



Animal and Plant Health Unit (ALPHA Unit)

SCIENTIFIC PANEL ON PLANT HEALTH

MINUTES OF THE 6th MEETING OF THE WORKING GROUP ON ISRAEL AND SOUTH AFRICA CITRUS SYSTEM APPROACHES FOR FCM

Held on 10 December 2020,

Web-meeting

(Agreed by e-mail on 17 December 2020)¹

Participants

■ Working Group Members:²

Panagiotis Milonas (Chair)

Andrea Lucchi

Roel Potting

Alejandro Tena

■ Hearing Experts³:

Not Applicable

■ European Commission and/or Member States representatives:

Not Applicable

■ EFSA:

ALPHA Unit: Eduardo de la Peña, scientific officer

ALPHA Unit: Oresteia Sfyrá, trainee

AMU Unit: Olaf Mosbach-Schulz, scientific officer

■ Others:

Not Applicable

¹ Minutes should be published within 15 working days of the final day of the relevant meeting.

² Indicate first full name and then surname (John Smith) all throughout the document.

³ As defined in Article 17 of the Decision of the Executive Director concerning the selection of members of the Scientific Committee, the Scientific Panels, and the selection of external experts to assist EFSA with its scientific work:
<http://www.efsa.europa.eu/en/keydocs/docs/expertselection.pdf>.

1. Welcome and apologies for absence

All working group experts attended the meeting i.e. Panagiotis Milonas (Chair), Andrea Lucchi, Roel Potting, Alejandro Tena.

The Chair welcomed the participants.

2. Adoption of agenda

The agenda was adopted.

3. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence⁴ and the Decision of the Executive Director on Competing Interest Management⁵, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

In accordance with EFSA's Policy on Independence⁶ and the Decision of the Executive Director on Competing Interest Management⁷, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting.

4. Agreement of the minutes of the 6th Working Group meeting held on 10 December 2020.

The minutes of the 6th Working Group meeting held on 10 December 2020 were agreed by e-mail by the WG experts the 17th of December 2020.

5. Hearing Expert (s)⁸

Not applicable

⁴ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

⁵ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

⁶ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

⁷ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

⁸ This item is optional

6. Scientific topic(s) for discussion

- Expert Knowledge Elicitation (EKE) on the effectiveness of the citrus systems approach for *Thaumatotibia leucotreta* applied by Israel (EFSA-Q-2020-00548)

7. Any Other Business

8. Next meeting(s)

- The group agreed on having a follow-up web-meeting on 21 December 2020 and again web-meeting on 08 January 2021.

SCIENTIFIC PANEL ON PLANT HEALTH

MINUTES OF THE 5th MEETING OF THE WORKING GROUP ON ISRAEL AND SOUTH AFRICA CITRUS SYSTEM APPROACHES FOR FCM

Held on 02 December 2020,

Web-meeting

(Agreed by e-mail on 17 December 2020)⁹

Participants

■ Working Group Members:¹⁰

Panagiotis Milonas (Chair)

Andrea Lucchi

Roel Potting

Alejandro Tena

■ Hearing Experts¹¹:

Not Applicable

■ European Commission and/or Member States representatives:

Not Applicable

■ EFSA:

ALPHA Unit: Eduardo de la Peña, scientific officer

ALPHA Unit: Oresteia Sfyrá, trainee

9. Welcome and apologies for absence

All working group experts attended the meeting i.e. Panagiotis Milonas (Chair), Andrea Lucchi, Roel Potting, Alejandro Tena.

The Chair welcomed the participants.

⁹ Minutes should be published within 15 working days of the final day of the relevant meeting.

¹⁰ Indicate first full name and then surname (John Smith) all throughout the document.

¹¹ As defined in Article 17 of the Decision of the Executive Director concerning the selection of members of the Scientific Committee, the Scientific Panels, and the selection of external experts to assist EFSA with its scientific work:
<http://www.efsa.europa.eu/en/keydocs/docs/expertselection.pdf>.

10. Adoption of agenda

The agenda was adopted.

11. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence¹² and the Decision of the Executive Director on Competing Interest Management¹³, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

In accordance with EFSA's Policy on Independence¹⁴ and the Decision of the Executive Director on Competing Interest Management¹⁵, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting.

