ROLE OF BLACK SOLDIER FLY INSECTS IN ORGANIC WASTE MANAGEMENT AND BIOFERTILIZER PRODUCTION FOR FAVA BEAN CROP GROWTH

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Introduction

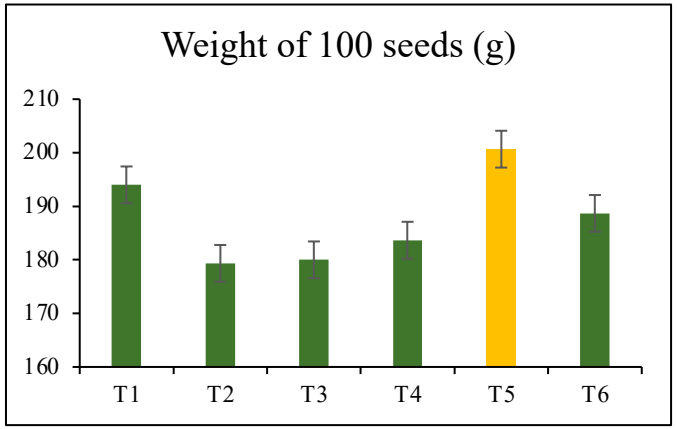
The bioconversion of organic waste using insect larvae of black soldier fly (BSF) constitutes a new agroecological approach to valorize agricultural by-products for animal feed, and thus strengthen the resilience of agricultural systems.

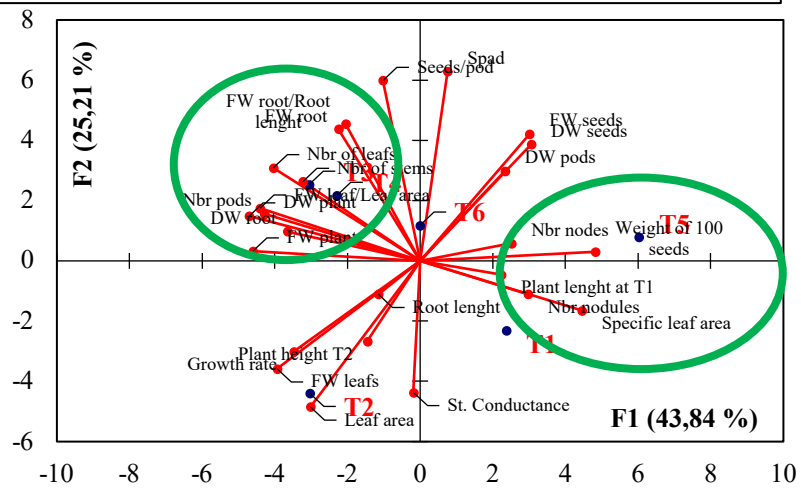
Methodology

Organic by-products were collected from the market, for insect feeding. To assess the effect of BSF frass on the fava bean growth, field trials were carried out, using 6 treatments : negative and positive controls, 1.09, 2.18, 4.35 and 8.7 tons of frass/ha, respectively. Morphological, agronomic and physiological parameters of plants were assessed.

Results

Results showed a large variability in the nutritional composition of the by-products tested, resulting in variability of the bioconversions rate by insects, with a high physico-chemical elements (particularly N) of insect frass used as biofertilizer for crop. Our findings highlighted the effectiveness of BSF insect frass.at 4.35 tons/ha as application for optimal fava bean growth under Moroccan climate conditions.





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