EFFECT OF DIFFERENT FUMIGATIONS ON RESISTANCE OF
CRYPTOLESTES FERRUGINEUS TO PHOSPHINE

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ABSTRACT

Development of resistance to phosphine by Cryptolestes ferrugineus is regarded as a major problem in stored grain in China. Innovations are needed to help in controlling this high resistant insect. Three different CO₂ concentrations of 10%, 20% and 30% CO₂ and three different concentrations of PH₃ namely, 200ppm, 500ppm and 1000ppm, were combined to test the response of the resistant strains of Cryptolestes ferrugineus (resistance factor to phosphine is over 220) for a 14 days exposure in the laboratory. Tests were carried out by fumigations using 200ppm PH₃ for 7 days and then at 500ppm PH₃ for 7 days, at 200ppm PH₃ for 7 days and at 1000ppm PH₃ for 7 days; then fumigations at 500ppm PH₃ for 7 days and at 1000ppm PH₃ for 7 days were tested. Results were compared to find the best way, and practice to control the pest in a large warehouse of Luzhou State Grain Storage.