12. Agreement of the minutes of the 5th Working Group meeting held on 02 December 2020.

The minutes of the 5th Working Group meeting held on 02 December 2020 were agreed by e-mail by the WG experts the 17th of December 2020.

13. Hearing Expert (s)¹⁶

Not applicable

¹² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

¹³ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

¹⁴ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

¹⁵ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

¹⁶ This item is optional

14. Scientific topic(s) for discussion

- Revision of additional information submitted by Israel (*EFSA-Q-2020-00548*)
- Discussion in preparation for Expert Knowledge Elicitation (EKE) on the citrus system approach for FCM of Israel (*EFSA-Q-2020-00548*)

15. Any Other Business

16. Next meeting(s)

- The group agreed on having a follow-up web-meeting on 10 December 2020.

SCIENTIFIC PANEL ON PLANT HEALTH

MINUTES OF THE 4th MEETING OF THE WORKING GROUP ON ISRAEL AND SOUTH AFRICA CITRUS SYSTEM APPROACHES FOR FCM

Held on 13 November 2020,

Web-meeting

(Agreed by e-mail on 17 December 2020)¹⁷

Participants

■ Working Group Members:¹⁸

Panagiotis Milonas (Chair)

Andrea Lucchi

Roel Potting

Alejandro Tena

■ Hearing Experts¹⁹:

Not Applicable

■ European Commission and/or Member States representatives:

Not Applicable

■ EFSA:

ALPHA Unit: Eduardo de la Peña, scientific officer

ALPHA Unit: Oresteia Sfira, trainee

17. Welcome and apologies for absence

All working group experts attended the meeting i.e. Panagiotis Milonas (Chair), Andrea Lucchi, Roel Potting, Alejandro Tena.

The Chair welcomed the participants.

¹⁷ Minutes should be published within 15 working days of the final day of the relevant meeting.

¹⁸ Indicate first full name and then surname (John Smith) all throughout the document.

¹⁹ As defined in Article 17 of the Decision of the Executive Director concerning the selection of members of the Scientific Committee, the Scientific Panels, and the selection of external experts to assist EFSA with its scientific work:
<http://www.efsa.europa.eu/en/keydocs/docs/expertselection.pdf>.

18. Adoption of agenda

The agenda was adopted.

19. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence²⁰ and the Decision of the Executive Director on Competing Interest Management²¹, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

In accordance with EFSA's Policy on Independence²² and the Decision of the Executive Director on Competing Interest Management²³, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting.

20. Agreement of the minutes of the 4th Working Group meeting held on 13 November 2020.

The minutes of the 4th Working Group meeting held on 13 November 2020 were agreed by e-mail by the WG experts the 17th of December 2020.

21. Hearing Expert (s)²⁴

Not applicable

22. Scientific topic(s) for discussion

- Finalising the minutes of the hearing with Israel on the citrus system approach for FCM (EFSA-Q-2020-00548), held on 10 November 2020.

23. Any Other Business

24. Next meeting(s)

- The group agreed on having a follow-up web-meeting on 02 December 2020 and again a web-meeting on 10 December 2020.

²⁰ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

²¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

²² http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

²³ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

²⁴ This item is optional

SCIENTIFIC PANEL ON PLANT HEALTH

MINUTES OF THE 3rd MEETING OF THE WORKING GROUP ON ISRAEL AND SOUTH AFRICA CITRUS SYSTEM APPROACHES FOR FCM

Held on 10 November 2020,

Web-meeting

(Agreed by e-mail on 17 December 2020)²⁵

Participants

■ Working Group Members:²⁶

Panagiotis Milonas (Chair)

Andrea Lucchi

Roel Potting

Alejandro Tena

■ Hearing Experts²⁷:

Mr. Tal Amit, Head of citrus, Israeli Plants Production & Marketing Board

Ms. Aluma Sade Ezra Inspection Service, PPIS

Mr. Nadav Ezra, Surveys and Surveillance, Ecology Department, PPIS

Prof. Abed Gera, Director PPIS

Dr. Dana Ichelczik, PRA expert, PPIS

Mr. Amit Mizrahi, Head of Inspection Service, PPIS

Mr. David Opatowski, Minister-Counselor Agricultural Affairs, Mission of Israel to the EU and NATO

Ms. Lea Sella, Plant Protection Advisor

Ms. Shlomit Zioni, Deputy Director PPIS

■ European Commission and/or Member States representatives:

DG SANTE: Maria Kammenou

■ EFSA:

ALPHA Unit: Eduardo de la Peña, scientific officer

²⁵ Minutes should be published within 15 working days of the final day of the relevant meeting.

