

Voluntary Report – Voluntary - Public Distribution

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Report Name: Fall Armyworm Damages Corn and Threatens Other Crops in Vietnam

Country: Vietnam

Post: Hanoi

Report Category: Pest/Disease Occurrences, Biotechnology - GE Plants and Animals, Agricultural Situation

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Report Highlights:

On April 24, 2019, the Ministry of Agriculture and Rural Development (MARD) officially announced the detection of Fall Armyworm (FAW), *Spodoptera frugiperda*, in Vietnam. Since then FAW has spread rapidly throughout the country, Post estimates that over 35,000 hectares of corn has been affected by FAW in 40 provinces. FAW damage has resulted in economic loss due to a decrease in yields and increased costs for insecticides and labor. The Vietnamese government is working to control the outbreak and minimize the damage.

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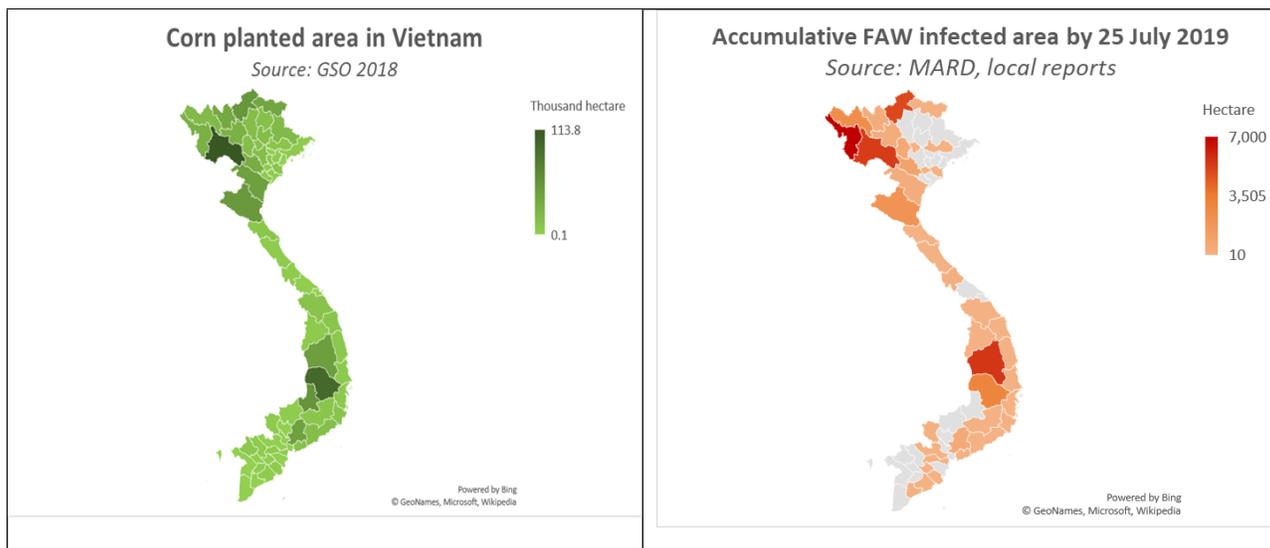
Summary

FAW is a native insect to tropical and subtropical regions of the Western Hemisphere, and regularly migrates to cooler regions in summer. In its larva stage, it can cause significant damage to crops. FAW targets corn, but can feed on more than 80 additional species of plants, including rice, soybeans, sugarcane, vegetable crops, and cotton. The moth can fly up to 100 km per night and a female can lay up to a total of 1,000 eggs in a lifetime. In Africa, FAW was first detected in Nigeria in January 2016, and has quickly spread to 44 countries in sub-Saharan Africa. In 2018, the pest was reported in Asia, including India, Thailand, Sri Lanka, Myanmar, and Bangladesh.

In late 2018, the United Nation's Food and Agriculture Organization (FAO) issued a threat warning of the spread of FAW in South East Asia, including Vietnam. The MARD Plant Protection Department (PPD) sent an announcement to all provinces about the threat of FAW. Starting in mid- March 2019, the provincial crop production and plant protection departments of Nghe An, Thanh Hoa, Quang Binh, and Hanoi, reported corn damaged by worms, this was particularly prevalent in young corn plants. On April 17, 2019, after receiving positive genetic analysis results from the Centre for Agriculture and Bioscience International in the United Kingdom, PPD officially reported the existence of FAW in Vietnam. On April 24 2019, MARD issued official announcement 2827/BNN-BVTV about FAW prevention and control in Vietnam.

Based on a consolidation of reported figures from local sources, Post estimates that the total FAW infected area is 35,000 hectares of corn. The most infected areas are in the northwest and central highlands, which are the major corn production areas, accounting for 65 percent of total corn area. On August 16, 2019, MARD reported that 15,000 hectares of the current corn crop has been infected by FAW in 40 provinces. More than 2,000 hectares are considered to be heavily infected with over eight larvae per square meter.

Maps of FAW infected area (July 25, 2019)



Actions and Solutions

Since the detection of FAW, MARD, industry groups, researchers, and international organizations have worked together to implement a number of workshops and programs in order to prevent and control the spread of FAW and the limit the impacts of the pest.

