

Title Efficacy against resistant strains of insects of recirculated phosphine fumigation of paddy rice held under PVC sheeting.

Authors Yang, L. D., Yang, Z. L., Jiang, T. K., Qin, Z. G., Yang, L. D., Deng, G., Wu, X. and Yan, X. P.

Citation Advances in stored product protection. Proceedings of the 8th International Working Conference on Stored Product Protection, York, UK, 22-26 July 2002 (2003); 841-845

Abstract

Recirculated phosphine fumigation was carried out in two bulks of rice with volumes of 1458 m³. A split application technique for insect control was evaluated and compared with a single application. When a single application was used, the phosphine concentration was reduced from 400 ppm to 100 ppm within 14 days, whereas with the split application technique (at the same total application rate), the phosphine concentration remained at approximately 100 ppm after 28 days. Recirculated fumigation under film resulted in the complete control of the adult and immature stages of the resistant strains of rice weevil (*Sitophilus oryzae*), red flour beetle (*Tribolium castaneum*) and lesser grain borer (*Rhyzopertha dominica*). The residues of phosphine on rice were very low (0.0019-0.0037 ppm).