²⁶ Indicate first full name and then surname (John Smith) all throughout the document.

²⁷ As defined in Article 17 of the Decision of the Executive Director concerning the selection of members of the Scientific Committee, the Scientific Panels, and the selection of external experts to assist EFSA with its scientific work:

<http://www.efsa.europa.eu/en/keydocs/docs/expertselection.pdf>.

25. Welcome and apologies for absence

All working group experts attended the meeting i.e. Panagiotis Milonas (Chair), Andrea Lucchi, Roel Potting, Alejandro Tena.

The Chair welcomed the participants.

26. Adoption of agenda

The agenda was adopted.

27. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence²⁸ and the Decision of the Executive Director on Competing Interest Management²⁹, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

In accordance with EFSA's Policy on Independence³⁰ and the Decision of the Executive Director on Competing Interest Management³¹, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting.

28. Agreement of the minutes of the 3rd Working Group meeting held on 10 November 2020.

The minutes of the 3rd Working Group meeting held on 10 November 2020 were agreed by e-mail by the WG experts and the hearing experts the 17th of December 2020.

29. Hearing Expert (s)³²

Not applicable

30. Scientific topic(s) for discussion

- Hearing with Israel on the Systems Approach applied for the False Codling Moth (FCM) for the export of citrus from Israel to the European Union. The content of the hearing is detailed in Annex I of this file. Tasks and deadlines related to the publication of the minutes were agreed among participants.

²⁸ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

²⁹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³⁰ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

³¹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³² This item is optional

31. Any Other Business

32. Next meeting(s)

- The group agreed on having a follow-up web-meeting on 13 November 2020 and again a web-meeting on 02 December 2020.

SCIENTIFIC PANEL ON PLANT HEALTH

MINUTES OF THE 2nd MEETING OF THE WORKING GROUP ON ISRAEL AND SOUTH AFRICA CITRUS SYSTEM APPROACHES FOR FCM

Held on 14 October 2020,

Web-meeting

(Agreed by e-mail on 16 October 2020)³³

Participants

■ Working Group Members:³⁴

Panagiotis Milonas (Chair)

Andrea Lucchi

Roel Potting

Alejandro Tena

■ Hearing Experts³⁵:

Not Applicable

■ European Commission and/or Member States representatives:

Not Applicable

■ EFSA:

ALPHA Unit: Eduardo de la Peña, scientific officer

ALPHA Unit: Oresteia Sfyra, trainee

■ Others:

Not Applicable

³³ Minutes should be published within 15 working days of the final day of the relevant meeting.

³⁴ Indicate first full name and then surname (John Smith) all throughout the document.

³⁵ As defined in Article 17 of the Decision of the Executive Director concerning the selection of members of the Scientific Committee, the Scientific Panels, and the selection of external experts to assist EFSA with its scientific work:
<http://www.efsa.europa.eu/en/keydocs/docs/expertselection.pdf>.

33. Welcome and apologies for absence

All working group experts attended the meeting i.e. Panagiotis Milonas (Chair), Andrea Lucchi, Roel Potting, Alejandro Tena.

The Chair welcomed the participants.

34. Adoption of agenda

The agenda was adopted.

35. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence³⁶ and the Decision of the Executive Director on Competing Interest Management³⁷, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

In accordance with EFSA's Policy on Independence³⁸ and the Decision of the Executive Director on Competing Interest Management³⁹, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting.

36. Agreement of the minutes of the 2nd Working Group meeting held on 14 October 2020.

The minutes of the 2nd Working Group meeting held on 14 October 2020 were agreed by e-mail by the WG experts the 16th of October 2020.

37. Hearing Expert (s)⁴⁰

Not applicable

³⁶ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

³⁷ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

³⁸ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

³⁹ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

⁴⁰ This item is optional

38. Scientific topic(s) for discussion

- Discussion on the methodology for evaluating the citrus system approaches for FCM of Israel (EFSA-Q-2020-00548) and South Africa (EFSA-Q-2020-00549).

