

Incidence of fall armyworm, *Spodoptera frugiperda* (J.E. Smith) on potato in maize-potato crop sequence

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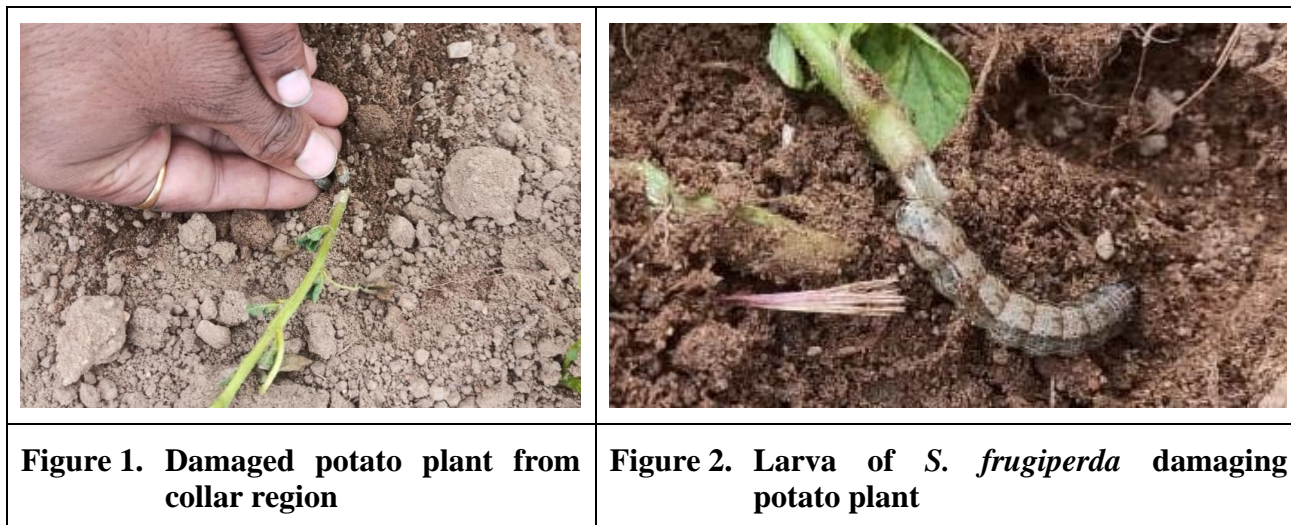
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Maize (*Zea mays*) is one of the most important crops grown for green cob in Ramgarh district of North Chota Nagpur region of Jharkhand, India. In this district, maize is usually grown round the year. The main cropping sequences followed by farmers in the district are maize-potato-cabbage, maize-cauliflower-potato-onion-cucurbits and maize-paddy-potato-cauliflower. Potato is the third major crop grown in the district after maize and paddy. Earlier on maize, stem borer, *Chilo partellus* was the major pest before the invasion of fall armyworm (FAW), *Spodoptera frugiperda* (J.E. Smith) (Noctuidae: Lepidoptera) in the region. The FAW was reported in the beginning of year 2019 on early *kharif* season-sown maize crop from the Gola block of Ramgarh District.

The incidence was continuously monitored and observations were recorded on potato from farmer's field. For the survey, five farmers' fields in Gola block of Ramgarh district were selected for the study. In each field, ten plants at 5 random locations were selected and observations on the number of plants damaged by FAW were recorded. The damage symptoms on crop were noticed in collar region of stem and roots (Figure 1 and 2). The crop damaging larvae were identified as FAW, *S. frugiperda* based on morphological characteristics (Firake *et al.*, 2019). The level of infestation ranged from 2.0 to 5.0 percent in different farmer's field. The major damage was recorded after the first irrigation on 15-day old crop where plants were observed to fall down. It was also observed that high incidence of FAW on potato crop was recorded in fields where preceding crop was maize in the crop sequence. The possible reason behind high incidence in particular fields may be left over crop residues of previous maize crop. The farmers harvested only green cobs and remaining crop residues were ploughed in the same field before potato crop sown. So, initial predisposing factor of high incidence of FAW on potato crop may be from previous sown maize crop and their left over crop residues. In the high

incidence areas of FAW, crop sequence of potato after maize should be avoided to stop the multiplication of insects from previous residue population. Further detailed investigations are needed on its biology and adaptability in local environment.



Reference

Firake, D.M., Behere, G.T., Babu, S. and Prakash, N. 2019. Fall Armyworm: Diagnosis and Management (An extension pocket book). ICAR Research Complex for NEH Region, Umiam-793 103, Meghalaya, India. 48p.