

# Comparative Toxicity of Pyriproxyfen and Thiamethoxam Against the Sweetpotato Whitefly, *Bemisia tabaci* (Hemiptera: Aleyrodidae)

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These studies were carried out to investigate the comparative toxicities of JHA, pyriproxyfen and thianicotinoid, thiamethoxam against the sweet potato whitefly, *Bemisia tabaci* biotype B. These insecticides were evaluated in terms of insecticidal activities on different stages, sublethal effect on progeny formation, systemic effect, residual effect under the laboratory, and control efficacy in the greenhouse. Ovicidal activity of pyriproxyfen was about 8-fold higher than that of thiamethoxam at the recommended concentration. Both insecticides showed over 85% nymphal mortalities on 3rd instars after application. Thiamethoxam showed excellent activity against adults, but relatively pyriproxyfen was lower. Two compounds treated in pupae affected longevity and fecundity of surviving adult significantly, but viability of egg laid was not affected. These two insecticides to *B. tabaci* showed residual effects and particularly, thiamethoxam was maintained high control effect with over 90% up to 7 days after treatment. Thiamethoxam showed highly root up-take systemic effect on nymphs and adults of *B. tabaci*. However, systemic effect of pyriproxyfen was middle. In the control efficacy test on *B. tabaci*, the control values of pyriproxyfen and thiametham up to 14 days after treatment were 92.0, 99.3%, respectively.