Arab Republic of Egypt
Ministry Of Agriculture and land Reclamation
Central Administration of Plant Quarantine
(CAPQ)
Phytosanitary Unit

جمهورية مصر العربية
وزارة الزراعة واستصلاح الاراضى
الادارة المركزية للحجر الزراعى
وحدة الصحة النباتية

Report of first detection of Fall Armyworm (FAW) in Egypt

In accordance with ISPM № 17 (Pest reporting) Egypt would like to report the detection of the fall armyworm in Egypt

- **Name of the Pest:** *Spodoptera frugiperda* / Lepidoptera*:* Noctuidae**) (fall armyworm).**
- **Date of the report:** May 30th, 2019.
- **Host :** Maize (corn)
- **The status of the pest :** Present only in some areas (ISPM № 8) , very limited to specific areas as indicated below

  FAW adult insects were detected in Aswan (Kom Ombo, Edfo) using pheromone traps to attract the insect, these insects were further diagnosed at Plant Protection Research Institutes.

  No moth were observed for all the governorates of Upper Egypt, except in Aswan Governorate, A total of 119 moths of fall armyworms were observed in Kom Ombo and Edfu centers during the period from January 2019 to date, the insect samples were identified.

- **Geographical distribution**
  Limited to only two locations Kom Ombo and Edfu in one governorate (Aswan)

Fig 1: location of Aswan governorate in Egypt.

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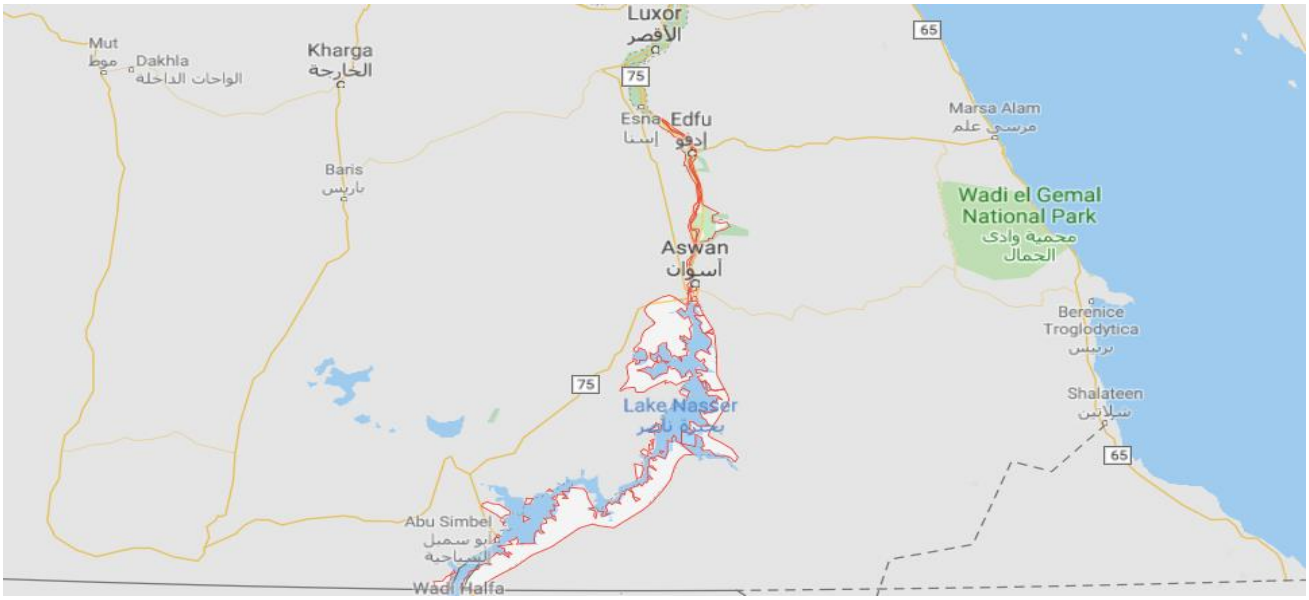

