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## **EFFECT OF DIFFERENT FUMIGATIONS ON RESISTANCE OF *CRYPTOLESTESFERRUGINEUS* 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 CO<sub>2</sub> concentrations of 10%, 20% and 30% CO<sub>2</sub> and three different concentrations of PH<sub>3</sub> 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 PH<sub>3</sub> for 7 days and then at 500ppm PH<sub>3</sub> for 7 days, at 200ppm PH<sub>3</sub> for 7 days and at 1000ppm PH<sub>3</sub> for 7 days; then fumigations at 500ppm PH<sub>3</sub> for 7 days and at 1000ppm PH<sub>3</sub> 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.