

**THE EFFICACY OF BACULOVIRUS BIO-PESTICIDES IN THE MANAGEMENT OF BEET ARMYWORM, SPODOPTERA EXIGUA (HÜBNER) IN SCALLION, ALLIUM FISTULOSUM L. IN JAMAICA**

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**Abstract:** *Spodoptera exigua* (Lepidoptera; Noctuidae), Beet Army Worm is a polyphagous pest, originated in South Asia and now has a worldwide distribution. It has been reported from Jamaica from as far back as the 1970's and since 2009 has caused economic damage to *Allium* spp. onion and scallion during flare-ups and outbreaks. Management for this pest includes monitoring with pheromone traps, cultural practices and chemical control, but lacks a biological control component. The viral insecticide SPEXIT<sup>®</sup> SC a baculovirus, nucleopolyhedrovirus (SeNPV) specific for *Spodoptera exigua* was sourced from Andermatt Biocontrol in Switzerland through linkages forged with Source Farm/USAID programme and a US based Symbiont Biological Pest Management Co. The five week trial was conducted by the Research and Development Division in collaboration with RADA on an existing scallion farm in New Forest, South Manchester in October-November 2017. Twelve plots were established in a completely randomized block design with four treatments replicated three times which included Spexit at 100 and 200 ml/Ha, *Bacillus thuringiensis kurstaki*, and no treatment control. The trial was compromised in the third week by the farmer treating the field with an unregistered insecticide. Despite this, it was observed that the pest population was reduced by 96.70 - 99% after two weeks in plots with the baculovirus/insecticide and Bt/insecticide treatments compared to the insecticide treatment alone in the control plots which went up by 36-100%. The biocides/insecticide combination shows potential for increasing the effectiveness of the Beet armyworm management programme. A repeat of this trial is to be conducted.

**Keywords:** Beet Armyworm, *Spodoptera exigua*, Nucleopolyhedrovirus, Biological Control