39. Any Other Business

40. Next meeting(s)

- The group agreed on having a follow-up web-meeting on 10 November 2020 and again, a web-meeting on 13 November 2020.

SCIENTIFIC PANEL ON PLANT HEALTH

MINUTES OF THE 1st MEETING OF THE WORKING GROUP ON ISRAEL AND SOUTH AFRICA CITRUS SYSTEM APPROACHES FOR FCM

Held on 05 & 06 October 2020,

Web-meeting

(Agreed by e-mail on 14 October 2020)⁴¹

Participants

■ Working Group Members:⁴²

Panagiotis Milonas (Chair)

Andrea Lucchi

Roel Potting

Alejandro Tena

■ Hearing Experts⁴³:

Not Applicable

■ European Commission and/or Member States representatives:

Not Applicable

■ EFSA:

ALPHA Unit: Eduardo de la Peña, scientific officer

ALPHA Unit: Oresteia Sfyra, trainee

■ Others:

Not Applicable

41. Welcome and apologies for absence

⁴¹ Minutes should be published within 15 working days of the final day of the relevant meeting.

⁴² Indicate first full name and then surname (John Smith) all throughout the document.

⁴³ As defined in Article 17 of the Decision of the Executive Director concerning the selection of members of the Scientific Committee, the Scientific Panels, and the selection of external experts to assist EFSA with its scientific work:
<http://www.efsa.europa.eu/en/keydocs/docs/expertselection.pdf>.

All working group experts attended the meeting i.e. Panagiotis Milonas (Chair), Andrea Lucchi, Roel Potting, Alejandro Tena.

The Chair welcomed the participants.

42. Adoption of agenda

The agenda was adopted.

43. Declarations of Interest of Working Groups members

In accordance with EFSA's Policy on Independence⁴⁴ and the Decision of the Executive Director on Competing Interest Management⁴⁵, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting. No Conflicts of Interest related to the issues discussed in this meeting have been identified during the screening process, and no interests were declared orally by the members at the beginning of this meeting.

In accordance with EFSA's Policy on Independence⁴⁶ and the Decision of the Executive Director on Competing Interest Management⁴⁷, EFSA screened the Annual Declarations of Interest filled out by the Working Group members invited to the present meeting.

44. Agreement of the minutes of the 1st Working Group meeting held on 05 & 06 October 2020.

The minutes of the 1st Working Group meeting held on 05 & 06 October 2020 were agreed by e-mail by the WG experts the 14th of October 2020.

45. Hearing Expert (s)⁴⁸

Not applicable

⁴⁴ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

⁴⁵ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

⁴⁶ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/policy_independence.pdf

⁴⁷ http://www.efsa.europa.eu/sites/default/files/corporate_publications/files/competing_interest_management_17.pdf

⁴⁸ This item is optional

46. Scientific topic(s) for discussion

- Introduction to the mandate;
- Discussion on working plan;
- Assessment of Dossiers submitted by Israel (EFSA-Q-2020-00548) and South Africa (EFSA-Q-2020-00549);
- Drafting of Letters with questions to the NPPOs from Israel and South Africa.

47. Any Other Business

48. Next meeting(s)

- The group agreed on having a follow-up web-meeting on 14 October 2020.

Annex I

Points for clarification and questions based on the assessment of the document titled "Systems approach management for the export of citrus fruit from Israel to the EU" submitted by the Plant Protection and Inspection Services of Israel.

1) Please provide a map with the number and the location of the production orchards of Citrus in Israel and indicate the areas of distribution of FCM.

Detailed distribution maps of the pest, and the areas where a systems approach is applied were provided to the Working Group.

2) Are there official pest free areas for FCM in Israel? If yes, please indicate locations and procedures applied.

