5. Studies on the effect of some natural materials on some metabolic activities of the pathogenic fungus Aspergillus niger

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ABSTRACT:

The effect of some natural Sources [the musk, pumpkin and bacterial filtrate of mixture (soil of Taif and saliva)] on the growth rate and some activities of metabolites of the fungus pathogen Aspergillus niger (glucose and nitrate
consumed), has been studied. It was found that these sources have led to the inhibition of growth of *A. niger* to varying degrees 306.94, 199, 44, 235.26 mg of musk, pumpkin and bacterial filtrate respectively as compared to the control (586.51 mg) in 20% of concentration. So, there was a decrease in biomass with a decrease in the rate of absorption of glucose and nitrate, in contrast, the absorption on the basis of unit dry weight, There was an increase in the amount of glucose absorbed in the presence of different concentrations of sources, which was almost doubled in 20% of concentration when treatment by the pumpkin and bacterial filtrate compared to the control sample. The absorption of nitrate reached (36.98, 55.72, 43.74%) for the treatments by the musk, pumpkin and bacterial filtrate, respectively, compared the control sample (19.98% in concentration of 20%) at the end of incubation. Scanning electron microscope clarified the decomposition in the fungal hyphae and decrease in the production of conidia when were carried out treatments by the tested natural resources.

Key words: Musk, pumpkin, bacterial filtrate, amixture of soil, saliva, *Aspergillus niger*