First Detection Report of the Fall Armyworm *Spodoptera frugiperda* (Lepidoptra: Noctuidae) on Maize in Myanmar

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The staff of Plant Protection Division (PPD), Department of Agriculture (DOA), Myanmar were alert by the Director of PPD for the Fall armyworm to be potential infestation after getting the email from Dr. Piao, Yongfan (FAORAP) Executive Secretary of APPPC, Senior Plant Protection Officer, FAO Regional Office for Asia and Pacific on 14 August 2018. Since then different state and regional PPD staff are conducting survey for fall armyworm on various crops in their regions. The team from head office of PPD, DOA, Myanmar, conducted surveys for fall armyworm on maize in Myin Gyan Township, Myin Gyan District, Mandalay Region, on 19th - 20th December 2018 and Hinthada Township and Zalon Township, Ayeyawaddy Region on 4th - 5th January 2019 based on information reported by respective regional PPD, DOA staffs.

Within the observed maize fields, the whorls of maize plants attached with egg masses, larva and their frass, windowing and many shot holes on young plants as well as paper dolls symptoms on older leaves were found (Figure 1). Moreover, the characteristics of the observed larvae (Figure 2) were matched exactly with the characteristics of the Fall Armyworm *Spodoptera frugiperda* larvae in different literatures (Diedrich Visser et al. 2017; B.M. Prasanna et al. 2018; CABI 2018). For identification and confirmation, the egg masses and larvae were collected from the field and brought to the laboratory and reared at Fruit Fly Management Laboratory of PPD, Insein Township, Yangon, Myanmar. The larval stages and emerged adults were sorted and identified by Entomologists from PPD head office, DOA, based on external morphological characteristics using available keys and description (OEPP/EPPO 2015). Finally, we positively identified and confirmed that the pest is fall armyworm *Spodoptera frugiperda*.

Regional PPD staff from Tetkone Township, Nay Pyi Taw Region, Kyaing Ton Township, Shan State (East) and Kyun Hla Township, Sagaing Region also surveyed and sent the collected specimens as well as photos of pests to head office of PPD, DOA.

The pictures of egg masses, larvae, adults, affected leaves and plants and cobs were also sent to USDA/APHIS and USAID/DC expert as well as IITA (International Institute of Tropical Agriculture) via Ms. Swe Mon Aung, Agricultural Specialist, Foreign Agricultural Service, U.S. Department of Agriculture, U.S. Embassy, Yangon and the experts confirmed that it is fall armyworm.

Surveys for fall armyworm were conducted on maize in some selected area such as Myin Gyan Township, Myin Gyan District, Mandalay Region, on 19,20 December 2018 (N21.52012°, E 95.36713°, Altitude 51 m; N21.43389°, E 95.36043°, Altitude 53 m;

N21.433922°, E 95.36040°,Altitude 52 m; N21.44190°,E 95.34933°,Altitude 51 m; N21.44214°, E 95.34959°,Altitude 55 m; N21.43771°, E 95.32139°,Altitude 52 m, etc) and Hinthada Township on 5th January 2019 (N17.01020°,E 95.36883°, Altitude 16 m) and Zalon Township, Ayeyarwaddy Region on 5th January 2019. (N17.54686°, E 95.52667°,Altitude 22 m; N17.54687°, E 95.52666°, Altitude 4 m; N17.55443°; E 95.53080°, Altitude 2 m; N17.55442°,E 95.53081°, Altitude 2 m; N17.56038°, E 95.53791°; Altitude 12 m; N17.56079°, E 95.53775°,Altitude 7 m; N17.56343°, E 95.53880°, Altitude 3m (Figure- -3). There is high potential to be infested by FAW in all the parts of Myanmar. It is still needed to survey more to cover the whole country. So, this is the first detection report for the present of fall armyworm *Spodoptera fruigiperda* in Myanmar.



Figure 1:Damage symptoms of the fall armyworm on maize plants, observed in Myin Gyan Township, Mandalay Region on 19th and 20th December 2018 and Hinthada Township and Zalon Township, Ayeyawaddy Region in Myanmar on 4th and 5th January 2019.



Figure 2. Egg, larvae, pupa and adults of fall armyworm in Myanmar.



Figure 3: Over view map of detection of fall armyworm in Myanmar

References

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