

Images:



Figure 1: Isolated colonies of bacteria was observed on nutrient agar plate



Figure 2: Screening of zinc resistant isolate at 50ppm



Figure 3: Gram staining of zinc resistant isolate shows gram positive, rod shaped bacteria

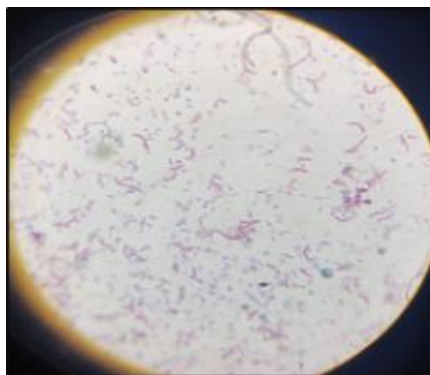


Figure 4: Endospore staining of zinc resistant isolate

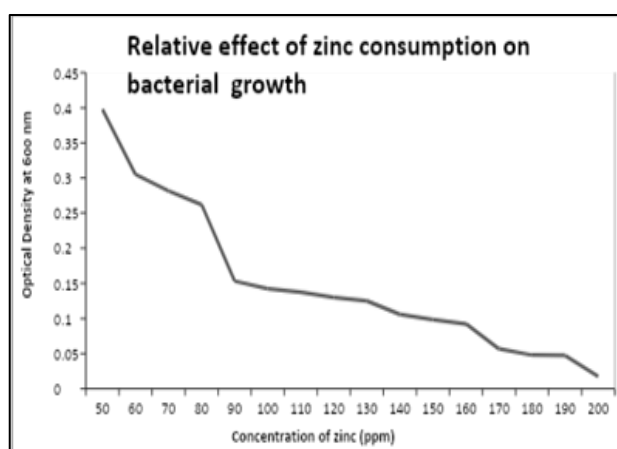


Figure 5: Graph showing Zinc was absorbed from water by dead biomass of bacteria

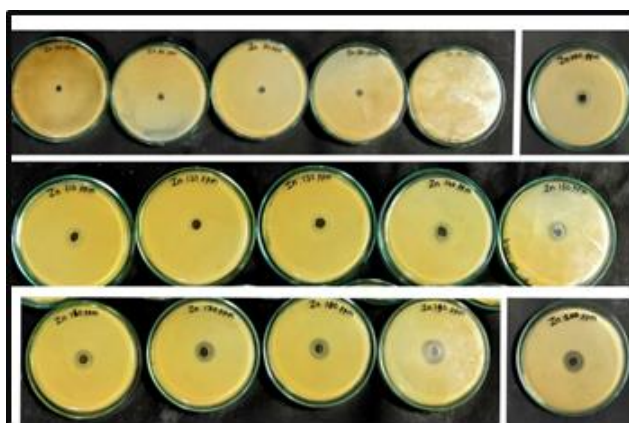


Figure 6: Minimum Inhibitory Concentration (MIC) of zinc

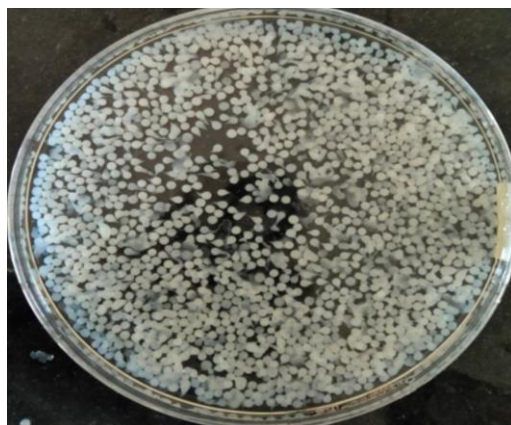


Figure 7: Sodium alginate immobilized with *Bacillus subtilis* biosorbent

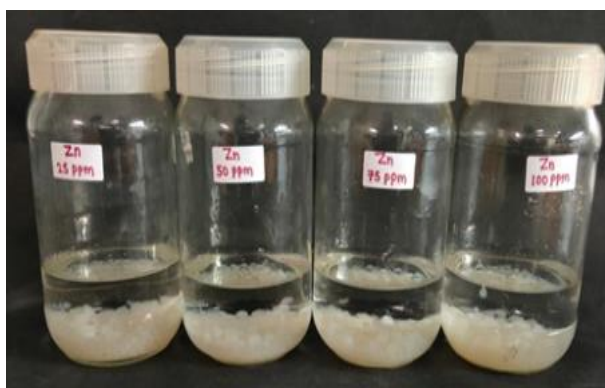


Figure 8: Zinc removal from aqueous solutions at concentrations 25 ppm, 50 ppm, 75 ppm, and 100 ppm.

Tables:

Table 1: colony morphology of zinc resistant isolate

shape	color	margin	elevation	consistensy	opacity
Circular	white	regular	flat	dry	opace

Table 2: Biochemical characterization

Test	Result
Oxidase test	Positive
Catalase test	Positive
Starch hydrolysis test	Positive
Voges-Proskauer's test	Positive
Citrate utilization test	Positive

Table 3: The residual zinc metal ion concentration following biosorption.

Initial concentration of zinc (ppm)	Residual/final concentration of zinc (ppm)
25	06.25
50	24.38
75	40.58
100	58.56

Table 4: Metal uptake of zinc (q)

Ci Initial concentration of Zn (mg/L)	Cf Final concentration of Zn (mg/L)	V Volume of working solution (L)	W Biosor bent dosage (g).	q -metal uptake, (mg/g)
25	06.25	0.1	2	0.9375
50	24.38	0.1	2	1.281
75	58.56	0.1	2	1.721
100	58.56	0.1	2	2.072

Table 5: Efficiency of zinc metal removal (%)

Ci Initial concentration of Zn (mg/L)	Cf Final concentration of Zn (mg/L)	R Removal efficiency (%)
25	6.25	75
50	24.38	51.24
75	40.58	45.89
100	58.56	41.44