

COMPARATIVE EVALUATION OF GEL BAITS PALATABILITY AGAINST *BLATTELLA GERMANICA*

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Abstract The control of *Blattella germanica* represents a major challenge for Brazilian PCOs (Pest Control Operators), due to their great capacity for reproduction and dispersal on tropical weather environments. Several gel bait insecticides have been developed and sold in Brazil, during the past few years, from a wide amount of multinational and local manufacturers. Although the active ingredient is a key component of baits, the food matrix is also a fundamental part of a product and it may vary from manufacturer to manufacturer due to the alimentary components used. The quality of the bait food matrix is directly related to its performance on the most challenging situations, such as kitchens and food processing areas, especially when competing with other food sources. The aim of this study was to compare the palatability of 9 distinct gel baits against a new product on Brazilian market – Advion Cockroach Gel Bait® (Indoxacarb 0.6%) – when offered to a population of *Blattella germanica*. The products tested against the Indoxacarb 0.6% bait, named here as P1, were: P2: a Hydramethylnon (2%) gel bait, P3: a Hydramethylnon (2%) gel bait, P4: a Fipronil (0.05%) gel bait, P5: a Fipronil (0.05%) gel bait, P6: a Imidacloprid (2.15%) gel bait, P7: a Imidacloprid (2.15%) gel bait, P8: a Imidacloprid (2.15%) gel bait, P9: a Imidacloprid (2.15%) gel bait and P10: a Indoxacarb (0.6%) gel bait, and all of them were present at Brazilian market by the time the trials were made. Ten repetitions were made for each P1 x Other Product trial. In an arena (33cm length, 22cm width, 10cm height) containing 30 individuals of *Blattella germanica* – 10 male, 10 female and 10 nymphs, fasted for 24 hours before the trials – 0.5g of P1 and 0.5g of other gel bait were offered simultaneously for 2 hours. After this period, both remaining baits were weighted on a high precision balance. P1 consumption was: 92.30% higher than P2, 233.33% higher than P3, 1000% higher than P4, 43.75% higher than P5, 62.5% higher than P6, 100% higher than P7, 300% higher than P8, 240% higher than P9 and 375% higher than P10. Results showed that P1 has superior palatability when compared to all its competitors. The obtained information is valuable when designing an effective cockroach control program where a palatable gel bait formulation is required.

