ASSESSMENT OF CONTROL METHODS OF FALL ARMYWORM OF MAIZE PRODUCTION AND PERCEIVED EFFECTS ON FARMERS IN *ANURADHAPURA* DISTRICT, SRI LANKA

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Outbreaks of Fall armyworm [*Spodoptera frugiperda* (J. E. Smith)], a destructive pest of maize (*Zea mays* L.) has been reported recently in Sri Lanka and has caused serious economic impacts, especially on cultivated maize in the *Anuradhapura* district. The study was conducted to assess control methods, farmer awareness, and perceived effects of the outbreak on maize production in *Anuradhapura* district during the 2018/2019 *Maha* season. Data were collected from 100 maize growers using the two-stage purposive sampling technique. Descriptive analytical techniques, partial budgeting, and ordinal logistic regression were employed in the data analysis. The prominent (100%) information sources about the outbreak were extension officers and peer farmers. However, the majority (75%) preferred receiving information from extension officers. Prevalence of Fall armyworm was mostly detected (60%) based on morphological features. Adopted control measures include chemical (33%), cultural (20%), or a combination (28%) of those methods. Amongst the agro-chemical applicants, 55% used recommended types and 43% of them had exceeded the recommended levels. The ordinal logistic regression results revealed that adopted control measures, the month of crop establishment, family labour, and distance to crop field from home significantly affected ($p<0.05$) on the likelihood of infestation. Farmers who adopted a combination of chemical and cultural measures or only chemical measures were less likely (OR<1) for severe infestations compared to non-adopters. The infestation severity of fields established in November in 2018 was 8.9 times higher than those established in September in 2018. The estimated yield loss due to the outbreak was about 25% compared to the five-year average maize yield, whilst agro-chemical and labour costs have increased by 50% and 20%, respectively. Obtaining credit from formal institutions was the prominent (55%) coping strategy adopted by the respondents. The study suggests strengthening the capacity of formal extension service and adapting a suitable cropping calendar to minimize the effects of the Fall armyworm infestation of maize.

Keywords: *Anuradhapura*, Fall armyworm, Maize, Ordinal Logistic Regression