

Threats of fall armyworm *Spodoptera frugiperda* on sugarcane crop

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The Fall Armyworm, Spodoptera frugiperda, has more than 80 hosts to continue their life cycle. It is an insect which is native place to America. After reporting of first incidence in Africa during 2016, it has now already spread in more than 100 Countries within a short period of time. In India, it was first reported in Karnataka in 2018 and subsequently found in other States like Andhra Pradesh, Telangana, Tamil Nadu, Maharashtra, Bihar and Odisha. The pest mainly attacks on maize and sugarcane crop. It has caused significant damage on maize in various states of India up to 2020 and also observed in sugarcane in some parts of sugarcane growing areas. Now is the time to think about the pest which can threat to sugarcane crop that may spread on maize to sugarcane crop in the early stage of crop growth period and causes economic damage. So more care, regular monitoring and suitable management strategies is needed to prevent further spread of this pest.

Keywords: Fall Armyworm, Maize, Management, Sugarcane

THE fall armyworm (FAW) (*Spodoptera frugiperda*) is native place of tropical and subtropical zone of the America. The lepidopteron pest feeds on leaves and stems and causing major damage to economically importance crops such

as maize, rice, sorghum and sugarcane. Incidence of FAW was reported first time in 2016 from the African continent. This has subsequently spread to more than 30 African Countries causing significant damage to maize crop. In 2018,

FAW was reported mainly on maize in Maharashtra, Tamil Nadu, Andhra Pradesh, and Telangana. Further during 2019 the incidence of this pest was also reported in Bihar. First time reports of FAW occurrence on sugarcane crop are restricted to Latin



Fig. 1. Inverted Y-shaped mark on the head

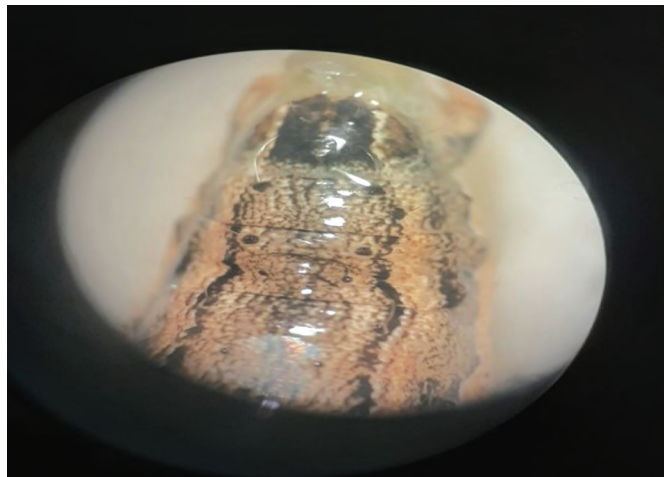


Fig. 2. Four spots arranged in square pattern at tail end



Fig. 3. Damage symptom on sugarcane

American countries. Besides it is also reported other parts of world. However, after its first appearance on maize in different states of southern India. It was also observed in sugarcane in some parts of Tamil Nadu, Maharashtra etc. We need to be vigilant for any incidence of this pest particularly in the early season to avoid population build up and severe damage. To stop further spread of the pest in sugarcane belt, the present article show how to monitoring and management with the available information.

Identification

- The larvae can be easily identified by the presence of four spots arranged in square pattern at tail end (Fig. 1).
- It has a predominant white colored inverted Y-shaped mark on the head (Fig. 2).

Damage symptom

- The younger larvae feed by scrapping the leaf surface making papery windows.
- Later on, the bigger larvae damage the central whorl leaves voraciously, causing round to oblong holes and producing a large amount of faecal matter (Fig. 3).
- In sugarcane, however, it may be appeared on the young crop having tender leaves up to 90 day crops. During this period precaution should be taken.

- Irregular holes or windows in leaves of affected plants and feeding on leaf margins were the typical symptoms.
- In some plants, nibbling and shearing off of central shoot was also observed, apparently due to damage by grown-up larvae.
- In severely affected plants, large quantity of fresh frass pellets could be seen in the whorl with mature larva visible or hidden in the whorl. Older leaves showed patches of dry frass on outer leaves.

Management strategies suggested

Monitoring

- Survey and monitoring should be taken at regular interval to monitor pest status particularly in young crop.
- Routine inspection should also be done for other favorable hosts such as maize, sorghum and paddy.
- Factory personnel are advised to create awareness among sugarcane growers to observed and report at earliest with damage symptoms.

Precaution measures

- Movement of seedlings intended for planting from infested areas should be avoided or monitored to prevent entry and dispersal of the pest in uninfested areas
- Cane transport to long distances for crushing or seed to be avoided to prevent spread.

- Movement of cane tops should also be avoided to prevent possible dispersal though the suitability of older crop.
- Earthing-up operation should be done at appropriate time to check it spreading.
- Collection and destruction of larval from infested plants at regular interval.

Curative measures

- Treatment of introduced seedlings with insecticide prophylactically or after inspection for the presence of damaging stages.
- Early application of plant products like Azadirachtin or Neem oil to prevent oviposition and larval feeding
- To manage smaller larvae, spray *Bacillus thuringiensis* var. kurstaki based formulations @ 2ml/litre of water.
- If the incidence is higher than 5 per cent on plant basis and the larvae are bigger, spray with Chlorantraniliprole 18.5 SC @ 0.4 ml/ litre or Emamectin benzoate 5 SG @ 0.4 gm /litre of water
- Insecticide application may be combined with light earthing-up and fertilizer application, if not already done.
- Earthing-up should be done to expose the pupating larvae and pupae to the action of predators.

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