

Effect of isolated bacteria from the contaminated areas in the decomposition of hydrocarbons and phenotypes of wheat plants *Triticum aestivum*

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ABSTRACT:

This study was conducted to investigate the effect of bacterial strains of hydrocarbons isolated from the all regions (Dhi Qar and Muthanna) and their effect on the growth characteristics of wheat with different levels of crude oil. This experiment was carried out to demonstrate the effect of bacteria isolated from the areas contaminated with crude oil in the degradation of hydrocarbons at three oil levels (O_0 , O_1 and O_2), after the addition of first isolate (*Klebsiella* sp) and the second isolate (*Salmonella* sp) and mixing of the two isolates (A_1 , A_2 and A_3). Three replicates for each one were maintained and left a section of transaction as a comparison without the addition of microbes (A_0). The Completely Randomized Design (CRD) was used for the agricultural experiment. All treatments at the oil level (O_0) showed a significant effect on all the studied wheat characteristics such as germination, plant height, paper area, chlorophyll content and dry weight of the vegetative part. All the transactions at the oil level (O_1) of crude oil and all the studied characteristics of the wheat plant mentioned above showed that the order is lower than the level of oil (O_0) and above showed that the level of oil (O_2). All transactions at the oil level (O_2) showed a decrease in the oil levels (O_0 and O_1) for all studied characteristics of wheat. The isolation associated with the genus (*Klebsiella* sp) was taken from the Nasiriyah refinery which is more efficient than the isolation of the genus (*Salmonella* sp) which was taken from the Samawah refinery in stimulating the growth of the wheat plant Ibaa (99). This study concluded with the possibility of reclamation of soil contaminated with oil and cultivation using the bacteria isolated from the contaminated soils to reduce the toxicity of hydrocarbons and to improve the conditions for the growth of the plant which is grown on these soils.

Keywords:

Pollution, Bacteria, Bioremediation, Growth.