2.5.3 University Access to Local Farmers and Food Producers 2024/2025

Cooperation Protocol with MAFI for Agricultural Produce Industries (23 September and 28 November 2024)

AASTMT President Prof. Dr. Ismail Abdel Ghaffar Ismail Farag and Mr. Ahmed Abou Hashima, Founder and Chairman of MAFI, signed the protocol on 23 September 2024 at the Heliopolis Campus. A technical meeting on artificial intelligence in agriculture followed on 28 November 2024. Under the protocol, agricultural producers and processors can use AASTMT's specialized R&D laboratories, supply-chain modelling and precision agriculture technologies.



AASTMT news page on the MAFI cooperation protocol

Signing of Cooperation Protocol between AASTMT and MAFI for Agricultural Produce Industries (23 September 2024):
Signing of Cooperation Protocol between AASTMT and MAFI for Agricultural Produce Industries (23 September 2024)

Aquaculture Research Center and CFAT Laboratories

The ARC and CFAT at the Abu Qir campus offer local fish farmers, hatchery operators and coastal producers access to water quality laboratories, fish pathology and AQAMEH diagnostic laboratories, and experimental aquaponics and hydroponics greenhouses. ARC also opens its vermicomposting beds as a working laboratory for farmers and SMEs.



ARC greenhouse and vermicomposting facility

AASTMT Aquaculture Research Center (ARC):
AASTMT Aquaculture Research Center (ARC)

Jet Engine Agricultural Robot and Smart Solar Waste Compactor (10 July 2025)

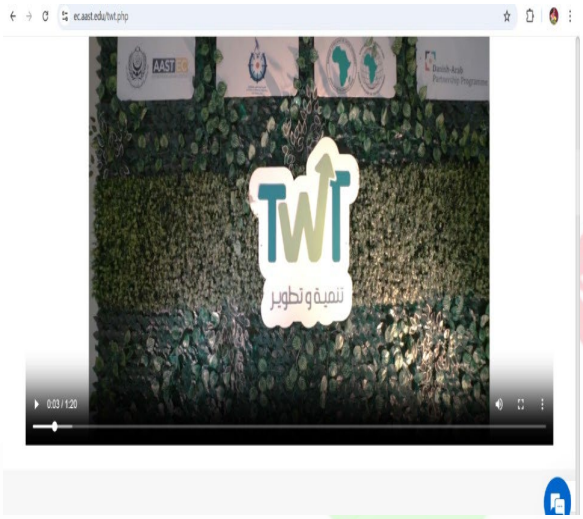
At the Industry Service Complex, Technical and Vocational Institute students presented a Jet Engine Agricultural Robot and a Smart Solar Waste Compactor. A panel led by Prof. Akram Soliman, Dean of the Faculty of Engineering, evaluated them for pest control, orchard spraying and farm waste handling.

Jet Engine Agricultural Robot and Smart Solar Waste Compactor at the ISC (10 July 2025):
Jet Engine Agricultural Robot and Smart Solar Waste Compactor at the ISC (10 July 2025)

Tanmia Wa Tatweer (TWT) Agribusiness Incubator and AASTEC Support

Through the Tanmia Wa Tatweer (TWT) Agribusiness Incubator and AASTEC's Supply Chain Accelerator and Ripple Enabler programmes, AASTMT offers smallholder innovators and agri-tech startups co-working space, prototyping labs and mentorship. The focus is Upper Egypt and the New Valley governorates, and the services are open to people with no university affiliation.

AASTEC Tanmia Wa Tatweer (TWT) Agribusiness Incubator:
AASTEC Tanmia Wa Tatweer (TWT) Agribusiness Incubator



Tanmia Wa Tatweer (TWT) Agribusiness Incubator, AASTEC video



AASTEC incubator session with agri-tech startups

Baseline and Post-Window Items

Egyptian Agricultural Bank, Halwany Brothers and Matrouh Governorate partnership (multi-year MoU, 2022–2024 baseline). Alongside rural scholarships, AASTMT gives technical consultation to local desert farmers and herders on rainwater harvesting, drought-resistant cultivars and livestock value chains.

Hydrogen irrigation engine (1 October 2025). At the Green Power H2O facility, engineers replaced diesel completely with green hydrogen in an agricultural irrigation pump, tested at 30% to 70% engine load. The pump delivered 56 cubic metres of water per hour with no carbon monoxide, carbon dioxide or sulfur dioxide emissions. This falls after the reporting window.

Conversion of Agricultural Irrigation Engines to 100% Green Hydrogen (1 October 2025):
Conversion of Agricultural Irrigation Engines to 100% Green Hydrogen (1 October 2025)

Solar groundwater treatment (documented 29 October 2025). AASTMT researchers built a solar photovoltaic groundwater treatment system and applied it across 13 borehole wells at Abu Qir. A filtration column using silver nanoparticles with activated carbon acts as a biocide, with no reported negative effect on people, livestock or soil, so brackish groundwater can irrigate edible crops. This falls after the reporting window.

Solar-Nanotechnology Ag/AC Groundwater Treatment Unit for Irrigating Edible Crops (29 October 2025, PDF):
PDF