

## **A Survey on Utilization of Agricultural Pesticides in Selected Palestinian Districts**

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### **Abstract**

Lack of reliable data on the types and quantities of pesticides utilized in Palestine forms a challenge to enact national legislations to control the misuse, handling, and disposal of pesticides in agricultural sector. The aim of this research study was to identify the types and estimate the quantity of pesticides utilized in selected Palestinian districts. Data collection was performed using a questionnaire and by direct observation including interviews with authorities and inspection of archived data records on pesticides imported. The survey of farmers (n = 126) was conducted in five districts of the West Bank and Gaza Strip, where pesticides are mostly used on irrigated land cultivated with vegetables. Based on clustered and randomized samples of farmworkers in urban rural, and small farming units, 109 (about 87%) completed questionnaires were validated and statistically analyzed. Data analysis revealed a total number of 217 pesticides including 13 soil sterilizers, while 133 kinds with different active ingredients (insecticides 62; fungicides 45; herbicides 20) were applied in all districts. Based on the total irrigated land cultivated, the rate of pesticides per donum reached 0.77 L in Gaza strip and 0.18 L in the West bank districts. In contrary to earlier published data, our results support a trend of general decrease in the utilization of agricultural pesticides in the districts under study due to recent efforts pertinent to endorsement of pest management practice. However, further research studies are needed to explore the possible impacts on public health and receiving environment.

**Keywords:** Pesticides, public health, risk, environment, farmworkers, pest management