

EFFICACY of MAXFORCE GOLD COCKROACH BAIT against GERMAN COCKROACH: ASSESSMENT of PRIMARY and SECONDARY KILL

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Key words fipronil *Blattella germanica* lab bioassay gel formulation cascade effect

Laboratory trials were done describing the primary and secondary kill of *Blattella germanica* (L.) in response to MaxForce Gold, a new 0.03% AI fipronil-based cockroach bait. In bioassays measuring primary kill, MaxForce Gold at 0.1 g product/m² caused ca. 90% mortality (14 DAT) of adult males and females in all tests; this level of activity was comparable to or superior to that observed with labelled rates of the commercial standards Goliath Gel (0.05% fipronil), Blattanex Ultra (2.15% imidacloprid), MaxForce Ultra (2.15% hydramethylnon), and Avert (0.05% abamectin). Mortality to nymphs in response to MaxForce Gold averaged 86% in all tests, compared to that observed in response to Goliath Gel (82%), hydramethylnon (99%), abamectin (76%) and imidacloprid (71%). Overnight kill (i.e., mortality at 1 DAT) observed in response to MaxForce Gold was equal to that observed with Goliath Gel, and superior to that observed with abamectin, imidacloprid, and hydramethylnon.

Secondary kill was assessed using two different bioassays. With the first bioassay, all unconsumed bait and cockroaches (living and dead) from the original experiment were removed from the 1 m² arenas, and the arenas reinfested with additional roaches. Mortality of the second infestation (i.e., cockroaches killed by contacting AI remaining in the arena) in response to MaxForce Gold averaged 40%, which compared favorably to that observed in response to Goliath Gel (49%) and hydramethylnon (45%). In contrast, minimal secondary kill was observed in response to abamectin (16%) and imidacloprid (13%).

In the second secondary kill bioassay, new arenas infested with adult and immature cockroaches were treated by introducing ten poisoned cockroaches from the original primary kill bioassay. Consumption of cockroaches previously poisoned by MaxForce Gold caused 46% mortality in the new arenas. This level of secondary kill was comparable to that observed in response to Goliath Gel (46%), but secondary kill in response to hydramethylnon, abamectin, and imidacloprid was only 28%, 6%, and 8% respectively.