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The use of maggot fly larvae as biofertiliser

NAIMA BENKENANA, RACHAD HAMZAOU, MOUHAMED ABEDESSAMIE

Mentouri Constantine 1 University, Lab. of Biosystematics and Ecology of Arthropods, Algeria

Abstract

Insect flour can be used as a fertiliser to enrich the soil's fertility with essential nutrients such as nitrogen, phosphorus, and potassium. The experiments were carried out in the Constantine region of Algeria. The results of our experiments show that this type of fertiliser can improve soil fertility and support plant growth. The organic waste was collected from slaughterhouses and placed in a cage to attract flies. After half an hour, the Calliphoridae (*Calliphora vomitoria*, *Calliphora subalpina*, *Lucilia sericata*, and *Chrysomya albiceps*) arrive to lay their eggs. Once the eggs hatch (after two days), the larvae feed on the waste up to the third instar. The harvested maggots were separated from uneaten organic waste and kept frozen. After drying the maggots in the laboratory, they were ground in a blender to obtain maggot powder (flour), which is used as a natural fertiliser. Lentils, beans, and other plants were subjected to investigation by using this biofertiliser. After 15 days of soil treatments, there is a direct influence on the size and colour of the plants and also on the number of branches and leaves.

Using maggot powder in agriculture is a major step towards more sustainable and efficient practices. Incorporating such a new techniques into the traceability of agricultural and agri-food products is recommended.

Keywords: Beans, constantine, fertiliser, lentils, maggot, sustainable