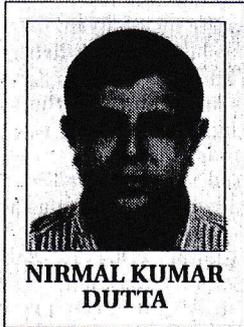


Insect management in Bangladesh



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Recently entomologists of our country in the 11th biennial conference of 'Bangladesh Entomological Society' held on 13 May at Dhaka raised concern over the increased outbreak of invasive insects in Bangladesh. The conference recommended ways and means to minimize crop loss from this menace. Invasive alien species of insects are major threats to agriculture across the globe and in particular, underdeveloped and developing countries.

They cause economic damage to crops, further, it leads to a change in cropping pattern in the area and affect agro-ecosystem and food security. According to invasive species specialist group (ISSG) module of IUCN 'A species that has established and spread or has the potential to do so outside of its natural distribution range, and which then threatens ecosystems, habitats and/or other species, potentially causing economic and/or environmental damage, or harm to human health is called invasive species'.

Rich biological diversity of Bangladesh is vulnerable to the invasion of new insects. The entry of invasive insects is increased across the globe due to the liberalization of trade and increased movement of human beings across the continents. Invasive pest species have potential to rapidly establish and spread in a new area causing major crop loss and can adversely affect food security. The exact number of invasive insect pests so far

recorded in Bangladesh and monetary values of the losses caused by these are not properly known. However, recent introduction of several invasive insect pests is causing considerable economic damage to different crops across the country.

These include the tomato leaf miner, native South America, first recorded in our country during 2016; the fall armyworm, native to tropical and sub tropical regions of America, first recorded during 2018 and the rugose spiraling whitefly, native to central America, first recorded in our country during 2019. Moreover, two other invasive insects viz. coconut eriophyid mite, first recorded in 2004 and papaya mealybug, first recorded during 2009, are still causing substantial damage to crops in our country.

Farmers are facing problems because most of these pests are difficult to control with chemical pesticides. It is to be noted here that Bangladesh Agricultural Research Institute (BARI) has already developed bio-rational based management technologies against the above mentioned pests. These technologies should be disseminated to the farmers' field in wider scale across the country so that farmers can minimize loss of their crops.

Additionally, some pests have been very recently recorded as new in Bangladesh. It is not clear whether they invaded from other country to our country or existed here without notice. Some of these are: bagworm--a pest of areca nut and coconut--recorded during 2017; guava shoot borer--recorded during 2020; coconut spike moth, *Tirathaba rufivena*--recorded during 2020 as a pest of beetle nut; litchi looper--recorded during 2020; litchi stink bug (*Tessaratomia javanica*)- recorded during 2020 and Asian mango flower beetle--recorded during 2021 as a pest of brinjal.

Attack of these pests in most cases is sporadic. However, given their nature of damage, it is apprehended that, these pests might pose serious threat to our agriculture in near future. The present agriculture friendly government of Bangladesh is fully aware of the situation and implementing various programs to this end. In the section 3.3.13 of our National Agricultural Policy 2018, it is emphasized to undertake research and strengthen monitoring activities for prevention of cross border transmission of pests and diseases.

Due to changes in climate, increase in international trade, modernization in agriculture- changes in cropping patterns/ agro-ecosystem and several other factors, Bangladesh is vulnerable to attack of invasive pests. Invasive species are an international problem, so their efficient and effective management requires a comprehensive approach and coordinated action from both national and international levels. Strict implementation of quarantine regulations, and early detection and taxonomic identification of invasive pests are very much important.

Insect pest surveillance and monitoring program across different agro-ecological zones should be strengthened. Research for identifying invaded insects, assessing their economic damage and developing bio-pesticide based sustainable management packages need to be prioritized. Moreover, developing short term and long term national and regional strategy for efficient management of invasive pests, and enhancing global and regional coordination and cooperation are also very much important.

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