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Research Details :

Research Title : استخدام المخلفات الصناعية الغذائية في زيادة إنتاجية المضادات الحيوية
استخدام المخلفات الصناعية الغذائية في زيادة إنتاجية المضادات الحيوية

Descriptipn : This study was carried out in laboratories of Biological Sciences Department, Faculty of Science. 86 locally isolated isolates were investigated and 20 pure isolates were selected and classified to groups according their spores colors series. All isolates were propagated in glycerol, starch and GYM media. Their biological activities in producing antibiotics and synthesis of soluble pigment were investigated. According to this study, seven isolates that produce antibiotic and pigment were selected. Staphylococcus aureus of (MSSA) and (MRSA) types as Gram positive, E.coli, Pseudomonas aeruginosa, as gram negative and Candida albicans, Aspergillus niger as eukaryotic organisms were used as test organism for antibiotic production. Results obtained of selected isolates propagation in different media show that all isolates preferred GYM medium than other tow media. Comparing the cultivation in Potato starch medium and Milk whey medium, show that efficiency of utilizing Potato starch medium was great. Cultivation of selected isolates in different concentration of potato starch, a high regression relationship between specific growth rate and concentrations used was obtained for all tested isolates. Isolate 2G and 2Y gave the highest value of regression for pigment synthesis . Investigating three nitrogen sources show that asparagine was encouraging antibiotic production and pigment synthesis. Effect of Different concentrations of asparagine on specific growth rate of three isolates were found to give a high value of regression, while isolate 1Y was the only isolate that gave a fit regression in pigment synthesis and can be considered as typical relationship. Investigation of pH effect on selected isolates specific growth rate show that specific growth rate of isolate 1Y was the highest, while for pigment synthesis was isolate 2R. Temperature show no effect statistically on both specific growth rate and pigment synthesis.

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