The procedures are explained:

- Monitoring and surveillance using traps with female pheromones. The system is traced and consists of 300 traps which are maintained and visited monthly by trained scouts. The trap-catches are registered in a collector application and documented by GIS software that allows tracking the pest occurrence.
- The traps are spread across production areas and are placed in the margins, or near agricultural areas and mainly in orchards in production sites.
- Monitoring and use of traps is following international standards and ISPM guidelines.
- Pest surveys within the pest-free area consist of fruit inspection in the orchard.
- Surveys also occur in open areas known to harbor potential hosts near infested area boundaries
- During autumn mostly fallen fruit are inspected i.e., 10-50 fruits per plot
- Pest-free area boundaries are determined accordingly and an action plan that is applied upon need in the case of FCM finding
- The pest-free area action plan includes enhanced monitoring
- Field inspection and eradication measures are designated by a specialized committee
- Survey and monitoring data are presented to a committee that validates the free area status and informs the relevant stakeholders of any change in boundaries

Other points explained during the point discussion:

- The area under a systems approach has changed slightly during the last three years and the designated committee has adapted the boundaries of FCM occurrence and pest-free areas.
- When scouts monitor field traps, fallen fruits are also checked
- 10-50 fruits are checked for infestation per visit to a plot

3) In several parts of the documentation provided to the EC internal SOPs are mentioned; please provide a translated copy in English or specify and explain the relevant information in each case.

Two SOPs have been provided (sent in advance to EFSA by email, Friday 6/11/2020). A SOP describes procedures of inspections in export orchards to the EU. The second SOP describes procedures followed in the packinghouses that export Citrus to the EU; here the procedures that are under the responsibility of

the packinghouse and of PPIS are specified. Moreover, certification procedures are also commented in this SOP.

- Further to the SOPs provided, the extension services provide assistance to farmers
- In SOP2 (see Point 2), there is a description of the measures taken for sanitation and monitoring.
- With regard to the application of chemicals, there are no specific SOPs, application relies on the advice of extension services following ad-hoc situations.
- on point 3 of the SOP on thresholds for monitoring findings, it is mentioned that "the grower will apply mating disruption according to the Extension Service instructions in the following cases" i.e. "trapping of FCM males in three consequent monitoring visits; trapping an average of more than 10 FCM males in a single monitoring visit".
- Mating disruption is often applied irrespective of the monitoring but as a prophylactic measure.

4) (Point 5.2.2) What is the intensity and frequency of sanitation procedures? Is there any inspection on the sanitation procedures? How it is ensured by the NPPO that sanitation occurs properly?

Sanitation focuses on two main aspects:

- 1) clearance of alternative hosts plants (*Ricinus* spp.) for FCM, mainly *Ricinus* plants from the orchard area and the management of fallen or damaged fruits.
- 2) The destruction of the fallen fruit. This is done by crushing the fruits.
 - The scouts monitoring the production orchards check fruits during inspections, this occurs starting from August and November onwards: Every two weeks starting in August, and once weekly starting in November
 - Moreover, the PPIS service reviews the sanitation process in 50% of the production plots (50% randomly selected)

Infestation is checked in fallen fruits, but no data/monitoring are available because they destroy all the fallen fruits by crushing.

Burial pits are not used anymore because instead fruit crushing/destroying is used.

- This methodology of sanitation is preferred due to environmental benefits as well as financial considerations.
- Fruits are gathered between lanes (see photos below) and destroyed.





- Many growers in Israel maintain Ricinus-free orchards, Ricinus removal is reinforced only in and around exporting plots under the systems approach.

5) (Point 5.2.3) Please provide a description of the inspection protocols as well as the thresholds established for additional control and intensifying inspection measures?

Inspection of monitoring traps is performed by scouts who report the monitoring data through the plot-log which is available to PPIS inspectors. Traps are placed in August. one trap in every 25 *dunams* (2.5 ha). Approved traps for monitoring are placed (there are several types), the pheromone is replaced by the grower once a month. Monitoring frequency varies. It starts with once every two weeks, but it increases to once a week until the end of harvest. Scouts will count the catches and report results.

Thresholds that require a subsequent action plants: trapping in three consecutive samplings of males of FCM or trapping of more than 10 FCM males in a single visit.

- Fruit inspection in the plot (starting in august and in November).
- Random samplings in the plot
- Scout visits plot for 20 minutes
- If FCM are found under the threshold level, farmer will apply BC method (virus/bacteria) in combination with mating disruption.