Fig 2: Map of Aswan governorate

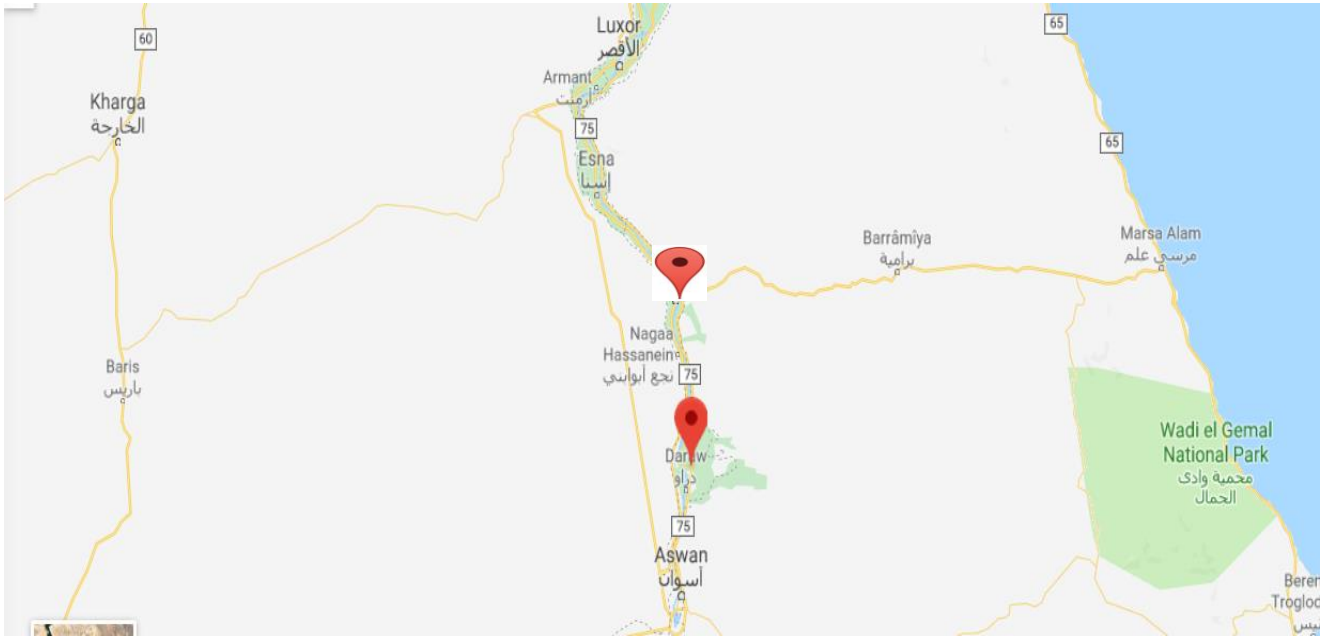

Fig 3: Locations of Kom Ombo and Edfu inside Aswan Governorate

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The Egyptian Phytosanitary measures against Fall Armyworm (FAW) (*Spodoptera frugiperda*) introduction, spread and establishment in Egypt

- Since the beginning of the spread of FAW in Africa Egypt has started applying a precautionary action measures to manage the risk of the spread of the pest (potentially detected to come from Sudan. Therefore, the competent authority in affected countries should apply suitable phytosanitary measures, and declare the measures in the phytosanitary certificate.

- The Minister of Agriculture and Land Reclamation has issued a ministerial decree to establish a national taskforce / committee to take the proper actions towards FAW.

- Cooperation between Ministry of Agriculture and Land Reclamation and Pest control surveillance were initiated with Food and Agriculture Organization (FAO) in Egypt.

- In August 2017, FAO had notified Egypt for the detection of FAW in most of the African countries including the neighboring country Sudan.

