

DDT AND BHC RESISTANCE IN FIELD POPULATIONS OF GERMAN COCKROACH (BLATTELLIDAE)

G. GETCHEVA

National Centre of Infectious and Parasitic Diseases, Sofia, Bulgaria

The German cockroach, *Blattella germanica* (L.), is a wide-spread domiciliary pest of the urban environment in Bulgaria. It is often observed in food processing plants, communal kitchens, restaurants, hospitals, dwellings etc. where the cockroaches find favourable conditions for their development leading to a rapid spreading of populations. The use of insecticides against *B. germanica* started more than 50 years ago with some chlorinated hydrocarbons such as DDT and BHC.

The poster presents our studies on nine populations of German cockroaches collected from three regions (Pleven, Sofia-city and Jambol) during the last two years. The tests were carried out using a standard WHO-recommended tarsal-contact method. The investigations were done on nymphs, male and female cockroaches. A comparison of the results with the data obtained from a laboratory strain of *B. germanica* was made to determine the resistance levels. The average lethal doses LT_{50} and LT_{90} were defined using linear regression equations and the resistance index (Ri) was calculated.

The results showed that all five investigated populations were resistant to DDT with a range of Ri from 3.7x–11.2x at LT_{50} . From 3 to 35 percent of the tested insects survived contact with the insecticide.

Three populations were considered susceptible to BHC with Ri from 1.2x–3.1x at LT_{50} and the other two were resistant. One of them, originating from Jambol, was resistant to both DDT and BHC insecticides.

These investigations are part of a programme of susceptibility studies on synantropic cockroaches in Bulgaria.