- More than 3 fruit or larvae or eggs on fruits, then is suspended for export to the EU for at least 5 weeks.
 - Mating disruption is in practice used during the entire production period
 - Currently samplings once a week occur under a Systems Approach
 - Mating disruption is valid for several weeks, throughout the season until harvesting
 - Most of the producer use mating disruption. All of them using MD in one way or another.
 - *Ca.* 50% of production plots used mating disruption as prophylactic, the rest according to adult's trapping.
-
- Israel shows the results from different surveys/experiments where it appears that mating disruption is very effective in controlling the pest and used in combination with other methodologies as part of a well-developed IPM.
 - Efficacy of mating disruption (MD) is tested before application in the field. Therefore, there are empirical certainties showing that the technique is working before application. Mating disruption is main pillar of control.

6) How are the data gathered by field scouts communicated to the NPPO? Does the PPIS review and summarize the data collected during field inspections?

- PPIS inspector receives and review the plots logs
- Integrated into the GIS system – This applies to PPIS inspection data
- Overall inspection and an assessment of the collected data.

7) In how many orchards from the total inspected is FCM encountered?

- 107 infested plots out of 4000 of PPIS field monitored
 - 14 plots in packinghouse (on top of the 107)
 -
- Importantly, these data are from the previous citrus export season (2019-2020)

8) Are there variations in infestation levels between orchards/regions inspected?

This variation depends on Citrus species (or varieties). No other factors seem to influence the infestation levels within the infested areas. Easy peeled varieties are quite sensitive to the pest. The 'Orri' variety is the most sensitive and only in one case it was detected in grapefruit. 50% of the exported fruits are Orri and therefore, management of the pest for this variety is a central concern for Israel.

9) Is there any recent trend in pest prevalence in the country as such or in any particular region?

Some trends seem to be underlying FCM prevalence in the country. Low trapping incidence since 2017. Captures seem to be concentrated in the centre of Israel and mostly along the coastline in the western part of the country. This tendency led to reshape the FCM distribution and System Approach boundaries in Israel.

10) Please provide an example of pest-findings/trap-catches coming from one orchard inspected during the growing season.

The number of generations ranges between 4-6 per year. Mating disruption begins in August when fruits are unripe and is applied throughout the whole growing season. Figures with data of trap-catches from the exporting plots through the year can be provided, both from the Israeli services and the farmers.

11) What is the density of trapping used for monitoring, what are the thresholds established for corrective measures to be applied and for disqualification?

Based on the SOP (*Guidelines for plots that export Citrus to the EU in areas that are under the Systems Approach for FCM*), the trap density and threshold for active measures is detailed as follows:

The grower will place the monitoring trap in the plot. One trap will be placed per 25 dunams (2.5 ha). Response threshold for monitoring findings; the grower will apply mating disruption according to the Extension Services Instructions in the following cases:

- Trapping FCM males in 3 consecutive monitoring visits or trapping an average of more than 10 FCM males in a plot, in a single monitoring visit. Additionally, there are response thresholds for fruit inspections in the plot; if a single fruit is infested with larvae or eggs, the grower will apply biological treatments and will continue applying mating disruptions in the plot according to the PPIS instructions. If there are 3 or more fruits infested with larvae or eggs, the plot will be suspended from export to the EU for at least 5 weeks and after that the threshold is set below 3 infested fruits in a 20' inspection visit. Grower will continue applying spraying and mating disruption.

12) (Point 5.2.4) Please list and explain the corrective measures and provide details on SOPs.

See provided SOPs (in pdf). The corrective measures consist of mating disruption, application of bio-pesticides (e.g. *Bacillus thuringiensis* or viral products) and suspension of the plot.

13) What is the threshold used for application of pesticides?

When one egg/young instar is found in the plot BT or viral products are applied. Usually, no chemical pesticides are applied.

14) (Point 5.2.7) Please provide with an example of a report of inspection and monitoring.

The approval for harvest is based on the following monitoring reports:

a) plot log

b) records of inspection visits of all exporting plots (by means of GIS): scouts visit the plot, collect the data in the plot (plot log, sanitation, traps/monitoring, application of corrective measures or not, number of fruits infested with moths, etc.). All these data are summed-up in an Excel file. A copy of this report

can be provided to EFSA. The PPIS inspectors collect their inspection data, of approximately 50% plots, through their phone to the GIS system. These data can be exported in an Excel format.

15) Are there any thresholds used for approving harvest and export to the EU of an orchard based on inspection and monitoring reports?