Phytosanitary measures and procedures taken to manage the risk of FAW

1- Reporting

In compliance with the rules of international organizations and conventions in such cases, the discovery of the insect is reported in some agricultural places in southern Egypt through the Central Department of Quarantine

2- Monitoring and discovery

- Continuation and expansion of the implementation of the monitoring and exploration system existing in all governorates of the Republic by field inspection and monitoring of the Pheromone Traps for the speed of detection of the insect in any place and report it to take the necessary through:
- Giving responsibilities to phytosanitary-related specialists who received trainings and have been trained in the relevant research institutes, the central management of the control, the sugar factories, and the research and training center in all governorates.
- Spreading more pheromone traps in all agricultural regions in Egypt through the Central Pest Control Department

Release of an exploratory campaign (committee) by specialists from the Plant Protection Research Institute (PPRI) and the Central Administration for the Control (CAC) to make advanced survey to detect mentioned insect and discover its presence and hosts at all Governorates of Egypt through the method of Traps, Field inspection and rapid reporting of the Committee to control the pest and take the Necessary measurements.

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3- Training & Awareness

Through the specialists of the Plant Protection Research Institute (PPRI) which hold continues trainings and guidance seminars for the control departments, farmers and all relevant bodies to raise awareness of the insect's danger and how to detect it, to make monitor and identification by the phenotype or symptoms of infection.

4- Guidelines Pamphlets

In addition to printing and distribution (1000 pamphlets), more pamphlets will be printed and distributed for awareness of the insect dangers and methods of identification, discover and the treatment.

5- Field schools

The field school system will be implemented to promote community awareness among the relevant people about the insect's risks, symptoms, methods of monitoring and identification, as well as intervention if found.

6- Intervention by enabling farmers to participate

Through the extension campaigns and awareness by specialists, the farmer is aware on how to monitor and discover in his field and methods of treatments as:

- Collect and dispose of infected plants through silage or feed cattle
- Collecting and destroying birch
- Collect larvae and destroy them
- Planting with sand or soil (in cases of maize)
- Following the recommended methods of cropping patterns and simultaneous agriculture / dealing with fermons traps.

Control programs for recommended different crops:

1. Maize Crop Control Program.
2. Control Program on the field crops which is not used in nutrition (cotton).
3. Control Program on vegetables
4. The control Program on Sugar Cane crops.
5. Control Program on alfalfa crops.

<u>The control program on vegetables</u>

1- Seedling stage in presence of different larvae

Bacillus thuringiensis -Chlorantraniliprole or Flubendiamid

2- Vegetative stage

Emamectin benzoate – Chlorpyrifos- methyl or spinosad

3- Fruit Stage:

Spinetotam –Spinosad or *Bacillus thuringiensis*

Control program on Sugar cane crop

1- The germination stage and new growth (after planting).
Clorpyrifos – Methomyl
2- The last stage of growth
Emamectin benzoate

Control program on Alfalfa crop:

1- Germination stage up to 35 days of planting (first growth period)
Methomyl
2- Vegetative stage & animal feeding
Dipel DF (B.T) or Dipel 2X Methomyl

There is already an integrated (and previously referred to) approved counter-plan to confront the insect as long as it is discovered.
The requirements of this plan are already available from training bulletins, training courses and means of chemical and biological control to deal with this insect.

This insect is very similar to the cotton worm, which the ministry has extensive and successful experience in dealing with and control.
The ministry would like to assure that the situation is under fully control from the ministry and its supporting bodies. The implementing of this strategy, make the Ministry be able to control the insect, deal with it and prevent its spread also limit its damage

Study Tour

Cooperation with FAO will send a committee of specialists to one of the countries infected by the pest and have enough experience to confront them to learn about their experience in reality from the methods of monitoring and exploration and methods of dealing and intervention against the insect to transfer the experience to Egypt and apply it in line with the Egyptian reality.

