

Title Microencapsulated formulations of chlorpyrifos as possible grain protectants.
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Abstract

The efficacy of two new microencapsulated formulations of chlorpyrifos against *Sitophilus oryzae*, *Rhyzopertha dominica*, *Tribolium castaneum* and *Plodia interpunctella* was studied under laboratory conditions. Master 25 and Master Quick at 10 and 20 ml/t were mixed with whole wheat grain as food. Master 25 resulted in the complete mortality of *S. oryzae* and *T. castaneum* adults at a concentration of 10 ml/t. A concentration of 20 ml/t was necessary to obtain 100% mortality in *P. interpunctella* larvae. Against *R. dominica*, Master 25 was not sufficiently effective at either rate. On the other hand, Master Quick resulted in 93 and 100% mortality of *R. dominica* adults at 10 and 20 ml/t, respectively, and 100% mortality of the other insects at 10 ml/t. Two months after treatment, the activity of Master 25 at 10 ml/t strongly decreased; at 20 ml/t, it was still highly active against *S. oryzae*, less active against *T. castaneum* and completely ineffective against *R. dominica*. On the other hand, Master Quick at 20 ml/t showed high activity against the insects, including *R. dominica*.