The approval is related to the compliance with all requirements according to the Guidelines for plots that want to export into the EU, during the whole season. Specifically, among the requirements as already mentioned are 0 tolerance of Ricinus plants in the plots and below 3 infested fruits during the 20' inspection visit. Harvest stops if 3 or more infested fruits are found.

16) (Point 5.2.8) Please provide details on how burial pits are applied for sanitation and define "sufficient distance".

The common sanitation practice for citrus production in Israel has changed in recent years from burial of fruit to fruit crushing due to economic and environmental conditions. Crushing seems to be more applicable to orchards in Israel and is considered more effective for sanitation against FCM. In preparation for crushing, fruits are collected so no fruits are left on the trees, generally at the end of the harvest. The fruits are crushed with the use of specialised equipment as it was shown in a video. No burial pits are used anymore.

17) Please provide details on how fruit is safeguard during transport from orchards to packinghouses.

Safeguarding refers to 2 points:

- 1) The physical transportation regarding the fruits
- 2) Traceability. Traceability is really important in the whole Systems Approach. Transportation from the orchard to the packinghouse is under strict traceability of each plot and pallet. Traceability is ensured and maintained by the use of barcode system or by the use of the hard copy ID certificate. Each grower/packinghouse has its own barcode system, as long as there is a barcode system with a mark and identification of the container, the product is accepted. Exporters employ a harvest coordinator who is responsible to ensure that harvest is done from the plot that has been agreed for. Exporters ensure the appropriate registration and the approval of the harvested plot. Each grower labels the plastic container that they sent from the plot. Each harvest is documented in a hard copy ID certificate which includes the grower code number, the number of containers, the plot name and the plot number. For the delivery to the packing house, the containers are covered with a synthetic canvass (tarpaulin), which are uncovered only when they arrive at the packinghouse. The carrier company is under agreement with the exporter which obliges them to transport the fruit directly to the packing house without stops and to maintain the truck clean. The packing house ensures through the ID system that pallets do not mix fruits from different growers.

18) Please provide SOPs or detail relevant information of the procedures applied in the packinghouse (in English).

The SOPs have been already sent to EFSA, including all the relevant information. When Israel reports that plots are under the same phytosanitary status (in Section 3.2.1), it is meant that are approved plots according to the Systems Approach, since Israel is also exporting to other destinations other than the EU. This is ensured through the traceability system. Everything is reported in the registration system. Every grower, exporter and packinghouse have access to a map (online) where they can look for their plots and enter all the details of their plots and create an Excel file as an output.

During harvesting period, they have access on a different online-map, where they can check the status of the plot, including all the relevant data (name, ID number) and if it's approved for harvest. If the field scout rejected the plot, it's stated as '*not approved*'. Moreover, in the packing house they can know if the container that arrived comes from a Systems Approach area and if it's approved for harvest or not. Through the ID of the plot, it is possible to see all the history along the whole process. So, when the truck arrives from the plot to the packinghouse, they can see the number on the container and they can check in the GIS system, what is the status of the plot. That is how the phytosanitary status is known. All the packinghouse inspectors (from the PPIS) have a tablet and only when they see in the system that it is approved for harvest, they will open the containers. Additionally, packinghouse employees can regularly check the status of the product, at a different point along the sorting and packing. Fruits are checked about 5 times from the time they arrive at the packinghouse until the final pallet, with an additional check before issuing the phytosanitary certificate.

19) (Point 5.4.3) Fields scouts referred in this point are the same as those indicated in point 5.2.3? What is the inspection protocol used?

Point 5.2.3 refers to the scouts hired by the grower, whereas the inspection mentioned in 5.4.3. refers to personnel hired by the packinghouse. Usually, they are not the same people. The inspection activities will be in accordance with the ISPM Guidelines for plots that export fruits into the EU, in areas that are not free from the FCM.

20) (Point 5.4.9) Please explain what you mean with a representative sample. What do you mean with suitability? Is there a different threshold for each step during sorting and handling?

The sampling methodology is described in the Guidelines for the packing house which exports fruits to the EU.

Suitability means compliance with the defined tolerance thresholds, comparing inspection points along the process. In the packinghouse, there are 3 different inspection points along the process:

a. Gate check (when the fruit is accepted)

Set from the Systems Approach area; plot should be sampled for 4 plastic containers, 25 fruits/container to a total of 100 fruits.

