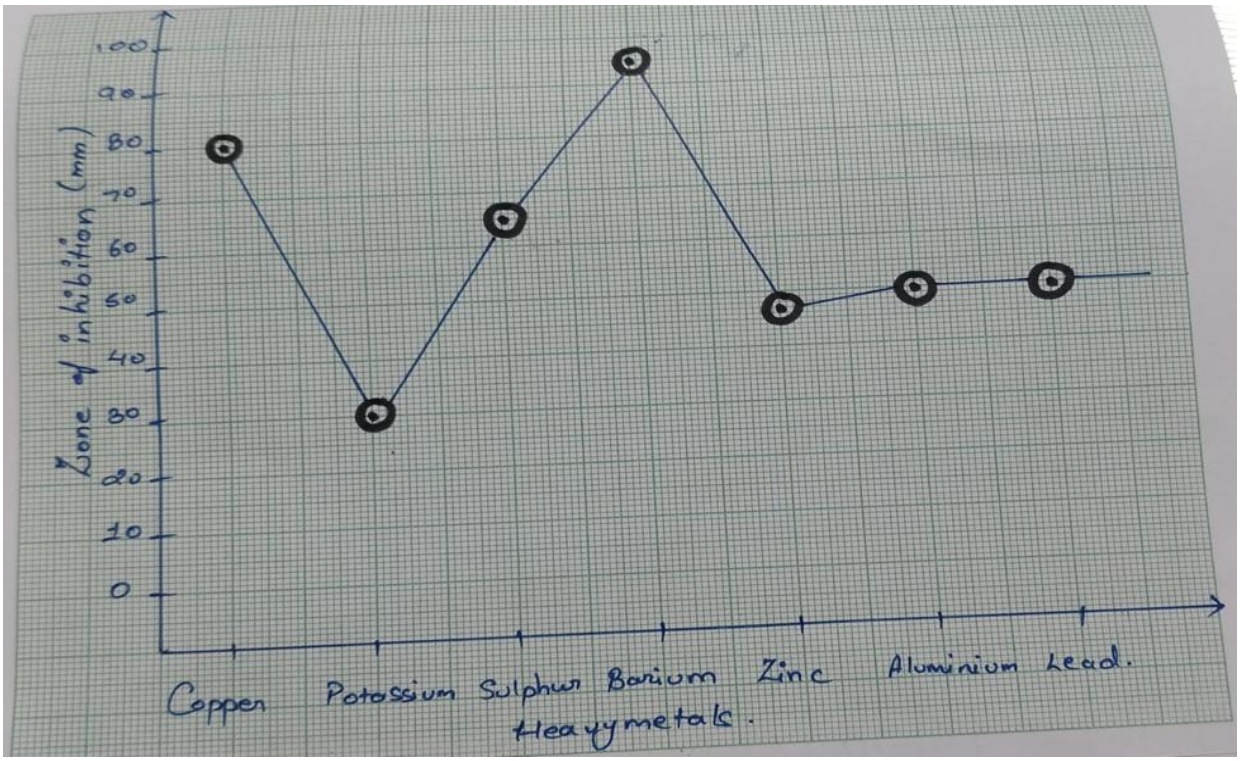
7. Lead – zone of inhibition – 50mm

Comparative graph

- *Tricothecium roseum*



- *Aspergillus niger*



RESULT

[1] By the above observations *Tricothecium roseum* is highly sensitive to COPPER and highly resistant to SULPHUR and BARIUM.

[2] *Aspergillus niger* is highly sensitive to BARIUM and highly resistant to POTASSIUM.