

POPULATION DISTRIBUTION OF THE FIELD RATS (*Rattus argentiventer*) AND THE LEVEL OF DAMAGE ON PLANTS

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ABSTRACT

One of the pests that attack rice in Indonesia is the field rat. The highest damage intensity that can result in crop failure is caused by a high population of rats. Rats like dirty places so they will nest around dirty irrigation and bunds. Rats can move as far as 30-200m if there is a sufficient food source and will move as far as 700m to find food sources. The purpose of this study was to determine the direction of rat movement in relationship to the availability of food sources and habitat as well as to examine the level of damage caused by rats. The research was conducted from January 2023 to April 2023 in Pleret sub-district. This research is a descriptive and exploratory study. The 1000m² TBS was installed in the middle of the 225ha observation area. Field rats were trapped using a TBS (Trap Barrier System). The damage in TBS was observed using a diagonal sampling method. Damage outside TBS was observed using the line transect method according to the 4 cardinal directions with a distance of 250m, 500m, and 750m from TBS. Purposive sampling was used to count active holes/active nests. Locations of active holes were mapped using GPS. Rats that were caught showed fluctuating results, the highest catch was at the rice aged of 12 weeks after planting. There was a rice plant damage in the TBS occurred the rice enters 12 weeks after planting. There is no damage on the rice plants around the TBS. In addition to rice crops, rats also attacked corn plant and sugarcane crops which cause heavy damage to these crops. Rats made 157 active holes within observation area 225m. Rats make nests in rice field bunds, irrigation embankments, and vacant land.

Keywords: rats, plant damage, habitat