Defining the tolerance, the test can be performed up to 3 stages, each depending on the previous results (for more details, please consult the SOPs files that we sent you).

Stage 1.: For the 1st 100 fruits, if they find 0 infested fruits, the set is approved. If they find 1 infested fruit, then it's going to Stage 2. If they find 2 or more infested fruits, then the set is disqualified for export.

Stage 2.: They sample additionally 100 fruits. If they find 0 infested fruits, the set is approved. If they find 1 infested fruit, it goes to Stage 3. If they find 2 infested fruits or more, then the set is disqualified for export.

Stage 3.: They sample additionally 100 fruits. If they find 0 infested fruits, the set is approved. If they find 1 infested fruit or more than the set is disqualified for export.

b. Kanat

This second inspection point is during the packaging. Each set is sampled randomly through the automatic line. This is done multiple times with 10 fruits taken per sample (approximately per one plastic container, 1000-2000 fruits/container). Maximum of 2 infested fruits in the whole set sample is allowed and then sorting and packaging may continue. Finding of 3 or more infested fruits, the set is disqualified.

c. 'End product'

This is the 3rd inspection point and it's the pre-shipment check and it occurs before the inspection of PPIS. It's performed by the packing house for every pallet from the approved infested area by the following method:

One box marked and ready to export pallet will be sampled. Each sample and checkbox will be marked in a manner that allows visual identification as agreed with the PPIS. The tolerance at this stage is 0 findings.

This was the packinghouse inspection. The findings from this inspection are documented by the packinghouse and a report of the findings is issued to the PPIS every month. A committee of experts established this sampling method over 2 years ago, during the preparation of the SOPs under the systems approach for the approval of the EU. The target of this method was to reach the number of at least 600 fruits along the chain, according to the ISPM Guidelines.

21) (Point 7.1.6) What do you mean with facility? Is this at orchard/packinghouse, or both? Please specify. Please define here what are the corrective actions at the orchard or the packinghouse.

Facility refers to packinghouse. Corrective actions are required by the PPIS in case of FCM findings in the packinghouse during PPIS inspection of fruits. Tolerance is 0 and in case of a single finding corrective actions are required. All pallets from the same plot after official identification of the pest are disqualified for export to the EU. All pallets from the same plot will be located and disqualified. All unpacked fruits of the same plot will be disqualified. Packed fruits in the packinghouse from the same plot that have not yet been officially inspected and approved will be disqualified. This specific plot will be disqualified. Corrective measures will be applied and only after PPIS inspected and approved this plot and after successful audits, it can continue exporting to the EU.

The threshold is set on 4 official disqualifications/week, but it never happened in reality.

Corrective measures depend on the level of failure. For example, when there are some disqualifications during the inspections (e.g., failure of filling in the documents correctly), after an additional audit they can continue exporting.

22) Is mating disruption applied in orchards exporting citrus to the EU? Please provide data on the efficacy of mating disruption as strategy to control FCM in Israel.

The efficacy of mating disruption products is tested even prior to its registration and application in the orchard. These products must be proved effective compared to the control, i.e. other treatments (e.g. chemical insecticides). There are thresholds for application of mating disruption products which are required by the PPIS based on the SOP. That is the trapping of FCM males in 3 consequent visits or the trapping of 10 FCM males in the plot within a single monitor visit. In addition to that, approximately half of the growers will apply prophylactically mating disruption based on exporter demands. The extension service of the Ministry of Agriculture urge the growers to use them even if they don't have any history of

pest prevalence. The application will begin in August along the cultivation period. The application of mating disruption has been proven in two levels, even prior to the registration of the product and after it continuously be tested. The extension services are deeply involved in this process. It becomes a basic component against FCM, of course combined with other methodologies (monitoring, bio-pesticides, strict sanitation of orchards). In Israel, there are 3 products of mating disruption; dispenser of the pheromone, paste or liquid spray, accompanied with really strict instructions concerning the dosage, monitoring, other treatments or either the combination of these products.

We will send you a detailed explanation on how these products are applied and specifically about the BT and virus products.

Summary from Prof. Abed Gera, Director PPIS

A final summary and some reflections on the systems approach applied in Israel are given.