

INSECTICIDE RESISTANCE IN *BLATTELLA GERMANICA* IN A FIELD STRAIN FROM GERMANY

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Abstract A German cockroach strain (*Blattella germanica*) was collected in the field after several unsuccessful treatments with a pyrethroid insecticide. Its susceptibility was assessed by a topical application bioassay to insecticides from six different classes: 1) pyrethroid (deltamethrin, esbiothrin, etofenprox), 2) carbamate (bendiocarb), 3) phenyl pyrazole (fipronil), 4) neonicotinoid (imidacloprid), 5) oxadiazine (indoxacarb) and 6) spinosyn (spinosad). Compared to a sensitive laboratory strain the field strain showed high levels of resistance to the pyrethroids and bendiocarb, a moderate level to imidacloprid and low level to fipronil, indoxacarb and spinosad. Synergism studies with piperonyl butoxide (PBO) and S,S,S-tributylphosphorotrithioate (DEF) were conducted to test for possible resistance mechanisms.

Key words insecticide resistance