

## EVALUATION OF THE STABILITY OF HIDROXICUMARINE BROMADIOLONE FORMULATED AS PELLET AFTER APPLICATION IN CLOSED ENVIRONMENT

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For indoor control of *Rattus rattus* it is recommended the use of rodenticide baits formulated as pellets containing different active ingredients, among which, the bromadiolone. In practice, the packs containing pellet formulations are partially opened and placed in the indoor buildings until their ingestion by the rodents. Once opened the packs no information on the validity of the product is available. In this study we assess the chemical stability of bromadiolone during 10 weeks. Partially opened packs were placed in glass jars covered with mosquito screen, in laboratory, subject to natural temperature fluctuations. During the period of exposure the minimum temperature ranged between 15°C and 20°C and the maximum between 26°C and 34°C. Weekly 3 packs were withdrawn from the bottles and samples were subjected to extraction with 25 mL of methanol with 1% hydrochloric acid 1M for 1 h at 30°C under ultrasonic agitation (3 cycles of 10 minutes each) and submitted to analysis by high performance liquid chromatography (HPLC) for the quantification of bromadiolone. The analytical procedure showed a recovery rate for bromadiolone of 70%. The results after 10 weeks of exposure showed that no decay of bromadiolone has occurred during the period studied, compared with the analysis of the samples of no-exposed pellet formulation. The fact that the kind of formulations used in indoor environments where temperature variations are less pronounced, possibly favors the maintenance of the stability of the active ingredient, which is economically advantageous the for a longer action of the product, but can be an important factor of environmental contamination.

**Key Words** Hydroxycumarin, rodenticides, environmental contamination.

Support from FAPESP No. 05/53829-6