

SUMMARY

Effect of lannite and diazinon pesticides on some soil microorganisms

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The studies of pesticides effects on soil microorganisms is very little, under soil conditions in Saudi Arabia. For that, two different functional groups of the most common used pesticides in Saudi Arabia namely lannite from the carbamates group and diazinon from the organophosphates group used in two soil types, Clay Loam and Sandy soils. The soils (with no history of pesticides treatment). The most important findings show that, the numbers of the total microbial colony counts, fungi, aerobic cellulose decomposers, phosphate dissolving bacteria, azotobacter and azospirilla have decreased due to the use of pesticides (whether lannite or diazinon) in the recommended field dose or the double does. The inhibitory effect was more

evident with the use of the double recommended dose in both soils under investigation, and the inhibitory effects of diazinon pesticide was more than of lannite in both soil. However, the use of lannite in the doubled recommended field dose has had more effect on the actinomycetate numbers compared to diazinon at the same rates, and then comes the recommended dose of lannite and diazinon. The study also shows an increase in total nitrogen content whether in the clay loam soil or in the sandy soil. However, this increase varies according to the type of pesticides in use and it's concentration in soil. At the same time, the relative amount of organic carbon has decreased on the addition of lannite and diazinon in both soil types.