

## Effectiveness of layer treated wheat with deltamethrin against the lesser grain borer and the granary weevil

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### Abstract

In this research, field application rate (2 mg/kg wheat) of K-Obiol<sup>®</sup>25 EC (Deltamethrin 25 g/l + Piperonyl butoxide 250g/l) mixed with wheat were evaluated against adult stage of *Rhyzopertha dominica* and *Sitophilus granarius*. Experimental grain columns were composed of 6 pieces of PVC tubes of 70 x 100 x 2 mm dimensions. PVC tubes were connected via duct tape, bottom was closed with a PVC cap and top was covered with #50-wire mesh. Grain at the height of the top 10, 20 and 30 cm were treated with K-Obiol<sup>®</sup>25 while the rest of the column contained untreated grain. Test insects composed of 200 adults at 0-4 week old for each species per experimental column were released in to the column from the top. Following the exposure periods of 7, 14 and 21 days, each section was detached from the column and dead and alive insects were counted for each tube. Each experiments repeated four times. *S. granarius* did not move down through the grain column in both treated and untreated columns. Most of the dead *S. granarius* adults was determined in the top 2 sections in the treated grain columns. *R. dominica* adults moved down through the grain in control columns and the movement rate increased with the exposure periods. In the treated columns most of the dead *R. dominica* adults were found in top 2 sections of the grain column.

Keywords: *Rhyzopertha dominica*, *Sitophilus granaries*, deltamethrin, layer treatment