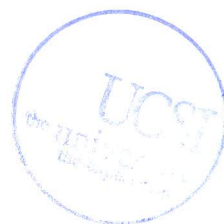


# **ANTIMICROBIAL EFFECTS OF PESTICIDES**

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## ABSTRACT

This study was to study the antimicrobial effects of 10 different pesticides against 6 types of foodborne microorganisms. These pesticides were chosen based on the applicability on plantation and vegetation. In this study, disc diffusion assay was used for antimicrobial effects tests and also for the minimum inhibitory concentration (MIC) tests. Some of the pesticides were capable to suppress the growth of foodborne microorganisms and showed the inhibition clearance zones. CH Mancozeb had shown the greatest antimicrobial effects among all the 10 tested pesticides at both 0.5 g / ml and recommended working concentration. On the other hand, Propineb 35WP had shown the lowest antimicrobial effects. pH, solubility, and chemical ingredients of pesticides are among the factors that would affect their antimicrobial effects. Results showed that most of the foodborne microorganisms were less resistant towards pesticides of high pH. MIC test was only carried out using CH Mancozeb against *Saccharomyces cerevisiae*. The MIC of CH Mancozeb against *Sacchchromyces cervisea* was  $5 \times 10^{-4}$  g / ml. In conclusion, most of the pesticides were not able to inhibit foodborne microorganisms' growth at the recommended working concentration using disc diffusion assay except CH Mancozeb, hence they might not be able to prevent foodborne microorganism' growth in plantation. However, as this is just a preliminary study, further analyses are required to confirm the results.