

## **EFFECTIVENESS ASSESSMENT OF IMIDACLOPRID 21% + BETACYFLUTHRIN 10.5% TO CONTROL *BLATTELLA GERMANICA* (BLATTODEA, BLATTELLIDAE) POPULATIONS PYRETHROID RESISTANT**

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*Blattella germanica* is considered one of the main pests found in commercial shops mainly foodstuff. Excessive use of insecticides, flaws in the applications of pyrethroid group insecticides, and failure on rotation of chemical groups, result in selection of resistant cockroaches populations, which is considered complicate to control. With this issue it was performed a test to verify the effectiveness and the knockdown effect of Imidacloprid 21% + betacyfluthrin 10.5% in control of resistant populations of *B. germanica* in laboratory conditions. The experiment was conducted during the month of November 2010. The environment temperature was 28°C +2, relative humidity 75 + 5% and photoperiod of 12 hours. In the experiment it was used the following treatments: Premise® (Imidacloprid 20%) dose of 21 mg ia/m<sup>2</sup>, Response® (Betacyfluthrin 1.25%) dose of 10.5 mg and ia/m<sup>2</sup> Temprid® SC (Imidacloprid 21% + Betacyfluthrin 10.5%) at a dose of 21 mg + 10.5 ia/m<sup>2</sup> respectively, which were applied on smooth tile surfaces, and after drying, the surfaces were infested with cockroaches. For each treatment four replicates were used with a total of 40 specimens. Cockroaches were exposed for 20 minutes on the surface, and during the exposure period knockdown effect was quantified each 5 minutes. After the exposure period, cockroaches were kept in a contamination free environment with available food and water. The evaluation of efficacy was performed 24 hours after exposure on treated surfaces. As a result of the evaluation of treatment efficacy only 21% Imidacloprid + Betacyfluthrin 10.5% achieved 100% control versus 20% Imidacloprid 7.5% and 1.25% Betacyfluthrin with 47.5%. So Imidacloprid 21% + 10.5% Betacyfluthrin is recommended to control populations of *B. germanica* resistant to pyrethroids.

**Key Words** Resistant cockroaches, environmental control, chemical rotation, Temprid® SC.