

USING AMORPHOUS SILICA DUST AS CARRIER FOR PERMETHRIN AND DELTAMETHRIN INSECTICIDE FOR THE CONTROL OF GERMAN COCKROACH (*BLATTELLA GERMANICA*)

IFDIAL OMER EL-AWAMI

Faculty of Science, Omar AL-Mukhtar University
Albaida, Libya P.O.Box 919

Abstract The biological activities of permethrin and deltamethrin silica mixtures were studied. The effect of silica mixture depended on insect sex and age, type of insecticide and the amounts of insecticide added to the silica. Only a very low amount of deltamethrin added to silica 0.1 mg/g gave KD_{50} or KD_{95} higher than deltamethrin alone, but when the concentration was increased up to 0.5 mg/g the knock down effect was more than the same concentration of deltamethrin alone and increased with increasing amount in the mixture up to 4 mg/g, and then no significant increases was found even up to 20 mg/g. The deltamethrin had a potentiation effect on the mortality but the LT_{50} values for all insect groups did not decrease with increasing the amount of insecticide in the silica. While in the case of permethrin the situation was different with the knock-down increasing with increasing amounts of insecticide in the silica, but in all cases and for all insect groups (males, females, and nymphs) the knock-down effect for each concentration was less than for permethrin alone. The mortality was less than each compound alone but did not increase with increasing the insecticide concentration. It was clear from that both compounds had a potentiation effect on the mortality but only deltamethrin had the same effect on the knock down.