From April to June 2019, PPD/MARD organized three training courses for participants from all 63 provincial plant protection and crop production departments. The courses focused on FAW identification, biological characters and prevention, and control measures. PPD and the National Agricultural Extension Centre (NAEC)/MARD also designed and distributed FAW prevention and control. On May 03, 2019, PPD/MARD also provided technical prevention and control guidance including, biological characteristics, potential threats, host plants, and solutions relating to cultivation practices, parasites as bio measure, traps, baits and chemicals use. On the same date, PPD issued guidance on the temporary use of the chemicals *bacillus thuringiensis*, *spinetoram*, *indoxacarb* and *lufenuron*.

In June 2019, the Insecticide Resistance Action Committee and Crop Life issued technical reports providing information on the threats and solutions for combatting and preventing FAW, including, integrated pest management approaches, resistance management, phyto-sanitary measures, the use of biotech seed, and chemical use guides. International seed companies have established biotech corn demonstrations in several provinces.

On July 15, 2019, MARD issued Directive 4692/VT-BNN-BVTV on strengthening FAW prevention and controlling corn damage. The directive was delivered to provincial governments with concrete actions to prevent the spread of FAW, including:

- Investigate and conduct the inventory of infected area; providing farmers technical guidance issued by PPD/MARD.
- Implement information and communication events about FAW biological characteristics to local agricultural extension officers; encouraging farmers using biological measures including parasites, traps, and baits.
- Conduct field investigation and surveillance to identify corn varieties highly resistant to FAW, then guide farmers for using to replace the infected varieties.

From July 17- 19, 2019, MARD organized a workshop on FAW control and prevention and conducted a farm visits to Gia Lai province. MARD observed heavy damage to corn fields. Based on these observations MARD established an advisory group for FAW, with the goal to identify hybrids and biotech traits that are resistant to FAW.

From July 23 to 25, 2019, the National Agricultural Extension Centre hosted a workshop in Son La province where international seed companies have demonstration corn farms with IPM solutions

focused on biotech and chemical uses to prevent and combat with FAW. The differences between farms using biotech corn versus traditional corn were highlighted to the MARD Vice Minister following the workshop. Post also conducted a site visit to a test plot in Phu Tho province.



*Biotech corn varieties with no infection
Photos taken by Post in Phu Tho Province*

On August 16, 2019, PPD, the Vietnam Academy of Agricultural Science (VAAS), and an international seed company organized the FAW Strategies for Sustainable Management workshop in Thai Nguyen province. Stories and case studies on FAW prevention and control measures in Indonesia, Thailand, Pakistan, the Philippines, and Vietnam were shared and discussed at the event. FAW management solutions include biological practices, chemical measures, and the use insect-resistant hybrids.



Local corn variety damaged by FAW

Challenges for FAW control in Vietnam

The fast spread of FAW has led to many challenges in controlling and managing the impact of the pest. Limited awareness and knowledge of farmers in remote areas such as the northern mountain provinces and central highlands creates difficulty for local agricultural and extension officers to provide advice on FAW prevention and control measures. The limited number of local extension officers may be insufficient to provide hands-on advice, where necessary.

Technical solutions against FAW also face challenges. Delays in policy change for use of biotech and chemical solutions allows for increased spread of FAW. Farmers would benefit from approval of new advanced biotech hybrids as well as market access and training. Improper use of chemicals against FAW can lead to environment and soil degradation, while also being costly for farmers.

Impacts

Vietnam planted corn area has been shrinking 5 to 6 percent a year since 2015, even though yields are up about two percent annually. Annual corn production in Vietnam is about 5 million tons.

In 2018, total corn planted area was 1.04 million hectares. The largest area was located in the north mountainous provinces, accounting for 44 percent of total Vietnam corn area. Son La province, 300 km northwest from Hanoi, has the largest corn area with about 114,000 hectares in corn production. About 39 percent of total corn area is located in the central coast and central highland provinces. The average corn yield in Vietnam is about 4.8 tons per hectare ([Gain report VM9014](#)). There are three corn seasons in the north, from Feb/Mar to Jun/July (spring), then Jun/Jul to Sep/Oct (summer-fall) and Oct to Dec (winter), with the summer-fall season being the major season.

Post estimates that FAW infected corn area has reached approximately 35,000 ha in over 40 provinces, with the infected corn area growing daily. The summer-fall planted area is about 640,000 hectares. Post estimates that the FAW threat is greatest in the northwest and central highland regions, which account for 85 percent of the total summer-fall corn area.

The costs for insecticides and increased labor is estimated at 4.5 to 6 million VND (\$193- \$258 USD) a hectare to prevent and control FAW. Furthermore, corn yield is down by 10 percent in areas that have low infection rates and 30 percent in heavily infected areas. Therefore, post estimates corn production loss in Vietnam is about 18,000 tons so far. The spread of FAW will have a strong impact on livelihoods since the major corn production areas are located in the poorest areas in Vietnam and farmers' incomes are dependent on corn production.

The reduction of domestic corn production is leading to higher import demand of corn for animal feed industry. 90 percent of domestic corn production is used in the feed industry.

Detection in Other Crops

The Vietnam Academy of Agriculture Science has detected FAW in paddy rice fields in Nam Dinh province. There is the possibility of FAW affecting other crops including, sugarcane and vegetables. The risk of FAW in sugarcane is in the central north and central highlands, while the risk to vegetables is in Son La and other northwest provinces. MARD has yet to confirm the spread of FAW to other crops.

Attachments:

No Attachments.