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COMMISSION ON PHYTOSANITARY MEASURES

Sixteenth Session

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**Written reports from international organizations - Joint FAO/IAEA Centre
of Nuclear Techniques in Food and Agriculture Report**

Agenda item 16.2

Prepared by FAO/IAEA

English only

1. The International Atomic Energy Agency (IAEA), in partnership with the Food and Agriculture Organization of the United Nations (FAO), through their Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture (Joint FAO/IAEA Centre), has been actively supporting the Secretariat of the International Plant Protection Convention (IPPC) since 2004 in the development and review of International Standards for Phytosanitary Measures (ISPMs) and its activities to improve phytosanitary capacity of IPPC Contracting Parties.
2. The Joint FAO/IAEA Centre continued to support the IPPC Secretariat in 2021.
3. In support of the *Technical Panel on Phytosanitary Treatments* (TPPT) activities, the Joint FAO/IAEA Centre provided expertise, helped review supporting data related to ISPMs, and conducted research to fulfil requirements for treatment recommendation. Support was provided on the development of the irradiation treatment for the mango weevil, *Sternochetus frigidus*. The draft was finalized and presented to the Standards Committee (SC) for approval.
4. Support was also provided for the review and revision of ISPM 18 (*Guidelines for the use of irradiation as a phytosanitary measure*) that currently provides guidelines for the use of irradiation as a phytosanitary measure, and which may in the future provide requirements for the use of irradiation. A briefing paper was provided on the maximum permitted X-ray energy that may be used. Discussions also centred on specific dosimetry aspects regarding the use of gamma, electron beam and X-ray ionising radiations.
5. Regarding the continued development of new phytosanitary irradiation treatments, the Joint FAO/IAEA Centre has also announced a new coordinated [research initiative on Phytosanitary Treatment of Food Commodities and Promotion of Trade](#). Research partners have been selected to validate radiation doses proposed as generic treatments for key groups of pests (e.g. weevils of the family Curculionidae, leaf miners of the family Agromyzidae, mealybugs of the family Pseudococcidae, scale insects of the family Diaspididae, eggs and larvae of the order Lepidoptera, regulated insect pests other than pupa and adult Lepidoptera, mites of the family Tetranychidae, pupae of the order Lepidoptera, mites in families other than Tetranychidae).
6. A Focus Group (FG) was set up by the Commission on Phytosanitary Measures (CPM) to develop a global system titled “Strengthening Pest Outbreak Alert and Response System”. The Joint FAO/IAEA Centre provided expertise to the FG. A comprehensive report was prepared and presented to the CPM Strategic Planning Group (SPG). The aim of the global system is to empower Contracting Parties so that they are better prepared to alert about the threat or detection of an emerging pest and to be able to effectively respond. The system is designed to work in collaboration with other existing plant protection organizations at the global, regional, and national levels complementing expertise and resources. The SPG will present the recommendations of the report to the CPM-16 in April 2022
7. An animated infographic on “Fruit Fly Standards Can Help Gain Market Access”, in the six official UN languages was produce in collaboration with the IPPC. Fruit flies present a major challenge to international trade, because if they are detected in fruits, trade may be stopped. That is why a set of ISPMs on fruit flies has been developed and

recently reorganized. When a country plans to export fruit, this set of standards can help to facilitate the process. The standards that are related to fruit flies include: ISPM 37 on “host status”; ISPM 26 on “fruit fly free areas” and ISPM 35 on “systems approach”. Through the implementation of these standards, countries protect plant resources from fruit fly pests, while at the same time ensuring the application of justified measures that facilitate safe trade (<https://www.iaea.org/newscenter/multimedia/videos/fruit-fly-standards-can-help-gain-market-access>).

8. In terms of development of technical materials to support the implementation of the ISPMs, upon the request of FAO Members and IAEA Member States the following materials were produced in 2021:

- a. *FAO/IAEA (2021). Sterile Insect Technique: Principles and Practice in Area-Wide Integrated Pest Management, 2nd ed., Dyck V.A., Hendrichs J. and Robinson A.S., (Eds.), CRC Press, Boca Raton, FL, USA. 1216pp. (<https://doi.org/10.1201/9781003035572>).*
- b. *FAO/IAEA (2021). Area-Wide Integrated Pest Management: Development and Field Application, Hendrichs J., Pereira R. and Vreysen M.J.B., (Eds.), CRC Press, Boca Raton, FL, USA. 1028pp. (<https://doi.org/10.1201/9781003169239>).*
- c. *Insects (2021). Special Issue on Sterile Insect Technique (SIT) and Its Applications. K. Bourtzis and M.J.B. Vreysen (eds.). <https://www.mdpi.com/si/28202>.*
- d. *FAO/IAEA (2021). E-learning course on Fruit Sampling for Area-Wide Fruit Fly Programmes (<https://elearning.iaea.org/m2/enrol/index.php?id=1168>).*
FAO/IAEA (2021). E-learning course on Action Plan Against Quarantine Fruit Fly Species of the Genus Bactrocera spp. (in Spanish) (<https://elearning.iaea.org/m2/course/view.php?id=914>).

9. In terms of capacity building, the Joint FAO/IAEA Centre as devoted part of its technical assistance to regulatory aspects and facilitating the implementation of the ISPMs in developing countries through regional workshops and technical meetings. In 2021, two regional FAO/IAEA training events (courses and workshops) were held, addressing the following topics:

- a. *State-of-the-Art Sterile Fruit Fly Shipping, Packing and Release Systems, 16 April 2021 (virtual).*
- b. *Phytosanitary Schemes to Enable Fruit Exports Under the Framework of the WTO and the SPS Agreement, 21 June–2 July 2021 (virtual).*
- c. *Regional Workshop on Middle East Database on Non-Indigenous Pests, 26–28 July 2021 (virtual).*
- d. *Managing Fruit Fly Surveillance Networks Based on Risk Factors, 26 July–6 August 2021 (virtual).*