Biological and toxicological studies on sitotrogaceralella

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A-Biological study:1- Effect of temperature on the biology of S. cerealella:Some biological data of S. cerealella were recorded at three constant temperatures of 30, 25 and 20°C and 65+5%RH. The obtained results indicated the following:•The shortest incubation period (3.4±0.5 days) was found at 30°C and the longest (7.8±0.4 days) at 20°C.•The highest hatching rate (85.6±3.9%) was obtained at 25°C, while lower values (74.8±9% and 69.8±4.8%) were found at 30 and 20°C, respectively.•The longest pre-oviposition periods and post-oviposition periods were recorded at 20°C, while the shortest periods at 30°C.•Adult longevity was decreased with increasing the temperature, whereas, the shortest longevity (6.7±1.4 days) was detected at 30°C, and the longest (9.6±0.5 days) at 20°C.•The mean number of eggs laid per female was 134;1 76 and 223 eggs at 20, 25 and 30°C, respectively,indicating that the highest number of insect eggs was laidat higher temperature (30°C).1.1. Effect of temperature and type of food on developmental period of S. cerealella:-The results revealed that the incubation period of eggs didn’t affect by the type of food, when reared on wheat or maize grains, but it affected by temperature as mentioned above.On the other hand, larval-, pupal- and total developmental periods, adult longevity and total life cycle detected on wheat grains were obviously shorter than those on maize grains. These values were temperature-dependent, whereas they were longer at lower temperature (20°C) as compared with higher temperature (30°C).1.2. Et-Feet of type and quantity of food on number of emerged moths at 28±1°C and 65±5%RH.Results showed that S. cerealella was affected by the type and quantity of food. The amount of food consumed by the larvae and number of emerged moths were greater on wheat than maize grains. This result indicated that S. cerealella prefers wheat grains more than maize grains as insect food.B-Toxicological study:1- Toxic activity of some insecticides against S. cerealella:The efficacy of the botanical insecticide Neemazal 5%EC, the organophosphorus insecticides, i.e. Malathion.