



Evaluating economic losses caused by fall armyworm: A preliminary study in selected areas of Anuradhapura district

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ABSTRACT

The fall armyworm (FAW) or 'sena dalambuwa' was first recorded in Sri Lanka in 2018, and very few research works were reported on its status in the country. In the 2019/20 Maha season in Anuradhapura district, this investigation was conducted in five selected small-scale maize farms. The objective of the study is to identify the economic damage caused by FAW. Field observations were conducted from the maize seed planting stage to the harvesting stage. Five sampling sites from each farm with thirty plants were selected by walking in "W" pattern in the field after leaving 4-5 outer rows. If present, the number of damaged plants, larval stages, controlling methods farmers used, and cost for each commodity was recorded. Percentage values of the damages were calculated. A control plot was maintained without applying any insecticides. Expenditures from the land preparation to harvesting and final yield (dry weight) were recorded from each farming site. FAW damage was first visible in the third week, and the pattern of damage was similar in all five farming sites. During the fifth week, 30% attack was observed in the farming sites where insecticides were applied, whereas above 80% attack was observed in the control plots. Radiant - Spinoperam 25% WG , Coragen – Chlorantraniliprole 200 g, and Silo – Diatomaceous Earth 100% WP were used against FAW by farmers. The average dry yield from the investigated sites was 1,162.2 kg/ac, and the average income was LKR 75,543. The average profit from maize farming was 31,051 LKR/ac. In the control plot, the yield was 342 kg/ac with an income of LKR 22,230, whereas the expenditure was LKR 41,900. At present current market, pesticides have the ability to control the FAW. However, considering the possibility of resistance development, the need for a biological controlling method, identifying and promoting suitable cultural and mechanical methods are essential.

Keywords: Economic damage, Maize plant damage, *Sena dalambuwa*.