

**Title** Activity of spinosad against three stored-product beetle species on four grain commodities  
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#### **Abstract**

Laboratory bioassays were carried out to evaluate the insecticidal effect of four spinosad doses; 0.01, 0.1, 0.5 and 1 ppm against adults of *Rhyzopertha dominica* (F.) and *Sitophilus oryzae* (L.) as well as adults and larvae of *Tribolium confusum* Jacquelin du Val on four grain commodities – wheat, corn, rice and barley. The bioassays were carried out at 25 °C and 65% r.h., and mortality was recorded after 7 d, 14 d and 21 d exposure of the species on the treated grains. The progeny production for *R. dominica* and *S. oryzae* was also recorded 65 d later. Mortality was extremely high for *R. dominica* on all commodities tested even with the lowest spinosad dose. For the remainder species, mortality was generally increased with the increase of dose rate, whereas it was generally lower on maize than the other commodities. Progeny production was highly suppressed in *R. dominica* irrespective of the dose rate or commodity, but high progeny production was recorded in the case of *S. oryzae* in all commodities, especially at the lowest spinosad rates. The current results indicate that spinosad can be used with success against stored-product insects, but several parameters should be taken into account, such as the target species and the commodity.