

EFFICACY OF SOME CHEMICAL INSECTICIDES IN COMBINATION WITH SUITABLE WETTING AGENTS AGAINST MANGO MEALYBUG

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Executive Summary

The experiment was conducted at Entomology laboratory of Sher-e-Bangla Agricultural University with the following treatments to understand the efficacy of different insecticidal combination with wetting agents against nymph and adult of devastating mango mealybug. The treatments consist of T₁ = Nitro 505 EC + Petroleum oil, T₂ = Nitro 505 EC + Ethyl alcohol, T₃ = Nitro 505 EC + Detergent, T₄ = Capture 75 WG + Petroleum oil, T₅ = Capture 75 WG + Ethyl alcohol, T₆ = Capture 75 WG + Detergent, T₇ = Imitaf 20 SL + Petroleum oil, T₈ = Imitaf 20 SL + Ethyl alcohol, T₉ = Imitaf 20 SL + Detergent. The study examined the mortality rate of mealybugs by treating those combinations. Treatment T₈ consistently showed the highest nymphal mortality rates across different application times, significantly outperforming other treatments. Conversely, T₆ exhibited the lowest control of first instar nymphs, with notably fewer nymphs controlled after 48 hours compared to other treatments. T₃ and T₉ also showed significant results in nymphal mortality, gradually increasing over time. While T₂ initially showed high nymphal mortality, it revealed statistically similar results to T₁, T₅, T₄, T₇, and T₈. T₉ performed the poorest, with the lowest control of second instar nymphs after 48 hours, while T₃ and T₆ also demonstrated lower efficacy. Regarding adult mealybugs, mortality rates were lower compared to nymphs, attributed to the development of a protective waxy layer. Treatment T₅ showed the highest control of adult mealybugs, followed by T₂, with statistically significant differences observed. T₆ exhibited the lowest control, significantly different from T₅. Despite slight increases over time, all treatments resulted in significantly lower numbers of adult mealybugs compared to the initial 12-hour application period. Overall, the study highlights the differential efficacy of treatments in controlling mealybug nymphs and adults, with T₈ showing consistent effectiveness against nymphs and T₅ being most effective against adult mealybugs.

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