

EFFECT OF DIFFERENT TOXIC CHEMICALS ON *IRPEX FLAVUS* KLOTZSCH ASSOCIATED WITH BAMBOO ROT

Irpeix flavus, a common wood-rotting species of the family Hydnaceae is common in the local bamboo logs and has been observed to destroy bamboo significantly. After a single or successive showers during rainy season, it has been observed to grow profusely on the cut surfaces of the bamboo logs. Normally it destroys the outer portion but during severe attack it destroys the whole bamboo wood.

In the present study. The effect of different toxic chemicals on the growth of test fungus has been investigated to evaluate the effective control against the test fungus. The importance of this type of study has been emphasised by several investigators (Cartwright and Findlay, 1946, Da Iosta, 1967; Johuson and Iowling 1965; Saha and Samajpati, 1975; Banerjee, 1955).

Fresh basidiocarps were collected from bamboo logs of different parts of Tripura, India from the month of June to August after a number of showers. Tissue culture of fresh basidiocarp was done in 2.5% Malt agar medium in complete aseptic condition following Benerjee (1955) and properly maintained for further experimental works.

Four different water soluble toxic chemicals namely Zinc chloride, Copper sulphate, Lead nitrate and Ascu- A were selected for the present investigation. The effectiveness of these preservatives were evaluated in the laboratory by determining their toxic limits for the growth of the test fungus on a nutritive agar medium containing graded concentrations of each of them. Media were prepared by adding required amounts of sterile 2% Zinc chloride solution to 2.5% Malt agar in Petridishes in such a way that the following concentrations (%) were obtained 0.02, 0.04, 0.06, 0.08, 0.10, 0.12, 0.14, 0.16, 0.18, 0.20.

0.22, 0.24, 0.26, 0.28, and 0.30. Following the same procedures, media were also prepared with copper sulphate solution, Lead nitrate solution and Ascu-A. 5mm disc of the tissue-culture of the test fungus was placed on the middle of the medium of Petridishes containing the different concentrations of toxic chemicals so that the mycelium remain touch in with the agar surface. These were then incubated at 30°C in complete darkness for 7 days and the growth was measured. Several replicates have been made in order to avoid contamination and to have at least three replicates of each observation. A separate set of control without any toxic chemicals has also been performed.

Results obtained on the 7th day after inoculation have been recorded in the Table 1.

Table 1. Data (mean) showing the effect of different chemicals on growth of *I. flavus*

Grades (%)	Average diameter of the growth of the test fungus on 7th day after inoculation (in mm)			
	ZnCl ₂	CuSO ₄	Pd (NO ₃) ₂	Ascu-A
0.02	50	10	70	8
0.04	31	9	55	6
0.06	10	8	45	...
0.08	7	7	40	...
0.10	...	6	35	...
0.12	...	...	31	...
0.14	...	...	26	...
0.16	...	...	20	...
0.18	...	...	14	...
0.20	...	...	10	...
0.22	...	...	6	...
0.24	...	...	...	...
0.26	...	...	...	...
0.28	...	...	...	...
0.30	...	...	...	...
0.00 (Control)	99	99	99	99

From the foregoing experimental records it is evident that all the four toxic chemicals have inhibitory effect on the growth of the test fungus. The most effective concentrations in this regard are 0.10% for $ZnCl_2$, 0.12% for $CuSO_4$, 0.24% for $Pb(NO_3)_2$, 0.06% for Ascu-A.

Form the above experiment it can be suggested that if anyone of the specific respective afforsaid toxic chemical is sprayed on the out surfaces of the hosts, then, there will be least chance for the test fungus to establish infection after coming in contact with cut surfaces. Further works are in progress.

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