# THE EFFECT OF DIFFERENT NITROGEN FERTILIZER LEVELS ON FALL ARMYWORM (*Spodoptera frugiperda*) DAMAGE IN MAIZE (*Zea mays* L.)

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The fall armyworm, *Spodoptera frugiperda* (Lepidoptera: Noctuidae) is one of the most destructive pests in maize. As this pest is new to Sri Lanka, information on their behavior, biology, management options are limited locally. Increasing soil nitrogen favoured both plant growth and survival and fecundity of Fall armyworm (FAW) and thereby increase the incidence of pest damages. This experiment was conducted during *Maha* 2020/21 to determine the effects of nitrogen fertilizer on the severity of FAW damage and yield in maize. The maize variety, MI maize hybrid 3 was tested with four levels of nitrogen, 0, 150, 200, 250 kgha-1 with two pest control levels, insecticides treated and untreated. The results revealed that the interaction effects between nitrogen level and pest control level were significant ($p<0.05$) on the severity of FAW damage at 8 weeks after sowing (WAS) and percentage of cob damage. However, interaction effects were not significant ($p<0.05$) on the severity of FAW damage at 4 and 6WAS, cob damage and maize yield. Growth of maize plant both treated untreated plots were increased with increasing nitrogen dose. At 4 and 6WAS, severity indices of FAW damage were significantly high in fertilizer treated plots compared to fertilizer untreated plots. Grain yield of maize was significantly high in plots applied with nitrogen 200 kgha-1 and 250 kgha-1 during the season. It was noted that, the nitrogen fertilizer helps to minimize the impact of FAW on grain yield due to decreasing FAW damage when mature plant and increasing yield with nitrogen fertilizer. The cost benefit analysis indicated that the control of FAW obtained through the application of insecticides compensated with the use of high nitrogen fertilizer.

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