

Syrian Arab Republic

IAEA Member State since June 1963

Selected achievements

2023: Twenty advanced mutant lines of barley and ten advanced mutant lines of cotton developed by the Atomic Energy Commission of Syria (AECS) are tested in collaboration with the General Commission for Scientific Agricultural Research (GCSAR) in multiple locations to improve yields under drought conditions.

2021: The Patient Dosimetry Laboratory is established to support patient dose verification and emphasize radiation protection in medical exposures.

2020: The Viral Diagnostic Laboratory is established at the Atomic Energy Commission of Syria (AECS) with support from the IAEA.



Production of industrial enzymes in a laboratory in the Syrian Arab Republic. (Photo: Atomic Energy Commission of Syria)

National priorities

- Legal framework
- Nuclear and radiation safety and security
- Energy planning
- Radiation technology and industrial applications
- Nuclear knowledge development and management
- Water resources
- Food and agriculture
- Human health and nutrition
- Quality control in laboratories

Main areas of IAEA support

- Human health and nutrition
- Industrial applications
- Isotopic hydrological investigations
- Animal nutrition
- Energy planning
- Radiation biological dosimetry
- Agriculture
- National capacity development
- Nuclear knowledge management

Project successes

Human health

Coinciding with the 20th anniversary of the ARASIA agreement in 2022, Syria signed a Memorandum of Understanding (MoU) between the ARASIA Board of Representatives and the National Radiation Metrology Laboratory (NRML) of AECS to designate the laboratory as an ARASIA Regional Resource Center.

The focus of the MoU is on human resource development and technical support related to Secondary Standard Dosimetry Laboratory (SSDL) applications. It facilitates the provision of expert support, access to research data, the organization of workshops and training courses, and the exchange of technical expertise to meet the needs of countries in the region and further strengthen their collaboration.

Animal health

In 2017, the IAEA facilitated the establishment of the Veterinary Drugs and Growth Promoters Residues Laboratory at the Atomic Energy Commission of Syria.

Employing advanced techniques such as enzyme-linked immunosorbent assay (ELISA) and high-performance liquid chromatography (HPLC), it provides comprehensive screening services for veterinary drug residues.

In 2023, the laboratory successfully participated in a proficiency testing programme, demonstrating the laboratory's commitment to ongoing quality assurance to ensure sustainable benefits for food safety in Syria.

Industrial applications

The IAEA helped the AECS to establish a cyclotron facility for the production of short-lived radiopharmaceuticals and to promote their full utilization in medical practice.

Since 2021, these radiopharmaceuticals have been produced and distributed to hospitals, benefiting over 6000 patients annually.

This initiative has contributed to the advancement of preventive medicine in the country and to the overall improvement of health management, especially in the areas of oncology, cardiology, and neurology.

The IAEA's ongoing assistance has enabled the large-scale production of Tc-99m generators, various medical kits, and the development of therapeutic radiopharmaceuticals such as Yttrium-90.

This collaboration has also contributed to improved GMP standards to cover the needs of the local nuclear medicine centres and of many other countries in the region, enhancing healthcare in Syria and neighbouring countries.

Participation in the major initiatives

- NUTEC Plastics
- Rays of Hope
- ZODIAC

Date of imPACT Review(s)

2022

IAEA support received in the 21st century



Contributions to South-South and triangular cooperation

