

The impact of age on the breeding performance of female rice-field rats in West Java

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Abstract. The reproductive performance of rodent pest populations is partially determined by the age composition. The rice-field rat (*Rattus argentiventer*) is the major pest rodent in lowland irrigated rice fields in Indonesia. Their populations have pronounced intra-annual fluctuations due to the strong association between female breeding performance and the stage of the rice crop. We collected data from 1995 to 1998 in Sukamandi, West Java and estimated the age of rats based on the dry weight of their eye lenses. The reproductive status of rice-field rats was assessed by necropsy. The age composition fluctuated during the planting seasons. Recruitment of young occurred twice a year—once in the dry season and once in the wet season. The number of embryos per litter in rats 5–8 months old was higher than in younger and older rats. Rat control may be particularly efficient if conducted at the tillering stage of the rice crop—before reproduction commences and when there is a large cohort of medium-aged rats with high reproductive potential.