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## **Efficacy of Some Synthetic Insecticides and Botanical oils against Fall Armyworm, *Spodoptera frugiperda* (Lepidoptera: Noctuidae), on Maize in Egypt**

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### **Abstract**

Field experiments were carried out at Qaliubiya Governorate, Egypt during the 2021 maize season to evaluate the efficacy of different chemical insecticides and botanical oils for the management of fall armyworm *Spodoptera frugiperda* (J.E. Smith) (Lepidoptera: Noctuidae) on Maize. Seven chemical insecticides and seven botanical oils and control were replicated three times. Botanical oils and chemical insecticide fluids are directed to the whorl of plants by modifying the hollow cone nozzle. All materials used caused a significantly higher reduction in the fall armyworm population than the untreated check. The results clarified that, among tested insecticides, grand mean of reduction percentages showed that Top-green 37% SC insecticide proved the pest showed (91.23%) reduction followed by Octoclod 9.75% SC (89.93%), while Teflupap 15% SC caused the lowest effect (64.4%). The remaining tested compounds (Neomyl 90% SP, Lamdathrin 5%, Dimeuron 10% and Match 5%) took intermediate effect showed (79.05%, 72.12%, 70.59% and 70.11%) on the fall armyworm larvae, respectively. There were, also high significant differences between tested insecticides at 24 h. and three days after treatment where ( $P$  values  $< 0.05$ ) while, at ten days there were slight significant differences between all chemical insecticides tested ( $P$  values  $\geq 0.05$ ). On the other hand, among the botanical oils tested, a grand mean of reduction percentages showed that the Neem oil caused the highest percentage of reduction (76.24%) followed by Jojoba oil (72.03%), while Garlic oil caused the lowest effect (50.78%). The remaining tested botanical oils (Bitter melon, Thyme, Parsley and Lemon oil) took intermediate effect showed 64.53%, 63.99%, 62.78% and 61.75% on the fall armyworm larvae, respectively.

### **Author Keywords**

Synthetic Insecticides, Botanical oils, Fall Armyworm

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