

Malaysia

IAEA Member State since January 1969

Selected achievements

2023: Nuclear Malaysia's designation as an IAEA Collaborating Centre in Radiation Processing, Advanced Non-Destructive Testing and Plant Mutation Breeding is extended until 2027.

2022: Malaysia receives an RCA Regional Cooperation Award for its active involvement in 141 RCA projects. Through these projects, the country organized more than 68 RCA activities that benefited more than 1200 personnel and delivered 41 technical experts.

2021: Malaysia receives an FAO-IAEA Outstanding Achievement Award in Plant Mutation Breeding.

National priorities

- Radiation safety and nuclear security
- Radiation technology and industrial applications
- Human health and nutrition
- Food and agriculture
- Water, natural resources and the environment

Main areas of IAEA support

- Strengthening nuclear regulatory infrastructure
- Nuclear medicines
- Food safety
- Radiation processing for industrial applications
- Non-destructive testing
- Nuclear and radiation safety
- Nuclear security
- Radiation technology and industrial applications
- Human health and nutrition
- Food and agriculture
- Water, natural resources and the environment



Participants observe how to prepare a ^{15}N labeled fertilizer at a hands-on training in isotopic and related techniques for climate-smart agriculture hosted by the Malaysia Nuclear Agency in April 2024. (Photo: Malaysia Nuclear Agency)

Project successes

Industrial applications and non-destructive testing

With IAEA support, Malaysia is advancing R&D capacity to combat plastic waste pollution. Significant progress has been made in recycling polytetrafluoroethylene (PTFE) through irradiation processes. A second application involves integrating radiation technology with conventional chemical recycling methods in a pyrolysis project.

These innovative approaches reflect Malaysia's commitment to advancing sustainable solutions in managing plastic waste.

Malaysia is one of the pilot countries in the IAEA NUTEC Plastics initiative to address plastic pollution.

Food and agriculture

In collaboration with the IAEA, Malaysia has expanded its capabilities to use isotope techniques to evaluate and mitigate greenhouse gas (GHG).

This has enabled the quantification of GHG emission pathways in agriculture. For example, the nitrification and denitrification processes leading to N_2O emissions.

Other applications include the measurement of GHG emissions in arable and grassland systems. This has led to improved rice production while maintaining soil health and reducing greenhouse gas emissions.

Sterile insect technology

Malaysia conducted a training course on ‘Genomics and Bioinformatics of Avian Influenza’ in May 2023, hosted by the Veterinary Research Institute and involving experts from WHO and other international entities.

Malaysia also hosted a regional training course covering different aspects of sterile insect technology (SIT), attended by over 30 participants from 13 countries.

These initiatives reflect Malaysia’s commitment to enhancing expertise in areas crucial for veterinary public health and regional collaboration, contributing to long term disease control and prevention.



A demonstration of a nuclear density gauge. (Photo: Malaysia Nuclear Agency)

Participation in the major initiatives

- NUTEC Plastics
- ZODIAC

Date of imPACT Review(s)

2013

IAEA support received in the 21st century



Contributions to South-South and triangular cooperation

