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# Implications of Fall Armyworm epidemic in Sri Lanka: A case study in Rathnapura district

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The first emergence of the Fall Armyworm (FAW; *Spodoptera frugiperda*) was reported in Sri Lanka during August 2018 and caused a substantial yield loss in maize cultivation especially in Uva, Eastern, North Central, North Western, Northern and Sabaragamuwa provinces. During the 2018/19 *Maha* season, over 50 percent of the entire maize cultivation has been infested by the pest. The objective of the study was to understand the magnitude of FAW infestation, social response and its implications in Rathnapura district in Sri Lanka. This was considered as mandatory in terms of easiness in accessibility to close supervision by the university as well as with the objective of preventing infestations reaching economically catastrophic levels. Simultaneously to the field inspection programme, a survey was conducted in January-March 2019 in 13 maize growing agriculture instructor (AI) areas in the Rathnapura district to evaluate the severity of FAW infestation with the collaboration of the Provincial Department of Agriculture, Sabaragamuwa Province. University academia, students, and field officers from Department of Agriculture were participated to the survey and all 13 divisions were covered for collecting pest incidence information. GIS data were recorded in each point of infestation together with related other information such as land extent, host plant characteristics and the type of cropping system which plays important role in forecasting the pest occurrence in the subsequent cropping season. Based on the field survey, there were no evidences reported that pest occurrence in other crops apart from maize. Moreover, even in mixed cropping systems with little number of maize plants, heavy infestation was recorded only in maize. Data analysis was done based on the primary land infestation records obtained from each AI range by using MS office Excel 2010. Amount of land extent use for maize cultivation in Rathnapura district was estimated as 292.65 ha, while 32.95ha were infected with the pest (11.3%). Kaltota, Embilipitiya, Ambawila and Thimbolketiya were the AI areas with highest infestation recorded in the Ratnapura District reporting 5%, 4.8%, 4.5% and 3.85 % infestations respectively. Throughout the study period, attention was made by the research team for minimizing livelihood damage by conducting interactive awareness programs, which were directed to proper identification and control further spread of the pest. Even though maize was cultivated comparatively lower land extent in Rathnapura, effective and organized disaster management response in Rathnapura was able to minimize the pest impact to 11.3% from total losses. Mobilization of the whole agriculture community has wider implications in effective controlling of FAW while preserve the farmer trust on agriculture policy in Sri Lanka.

**Keywords**: Fall armyworm, Maize, Rathnapura, *Spodoptera frugiperda*, Sri Lanka