



# PRA training

## Country data

### Lebanon

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# General background on Lebanon

# Lebanon

- Lebanon is a major food importer with a local production satisfying only 20% of local consumption.



## Recent Challenges

- Conflicts and civil unrest in neighbouring countries (especially Syria).
- Difficulties to apply quarantine measures efficiently.
- Uncontrolled refugee movement and smuggling food stuff which might be associated with pests.

## Country profile on crop production and trade

- The top 10 (by area) crops grown in Lebanon are:
  - Olive
  - Potato
  - Citrus
  - Tomato
  - Apple
  - Cucumber
  - Grape
  - Wheat
  - Cherries
  - Tobacco

## Country profile on crop production and trade

- The top 10 (by value) crop commodities imported to Lebanon are:
  - Wheat
  - Potato
  - Sesame seeds
  - Coffee
  - Soybean
  - Pistachio
  - Almond
  - Lentil
  - Flowers and bulbs
  - Tobacco

## Country profile on crop production and trade

- **The top (by value) crop commodities exported from Lebanon are:**
  - Citrus
  - Banana
  - Apple
  - Potato
  - Lettuce
  - Tomato
  - Onion
  - Grape
  - Pine nuts

## Country profile on crop production and trade

- **The total value of imports of plants and plant products (including forestry) is greater than 100 million US\$.**
- **The total value of exports of plants and plant products (including forestry) is greater than 50 million US\$.**



# Government bodies and provision of Plant health

- The main government bodies for:
  - Crop production: Plant production Service.
  - Crop protection: Plant protection Service and the Plant pathology laboratories of the LARI.
  - Import and export trade of plants and plant parts: Import and export and quarantine Service.

*(These Services are under the Plant Resources Directorate)*

- Natural Environment: Rural Development Directorate.

## Government bodies and provision of Plant health

- Quarantine inspection is done by border inspectors.
- Field pest surveys are done by surveyors.
- Identification of pests is done in LARI laboratories.
- Continuous coordination is held between the concerned parties in order to properly take the necessary quarantine measures.

# Government bodies and provision of Plant health

**Recent surveys implemented by the Plant Protection Service and LARI:**

- Stone fruits pests survey in Lebanon.
- Citrus pests survey in Lebanon.
- Fruit flies survey in Lebanon.

These surveys were technically supported by FAO.

*Information relating to  
Xylella fastidiosa*

## *Xylella fastidiosa* and country status

- *Xylella fastidiosa* is absent from Lebanon.
- Capacity to detect *Xylella fastidiosa* through Field inspection and Quarantine inspection needs to be built (Expected regional TCP).
- LARI Laboratory capacity to identify *Xylella fastidiosa*: ELISA and PCR.

## Crops at risk to *Xylella fastidiosa* and trade

- Main crops which might be at risk in Lebanon if *Xylella fastidiosa* was introduced are:
  - *Olive*
  - *Stone fruits (Almond, plum, peach, apricot)*
  - *Citrus.*
  - *Grapes.*

## Phytosanitary measures

A ministerial decree (# 161/1 dated 4/3/2015) was issued.

Request that imported plants for planting are from *Xylella fastidiosa* free areas.

## Management practices of *Xylella fastidiosa*

Existing management practices in place that may detect presence and prevent entry of *Xylella fastidiosa*:

- Border inspection.
- When in doubt samples are sent for laboratory identification.



## Management practices of *Xylella fastidiosa*

- There are no field management practices in current use that reduce the risk of *Xylella fastidiosa* establishment and spread.
- Technical capacities of Agriculture technicians and farmers must be built about the management of *Xylella fastidiosa*.

*Information relating to  
Fruit Fly (*Bactrocera zonata*)*

## *Fruit Fly (Bactrocera zonata) and country status*

- *Bactrocera zonata* is absent from Lebanon.
  
- Capacity to detect *Bactrocera zonata*:
  - *A national TCP is currently being implemented to build the capacities for field inspection as well as quarantine inspection.*
  
  - *Under the TCP a nation wide fruit flies trapping survey is being currently implemented.*

## *Fruit Fly (Bactrocera zonata) and country status*

- The Plant Protection Department, the surveyors, and the entomology laboratory team at the Lebanese Agriculture Research Institute (LARI) were trained on *Bactrocera zonata* adult identification *by an International Fruit Flies Expert*.
- A 10 days advanced training about the identification of fruit flies will be provided to the entomology laboratory team at the Lebanese Agriculture Research Institute (LARI) in December 2015.

## Crops at risk to *Bactrocera zonata* and trade

Main crops which might be at risk in Lebanon to *Bactrocera zonata* if introduced:

- Mango
- Guava
- Peach

## Phytosanitary measures

- ▶ Ministerial Decree # 400/1 (23/09/2008)
- ▶ Ministerial Decree # 251/1 (26/05/2010)
- ▶ Ministerial Decree # 440/1 (03/05/2011)
- ▶ Ministerial Decree # 506/1 (30/05/2011)
- ▶ Ministerial Decree # 605/1 (10/07/2012)
- ▶ Ministerial Decree # 2/1 (02/01/2014)
- ▶ Ministerial Decree # 170/1 (15/02/2014)
- ▶ Ministerial Decree # 467/1 (28/5/2015)
- ▶ Ministerial Decree # 466/1 (28/5/2015)

## Phytosanitary measures

Forbid import of mango, guava, peach, figs, citrus fresh fruits (even with passengers) which can be hosts of *Bactrocera zonata* from countries where *B. zonata* is present.

- Fruits produced in proven Pest free areas based on a study done according to ISPM 4-6-8-9-17-26.
- Fruits treated at 1.7° C for 14 days prior shipment (Thermograph needed as means of verification)

## Phytosanitary measures

In addition to vapor treatment in Lebanon of fresh fruits in an accredited facility.

Temperature should rise gradually to reach at the core of the fruit 46 degrees Celsius in 6 hours and should be maintained for 10 minutes, while the relative humidity should be kept at 90% minimum.



## Management practices of *Bactrocera zonata*

**Existing management practices in place that may detect presence and prevent entry:**

- Border inspection.
- When in doubt samples are sent for laboratory identification.
- Vapor heat treatment for imported mangoes.

## Management practices of *Bactrocera zonata*

Management practices in current use that reduce the risk of *Bactrocera zonata* establishment and spread:

- Farmers in Lebanon already suffer from two fruit flies *Bactrocera oleae* and *Ceratitis capitata*.
- Use of pesticide sprays.
- Use of traps. (MoA distributed traps and food baits)
- Orchard sanitation.



Thank You