

Bioassay of karate and match insecticides delivered on the polyelectrolyte in beet army worm *Spodoptera exigua* hubn and tobacco whitefly *Bemisia tabaci* genn



Bassim AL-Asadi, Ala'a Jabbar and Athir Haddad

University of Basrah, Iraq

Abstract

An experiment was conducted to prepare Karate pesticide (K) and growth regulator Match (M) carried by poly electrolyte (P). The two compounds were evaluated biologically on *Spodoptera exigua* Hubn larvae Beet Army Worm. They were used at Khor Al-Zubair tomato farms (Basrah/Iraq) to determine their efficiency and adult Tobacco Whitefly insect *Bemisia tabaci* Genn. The field's experiments determine the high efficiency of the two pesticides (P+K,M) in declining the infection of Beet Army Worm *S. exigua* the decline were for the two and third concentration (P2+K3,M1.2) 49 and 42% respectively during the fifth week from the application in comparison with Karate and Match(K,M) with no polymer 46 & 44% respectively at the same week of application. The study also showed that first and second concentration of the two pesticides carried by poly electrolyte (P+K1,K3) had reduced the population size of adult Tobacco Whitefly insect *B. tabaci* from 20.7 and 23.9 insect/leaf to 19.9 and 19.2 insect/leaf for the first and second concentration of Karate(K1,K2) treatments after 35 days from application. For some plant characteristics, there was an increase in planting percent from 28.05% to 76.72% respectively of the first concentration of the polymer (P+K, M) for the two pesticides in comparison with 38.67% and 42.32% respectively for Karate and Match (K, M) without polymer. Plant length was increased to the second concentration to both pesticides 28.6 & 28.1 cm respectively in comparison with 18.43 and 22.53 cm respectively to both pesticides without polymer. The increase was also associated with green and dry weight.

Biography

Athir Haddad, 51 y o, Professor working at University of Basrah. He received his Ph.D. degree in Polymer Chemistry in 2002. He has focused his research on the Preparation of Hydrogel polymers for soil stabilizer, slow released fertilizers and Polymer drug delivery. He joined the Professor Mauro Angelitti group, Italy in 2006. From 2008 - 9, he was focus his research on the Preparation of polymers via ROP, ATRP, RAFT and Click Chemistry with Professor Andrew Whittaker (University of Queensland, Australia).



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