

Obeidat, M., Al-Momani, F., Saadoun, I. 2000. Diversity of *Bacillus thuringiensis* in different habitats of Northern Jordan. *J. Basic Microbiology*. 40 (5-6): 385-388.

Abstract

A survey of *Bacillus thuringiensis* was conducted for 17 locations in Northern Jordan representing 12 different habitats. Eighty isolates were identified as *B. thuringiensis* in the majority of the tested samples. Results showed that soils contaminated with the slaughterhouses waste materials had the highest content of spore-forming bacteria [(4.05-12.2) 10^7 CFU/g] and *B. thuringiensis* [(4.05-7.9) 10^7 CFU/g] with a (5.5% - 14.9%) and (5.2% - 7.7%) of the total viable bacterial count, respectively. These bacteria were more abundant in soils contaminated with such animal by-products.

Recommendation and Further Work:

1- Study the potential activity of our isolates against a wide range of economic pests and vectors that act transfer pathogens for human, animals, and plants.

2- Application of our isolates of *Bacillus thuringiensis* against economic pests in agricultural and medical field trials.

3- Study the genetic make up of our isolates at the molecular level.

4- Held a workshop for farmers and health personnel to encourage them to use the safe biological control instead of the harmful chemical pesticides.

The following papers were published or in press or under preparation. These papers addressing the various subjects of the project activities related to isolation, identification and characterization microorganisms and of an important group of antibiotic-producing bacteria and particularly the streptomycetes from several soil habitats in Jordan. The distribution, cultural and morphological characteristics of these valuable microorganisms were also studied in these papers:

1. Saadoun, I. and F. Al-Momani. 1997. Studies on soil Streptomycetes from Jordan. *Actinomycetes* (3): 42-48.

This investigation was undertaken with a view to see the distribution of soil streptomycetes in different locations in Jordan. Based on sporophore morphology, 339 strains were identified as *Streptomyces* and 22 strains as *Streptoverticillium*. Cultural and morphological characters and antibiotic activity of these strains were discussed in detail.

2. Saadoun, I., M.J. Mohammad, H.I. Malkawi, F. Al-Momani and M. Meqdam. 1998. Diversity of soil streptomycetes in Northern Jordan. *Actinomycetes* 9 (3): 52-60.

This study was executed to see the distribution of soil streptomycetes in different locations in northern Jordan. The average microbial count was 29.2×10^8 CFU/gm dry soil for bacteria and 2.4×10^6 CFU/gm dry soil for streptomycetes. Based on sporophore morphology, 90 isolates were identified as *Streptomyces* and 11 isolates as *Streptoverticillium*. Cultural and morphological characters of these strains