

THE RESEARCH ON PADDY TREATED BY HIGH-FREQUENCY ELECTRIC WAVES (MICROWAVE) PRESERVATION METHODS FOR PREVENTING RICE WEEVILS RE-INFECTION

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Summary

In order to select the preservation method for preventing rice weevils reinfection in paddy after MW treatment, the two factors experiment was designed in a completely randomized with three replications. Factor A: 3 types of paddy (no MW treatment, MW treatment and infesting with 20 adults rice weevils per 1 kg of paddy then MW treatment); Factor B: 3 preservation methods (paddy without bagged, bagged by PP bags and bagged by plastic bags). The experimental results showed that paddy treated by MW bagged with plastic bags completely resistant rice weevils reinfection. Paddy moisture content and amylose content in all experiments were increased in proportion to the storage time. The amylose content and moisture content of paddy were observed during storage duration, highest amylose and moisture content were defined in experiment that paddy storage without bagged, the secondly is the paddy were storage with PP bagged, and the lowest in the experiment paddy were bagged by plastic bags. The ratio of milled rice, the percentage of whole grain, the head rice recovery, the protein content and quality of the cooked rice were decreased during the storage time. In experiment paddy storage without bagged, all quality characteristics were strongest decreased, followed by paddy preserved by PP bags and the highest quality was observed in the plastic bags preservation. The plastic bags preservation was selected to preserve paddy treated by MW.

Keywords: Rice weevils, Sitophilus oryzae Linnaeus, preservation method, reinfection, microwave.