



## Report from the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture to CPM-18 (2024)

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 2023.
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. The following review and treatments were adopted at CPM-17 in 2023:
  - The revision of ISPM 18 (*Requirements for the use of irradiation as a phytosanitary measure*)
  - PT 45 (Irradiation treatment for *Pseudococcus jackbeardsleyi*) as Annex 40 to ISPM 28 (*Phytosanitary treatments for regulated pests*)
4. The Joint FAO/IAEA Centre is implementing a coordinated research initiative on Novel Irradiation Technology for Phytosanitary Treatment of Food Commodities and Promotion of Trade (CRP D61026). With 13 institutions collaborating to validate radiation doses that can be considered as generic irradiation treatments for key groups of pests. Research is also investigating factors that might affect treatment efficacy. The 2nd research coordination meeting was held in July 2023, we are very thankful that The Secretary of the International Plant Protection Convention opened the 2nd research coordination meeting, and that the IPPC secretariat was also available to provide valuable input to this online meeting. Having more internationally accepted generic treatments, where one radiation dose is broadly applicable to a wide range of different pest species, would enhance trade in fresh commodities and support further up take of the technology. The next coordination meeting is being planned for late 2024.
5. 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 (POARS)”. 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. A staff Member of the Joint FAO/IAEA was nominated and accepted to be part of the POARS Steering Group

6. In 2023, the Joint FAO/IAEA Centre reported to the IPPC the work done on an Interregional project "Strengthening Member State Capacities to Combat Banana Fusarium Wilt (TR4) through Early Detection, New Resistant Varieties, and Integrated Management". This project was presented to the IPPC Meeting, Open Session on Implementation, and capacity Development Projects in May 2023,
7. On 18 October 2023, the Directors General of FAO and IAEA issued a joint statement about "Atoms4Food" and the initiative was launched at the 2023 World Food Forum in Rome. It will support countries to use innovative nuclear and related techniques to ensure food safety, enhance agricultural productivity, reduce food losses, improve nutrition, and adapt to the challenges of climate change. There will be a focus on tailor-made responses to the specific needs of countries. For example, through the Atoms4Food initiative the IAEA and FAO can be invited to provide evaluation services. Such country-specific assessments will be used as the basis for the FAO and IAEA to harness partnerships and collaboration with other UN Agencies, the Consultative Group on International Agricultural Research (CGIAR), international financial institutions, development agencies, foundations, industry, national academic centres, research institutions, and other relevant partners, to deliver the long-term outcomes identified.
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 2023:
  - *FAO/IAEA. (2023). Guideline on Phytosanitary Procedures for Area-Wide Management of Fruit Fly Pests, Jesus Reyes Flores, Walther R. Enkerlin, Jorge Hendrichs and Rui Pereira (eds.), Food and Agriculture Organization of the United Nations/International Atomic Energy Agency. Vienna, Austria. 224 pp. ([https://www.iaea.org/sites/default/files/guideline\\_on\\_phytosanitary\\_procedure\\_s.pdf](https://www.iaea.org/sites/default/files/guideline_on_phytosanitary_procedure_s.pdf)).*
  - *FAO/IAEA. (2023). International Guidelines for Transboundary Shipments of Irradiated Sterile Insects. W.R. Enkerlin, C. Nelson, M. Quinlan, R. Griffin, R. Bellini, G. Yaacobi, J. Bouyer & R. Pereira, eds. Vienna, Austria. 43 pp. (<https://doi.org/10.4060/cc8029en>)*
  - *FAO/OIEA. (2023). Directrices generales para facilitar la apertura de mercados internacionales de frutas y hortalizas hospedantes de moscas de la fruta con base en las normas internacionales de medidas fitosanitarias. Viena. (<https://doi.org/10.4060/cc0361es>).*
9. In terms of capacity building, the Joint FAO/IAEA Centre has 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 2023, seven FAO/IAEA training events (courses and workshops) were held, addressing the following topics:
  - *FAO/IAEA Regional Meeting on Genetics, Breeding Procedures and other Characteristics of the New Genetic Sexing Strain of *Anastrepha fraterculus* (RLA5087). 27–31 March 2023, Mendoza, Argentina.*

- *FAO/IAEA Workshop on Detection and Diagnostics of Foc TR4, 12-14 April 2023, 80 participants, 12 countries. Virtual. Virtual*
- *FAO/IAEA Regional Training Course on Applying State of the Art Dosimetry and Quality Control Tests for South American Fruit Fly *Anastrepha fraterculus* (RLA5087). 8–12 May 2023, Seibersdorf, Austria.*
- *FAO/IAEA and OIRSA Regional Workshop on Emergency Response to Outbreaks of the Invasive *Bactrocera* spp. Fruit Flies (RLA5082). 8–12 May 2023, San Salvador, El Salvador.*
- *FAO/IAEA Regional Training Course on Banana breeding for resistance to *Fusarium* wilt (Foc TR4) using tissue culture and nuclear techniques, 28 August to 1 September 2023, 10 participants, 6 countries. Brazil*
- *FAO/IAEA Study Tour on How Australia is Managing Tropical Race 4 (TR4), 16 - 25 October 2023, 9 participants, 5 countries. Australia*
- *FAO/IAEA Regional Training Course on Mutation Breeding and Efficiency Enhancing Techniques for Resistance to Banana *Fusarium* Wilt Race TR4, 8 participants, 23 October to 3 November 2023, 5 countries. Austria*
- *FAO/IAEA Regional Training Course on Area-wide Fruit Fly Integrated Pest Management Including Sterile Insect Technique (SIT) and Male Annihilation Technology (MAT) (RAS5097). 6–10 November 2023, Bangkok, Thailand.*