

Twelve isolates of *B. thuringiensis* and three of *M. anisopliae* were isolated from the soil and cadavers obtained from diverse geographical regions of Kenya. Pathogenicity of fifteen isolates of *B. thuringiensis* and fourteen of *M. anisopliae* to *P. xylostella* was determined in the laboratory. Mortality caused by *B. thuringiensis* to the first instar larvae varied between 6 and 100%. Five isolates caused mortality of 100% in the first day after inoculation. Lethal time for the most virulent isolate was 0.5 days and 8.3 days for the less virulent. There were also differences in the pathogenicity of isolates of *M. anisopliae* against *P. xylostella* larvae. Mortality ranged from 40-100%. Two isolates, ICIPE 20 and KZ-4 were the most pathogenic causing 100% within 5 days. Two isolates 30 was the less pathogenic as it caused mortality of 40% in 8 days. Isolate ICIPE 20 had the shortest LT50 of 2.3 days and ICIPE 30 the longest of 8.1 days.

Dose-mortality response against *P. xylostella* larvae was determined for four isolates of *B. thuringiensis* (KF-2, MR-1, NA-2, NA-3 and Px-K3) and two of *M. anisopliae* (ICIPE 20 and KZI-4). Mortality was dose dependent for the two entomopathogens. Lethal dose for the most pathogenic *B. thuringiensis* isolate was 1.2×10^5 and 5.1×10^5 spores ml^{-1} for the less pathogenic isolate. Lethal doses for *M. anisopliae* isolates ICIPE 20 and KZ-4 were 2.3×10^5 conidia ml^{-1} , and 3.9×10^6 conidia ml^{-1} , respectively. Different larvae stages of *P. xylostella* exposed to both entomopathogens varied in their susceptibility to infection. Younger instars were more susceptible than the older larval instars. Lethal dose for the most susceptible stage was 7.1×10^4 spores ml^{-1} and 2.7×10^6 spores ml^{-1} for the less susceptible stage. Lethal dose for second and third instar larvae treated with *M. anisopliae* were 8.9×10^5 and 3.2×10^6 conidia ml^{-1} , respectively

Good control *P. xylostella* larvae with *B. thuringiensis*, isolate Px-K3 and *M. anisopliae*, isolate ICIPE 20 was achieved in the green house experiment that compared favourably with one chemical pesticide, Lambda cyhalothrin (Karate®). Isolate of *B. thuringiensis*, Px-K3 recorded the highest mortality of 96% while (Karate ®) exhibited the lowest mortality of 62% at eight days post treatment. The results obtained in this study suggest a potential for the deployment of these entomopathogens in the management of *P. xylostella*.