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Test of culture and production of Fungi Entomogenous Beaveria Bassiana on whey, olive pomace and vegetable water

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Entomopathogenic microorganisms prominently among alternative control methods against insect pests. In Algeria the first studies on the entomopathogenic fungus *Beauveria bassiana* as a biological control agent, were made by CHAHBAR in 1996 and HALOUANE in 1997. It can be used against various insect pests. To the extent that use of bio-insecticide, high biomass production is required by simple and inexpensive techniques, using by-products of the food industry. A study is being conducted in the laboratory on *Beauveria bassiana* biomass production on organic substrates, whey, vegetable water and olive pomace. Our study revealed a very good mycelial growth on crude whey, a significant growth in the vegetable and significant sporulation rate on olive cake and a considerable biomass yield on deproteinized whey, rated 5, 56g / liter of substrate.

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Contact toxicity of Silica and Silver nanoparticles against *Brevicoryne brassicae* L. (Hemiptera: Aphididae)

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The cabbage aphid, *Brevicoryne brassicae* is one of the most serious pests of rapeseed. *B. brassicae* causes direct damage, resulting from searching for food, which may induce plant deformation and indirect damage caused either by honeydew or by transmission of viruses. The cabbage aphid is a vector of 20 virus diseases in a large range of plants. The use of nanomaterial products in various sectors of science increased during the last decade. Nanotechnology has already shown great potential for application in environmental protection. Nanoparticles help to produce new pesticides, insecticides and insect repellants. In this study, two type of nanoparticles were tested against adults of cabbage aphid by leaf dip method. The experiments were conducted at 25±1°C, 65±5% RH and 16L:8D h photoperiods. The mortality of adults was tested at different concentrations and in two exposure times (24 and 48 h). Results showed that LC_{50} values of silica nanoparticles against *B. brassicae* were 154.4 and 67.76 $mg.mL^{-1}$ after 24 and 48 h, respectively. In addtion, LC_{50} values of silver nanoparticles were 337.87 and 121.46 $mg.mL^{-1}$ after 24 and 48 h, respectively. Results indicated that both silica and silver nanoparticles had contact toxicity on cabbage aphid adults. The results also showed that silica was more toxic than silver nanoparticles, and the mortality increased with increases in concentration and exposure time.

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Evaluation of *Acacia nilotica* Pods Water Extract on Growth of Selected *Xanthomonas campestris* Pathovars

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Sunt (*Acacia nilotica spp. tomentosa*) pods water extract was tested for its efficacy in inhibiting *Xanthomonas campestris* bacterial growth which causes bacterial leaf spot disease. Seed dressers namely Oxilinic acid (Starner) and Bronopol (Bronotak) were also tested . *Xanthomonas campestris* pathovars isolated from Cotton, Tomato, Pigeon pea, Commelina and Hambouk were treated with the dressers. Bronopol recommended dose 0.5 g/100ml was used. Then, increased to 1.0 g/100ml and decreased to 0.25 g/100ml. Starner was also tested at the recommended dose 0.4 g/100ml. Then, increased to 0.8 g/100ml and decreased to 0.2 g/100ml. 0.5 g/100ml was tested for Sunt pods water extract. Then, increased to 1.0 g/100ml and decreased to 0.25 g/100ml. At the lower concentrations, seed dressers used showed no inhibition to the bacterial growth except *Xanthomonas campestris pv.cajani* which inhibited by starner. At the recommended doses *Xanthomonas campestris pv.malvacearum* showed less sensitivity to the chemicals, whereas other bacterial pathovars showed variable reactions. Both saturated filter paper disc and mixed media techniques were applied and the former gave results. Sunt pods water extract proved very good bacterial growth inhibition and the effect was increased by increasing the concentration.