

- Document Type** : Thesis
- Document Title** : *Effect of some Heavy Metals on Growth and Antibiotic Production by Actinomycetes*  
تأثير بعض المعادن الثقيلة على النمو وإنتاج المضادات الحيوية بواسطة الأكتينوميستات
- Document Language** : Arabic
- Abstract** : The aim of this work was to study the effect of some pollutants of heavy metals in the soil on growth and antimicrobial production by actinomycetes, ten isolates out of eighty isolates were chosen . The isolates were obtained from soil irrigated by sewage , soil irrigated by tap water and soil from industrial area . These isolates were identified at the National Research Center of Egypt and all were belonging to the genus Streptomyces. The effect of two heavy metals zinc chloride (ZnCl<sub>2</sub>) and cadmium chloride (CdCl<sub>2</sub>) at different concentrations 5,10,20,40,80 µg/ml of medium on the isolates was studied. It showed that, in liquid medium, there was no inhibition of the growth and the isolates tolerate all concentrations of ZnCl<sub>2</sub> and CdCl<sub>2</sub>. The only effect was on pigment production at concentrations of 40 , 80 of both metals. But in solid media inhibition in the growth of some isolates occurred with CdCl<sub>2</sub> at 80 µg/ml concentration. Some isolates showed change in pigmentation surrounding the heavy metal. The efficiency of the isolates on the production of antimicrobial materials were studied. The results indicated that antimicrobial production was not affected by the presence of heavy metals in the soil.
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