The Impact of Caroxylon cyclophylla and Atriplex tatarica on Active Substance Production in Pleurotus ostreatus Fruiting Bodies

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ABSTRACT

The experiment was carried out to study the effect of the active substances in the extracts of the growing fungus Pleurotus ostereatus on a plant-supported medium Atriplex tatarica and Caroxylon cyclophylla growing in the desert environment with an agricultural medium of 10% and urea by 2% and extracted by ethanol and methanol and the effect of their use as an antibiotic on three types of bacteria These are Staphylococcus aureus, Pseudomonas aeruginosa and Escherichia coli. The study was carried out in the laboratories of the Center for Desert Studies / Anbar University with three replications. The results showed that the extract of the fungus growing on the urea-enriched medium and extracted with ethanol achieved the best rate of inhibition of bacterial growth. P. aeruginosa reached 18 mm and 16 mm against E. coli and the lowest inhibition was 10 mm with Staph. aureus, while Caroxylon cyclophylla fungus extract recorded the highest inhibition rate of 17 mm against Staph. aureus, 15 mm against E. coli, and the lowest inhibition was 12 mm against P.aeruginosa while the inhibitory capacity of the growing fungus extract on the medium supported by the Atriplex tatarica plant decreased to record a rate of inhibition of 10-14 mm for each of Ps bacteria. aeruginosa and E. coli. The extract of the growing mushroom fruits on a medium supported by urea and the methanol extract was clearly inhibited for the bacteria under study, as the rates of growth inhibition diameters ranged between 10-16 mm, and bacterial isolates showed their sensitivity towards the extract of the growing mushrooms on a medium supported by the Atriplex tatarica plant extracted by methanol as Growth inhibition rates ranged from 13 to 15 mm. The extract of the growing fungus on a medium supported by Caroxylon cyclophylla and methanol extract had the least effect on the growth of the three bacterial species, ranging from 10–12 mm. The results indicated the possibility of using mushroom extracts instead of some antibiotics against the studied bacterial species. The results showed that extraction using ethanol is more efficient than methanol extraction in influencing the bacterial species under study, and achieved more effective results in inhibiting bacterial growth.

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