

Fourth Article: Shared with other inside the specialization - Published in Specialized International Journal

| | |
|-----------------------|---|
| Article Title | Impact of Spinosad and Nucleopolyhedrovirus Alone and In Combination against the Cotton Leaf worm <i>Spodopteralittoralis</i> under laboratory. |
| Participants | A. A. El-Helaly* and H. M. El-Bendary** * Faculty of Agriculture, Cairo University ** Faculty of Agriculture, Fayoum University |
| Article status | Shared with others inside the specialization - Published in Specialized International Journal |
| The Journal | <i>Applied Science Reports. 2 (1): 17-21.</i> |

SUMMARY: The toxicity of the two biorational insecticides, Spinosad and NPVs against neonates of *Spodopteralittoralis* (Boisduval) (Lepidoptera: Noctuidae) was tested under laboratory conditions in order to determine the competitive efficacy. The ability of Spinosad to protect the SpliNPV from Ultra Violet effects under synthetic laboratory conditions was determined, and some biological aspects of both biorational insecticides and their mixture were studied. In order to determine whether or not there is a synergetic effect when both of these biorational pesticides are added together, six different Spinosad concentrations (1, 2, 5, 10, 15 and 30 ppm) Alone and mixed with a sub-lethal concentration of SpliNPV (1×10^3) were investigated. When the Ultra Violet effect was determined, the LC₉₀ of NPVs mixed with LC10 of Spinosad, in order to investigate the ability of Spinosad in prolonging the virus activity. Sample: Department of Entomology (Virology Unit) faculty of Agriculture, Cairo university, between July 2012 and May 2013. The percent of mortality increased; it was 11.66, 19.33, 33.33, 55.00, 71.66 and 85.00 % compared with 11.66, 13.33, 15.00, 26.66, 36.66 and 63.33 % in Spinosad alone and 20.11% in NPVs treatment. It gave almost complete protection after 30

minutes of exposure to artificial ultraviolet light and gave 47 % death percentage 5 hours post-application in comparison to 2.8 % death percentage for NPVs alone treatment. The larval duration was affected with Spinosad only; pupal period and adult longevity were not affected by all tested treatments. The number of eggs laid per female and percent of hatchability were affected in Spinosad and Spinosad NPVs in combination treatments compared with that of control. These findings indicate that the biorational insecticides Spinosad and NPVs can be used in combination, thus giving promising results against the cotton leaf worm. These results suggest that Spinosad and NPVs represent an important choice to be used in integrated pest management where *littoresalis* major pest.