

INSECTICIDE PAINT: A PRACTICAL TOOL OF LONG-LASTING COCKROACH CONTROL IN SEWERS

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Abstract Peridomestic cockroaches require control strategies adopted to their behaviour and habitats. American cockroaches (*Periplaneta americana*) and Oriental cockroaches (*Blatta orientalis*) are often found in sewer systems which are appropriate places for insecticide treatments. New advanced paint formulations allow the treatment of sewers to reduce cockroach infestation levels long-term, as was demonstrated on Oriental cockroaches in Zaragoza (Spain) and on American cockroaches in Abu Dhabi (United Arab Emirates). The paint Inesfly 5A IGR NG (alphacypermethrin, d-allethrin, pyriproxyfen) was applied to sewer chambers in Zaragoza and another paint Inesfly 7A DELTA (deltamethrin) was used in Abu Dhabi. Evaluation was conducted monthly through inspection of the chambers and visual estimation of levels of infestation related with cockroach abundance in comparison to untreated control chambers. *Blatta orientalis* monitoring in Zaragoza's treated sewer chambers showed a complete reduction from infestation level 2 (6-20) before the treatment to absence of cockroaches during the first 9 months after paint application. Only 3 of 14 monthly inspections revealed infestation level 1 (1-5) in a few treated chambers while levels from 1 to 3 (≥ 20) were recorded in the control during the evaluation period. Levels of infestation for *Periplaneta americana* remained medium (6-9) or low (1-5) in Abu Dhabi during 38 months after application with almost no high infestation recorded. In contrast, control chambers experienced seasonal variations during this period, with significant proportion of high infestation levels (≥ 10) during the first months of evaluation. Dust and residues appeared to cause a decrease in the efficacy after 31 months of paint application. Treatments of sewer chambers with insecticide paints provided long-lasting control of peridomestic cockroach species (*Blatta orientalis* and *Periplaneta americana*) in two temperate and high temperature settings like Spain and the United Arab Emirates.

Key words Paint, cockroach, sewer, control