

THE EFFICACY OF IMIDACLOPRID GEL AT VARIOUS RATES AGAINST GERMAN COCKROACH (BLATTODEA: BLATTELLIDAE)

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Imidacloprid belongs to a new group of insecticides, the chlorinated nicotine derivatives. It has been shown to have activity against a range of pests including termites, aphids, fleas, beetles and thrips.

A gel formulation has been developed for use against cockroaches and this study examined the efficacy of a number of rates of this gel and compared them to a standard hydramethylnon gel.

The gels used in this study were Bayer Imidacloprid gel (2.15% ai) and Maxforce hydramethylnon gel (1.65% ai).

Field trials were carried out in Sydney, Australia in domestic properties which had high infestations of German cockroach, *Blattella germanica* (L). The gels were applied using Speciality Products gel guns fitted with metal nozzles.

There were twelve properties per treatment and pre and post treatment population assessments were made using sticky traps. Untreated (control) properties were monitored during the course of the study.

All gels were applied by trained pest control operators at the rate of two spots of gel per m². The surface area measurement was based on the surface area of cupboard or appliance, not floor area. Three rates of imidacloprid were tested, these rates were; low (0.03 g per spot), medium (0.1 g per spot), and high (0.25 g per spot). The rate was achieved by varying the spot size. Hydramethylnon was applied at the high rate (0.25 g per spot) as a standard and comparison.

The trial was commenced in summer when populations were high. After the pre-treatment count the population was monitored at 1 week, 1 month and 2 months after gel application.

Both imidacloprid at the high rate and hydramethylnon achieved good population reductions at 1 week post treatment (82.6% and 76.4% respectively). The medium and low rates of imidacloprid both achieved around 65% reduction at this time.

At 2 months post treatment the populations in the properties treated with imidacloprid high rate had been almost eliminated (98.6% reduction). A similar rate of hydramethylnon gave 87.6% reduction. Good control was achieved in properties treated with medium and low rates of imidacloprid (91.7% and 82.7% reduction, respectively).

The numbers of cockroaches in untreated properties remained fairly stable throughout the study.

This study demonstrated that an imidacloprid gel can give good control equivalent to the hydramethylnon standard under difficult field conditions.