Biological enemies:

Preparation and rehabilitation of the Ministry's laboratories for the biological control for the testing process; and production/deployment of Trichogramma parasite (egg parasite against the Full Army Worm) and other vital enemies to be used in the infected areas as a safe control. In the other level and in parallel; “The Sugar Company” representative has agreed to launch the parasite in their fields of Sugar cane and Maize.

Pesticides

Using a package of recommendations approved by the Committee on Agricultural Pests and pesticides (in accordance with the annex), as follows:

In the long term

Insect research

Preparing the research programs on the biology of the pest and its behavior and pesticides to determine the proper basis for dealing with them.

Pesticide Research:

Assessment and adoption of more specialized and safe pesticides and their effective bio-plant substitutes.

Resistant varieties:

Preparation and implementation of breeding programs for insect resistant species to avoid pesticides and their harmful effect.

Field and laboratory experiments:

On the use of traps, plant extracts, appropriate cropping structures, planting dates and other different control methods.

Ports Quarantine procedures

The Egyptian agricultural quarantine has developed and implemented the phytosanitary measures necessary to avoid the transmission of the pest to Egypt and its risks to the agricultural wealth or its exit with agricultural exported consignments in order to preserve the reputation of exporting and our markets abroad.

Internal Quarantine procedure:

The Egyptian agricultural quarantine, in cooperation with the various relevant authorities in the country, will ensure that no agricultural material is transferred from the infected governorates to the uninfected one until it is confirmed that it is completely free from the insect in any phase.

Follow-up to implementation

The implementation of this plan will be followed by (a follow-up committee and precautionary measures against the Fall Army Worm) and the problem with the ministry for this purpose with the establishment of both the Research Institute and plant protection and the central administration of pest control and central administration of Quarantine each side with regard to.

- The Ministry declares the necessity of serious seriousness in the implementation of this plan to face the danger of this insect and stresses the lack of discomfort for the following reasons:

First: the insect has become an international insect suffering more than 100 countries of the world.

Second: The presence of the insect in very limited foci of the plantations of the corn in some villages of Aswan so far.

Third: The whole of Ministry in cooperation with the FAO and with interested farmers are now working in full swing to block this insect and deal with it by all the adopted controls.

- Several extension workshops and conventions were conducted in governorates of Upper Egypt throughout 2019, these events was attended by 587 pest control engineer specialists in addition to academic staff of Agronomy research institute for awareness with Fall Armyworm (FAW), prophylactic measures needed for the pest.
- 100 of Pest control engineer specialists were trained in Upper Egypt for utilizing modern technology for forecasting and detecting FAW by using a mobile application of (famews) in cooperation with FAO (in the period of April-May 2019 in Luxor).
- Publications and flyers illustrating the scientific action procedures for the FAW prevention, this included (Infection symptoms, pest risk, biological hosts in pictures). These publications were distributed to different Agricultural Directorates (Fayoum, Beni Suief, Elminia, Asuit, Qena, Luxor, and Aswan).

Conclusion of the action plan adopted to contain the spread of the pest

1- The distribution of Fermone fisheries in Upper Egypt governorates as of January 2019. The insect samples were collected from all the fisheries and the necessary procedures were taken to classify and identify them, all of which were free of the fall armyworm except Aswan governorate.

2- The use of parasite trichogramma in the case of the emergence of any infection related to the fall army worm and to eradicate the hotbeds of infection immediately.

3- Chemical control certified program for the fall armyworm sent to all directorates of agriculture provinces of Upper Egypt and others as well as to combat the six pests referred to areas in anticipation of any appearance of the pest at any time during the coming period, which will be applied to the following crops (corn - cotton - vegetables - sugarcane - clover) in case of infection with that worm.

4- A number of guiding seminars were held in the agricultural directorates in the governorates of Upper Egypt and some other governorates during 2018 in order to raise awareness and introduce the fall armyworm and how to take all necessary measures to combat this pest.

5- Many agricultural quarantine engineers training during the year 2018 and ongoing.