

Investigation on the response of rhizosphere microbiota to insecticide application in rice production system

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ABSTRACT

In modern agriculture application of pesticides which plays a pivotal role in agricultural fields is an unnecessary evil for non-target microorganisms in rhizosphere. A field experiment was carried out to determine the effect of different insecticides namely triflumezopyrim, flubendiamide, thiamethoxam, cartap hydrochloride, pymetrozine and acephate on soil microflora in rice ecosystem during *kharif*, 2023. Experimental results showed that cartap hydrochloride showed stimulatory effect on bacterial population with an increase of 28.33 %, whereas the other insecticides showed negative effect. Pymetrozine showed a 14.43 % reduction in bacterial population when compared to check followed by thiamethoxam (14.22) and acephate (12.14). Similarly, cartap hydrochloride recorded a 21.18 % increase in fungal population, whereas other insecticides showed inhibitory effect. Pymetrozine recorded 30.82 % decrease in fungal population in comparison to untreated check followed by thiamethoxam (29.16).

Key Words: *Bacteria, Fungi, Insecticide, Rice and Rhizosphere microbiota.*