MIRRA

Methods for Irrigation and Agriculture

لتطوير أساليب الري والزراعة

NEWSLETTER

AUGUST 2025 | ISSUE NO. 29

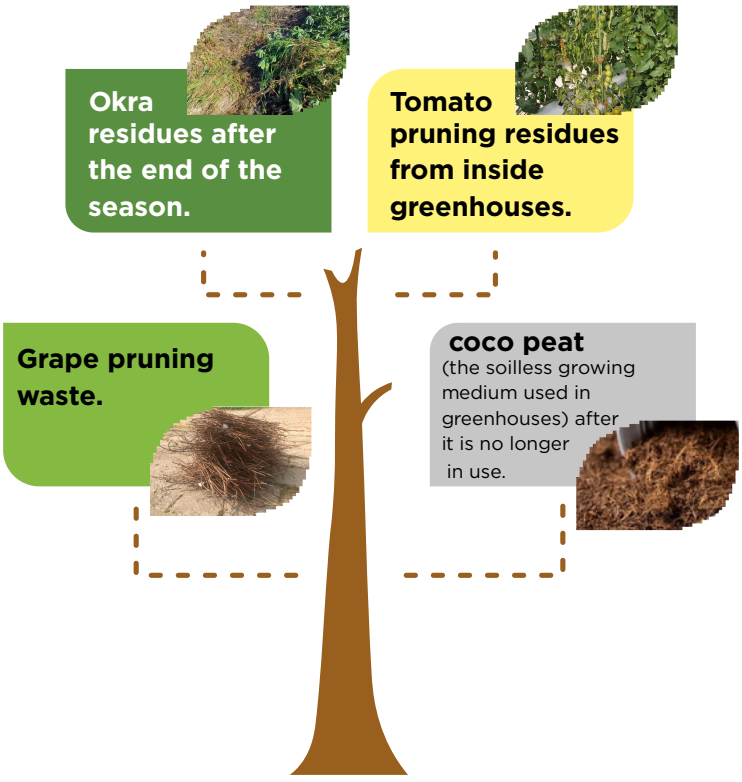
TABLE OF CONTENTS

SUSTAINABLE FARMING

Regenerative Agriculture @MIRRA's Climate Smart Farm: Crop Residue Recycling as a Natural Bio Soil Mulch

At MIRRA's Climate-Smart Farm, we are committed to applying sustainable agricultural practices that maximize resource efficiency, minimize waste and improve the soil ecosystem health. One of our key practices is Crop Residue Recycling by shredding agricultural residues and turning them into a natural soil mulch.

Picture 1: A pile of agricultural residues ready for shredding at MIRRA's Climate-Smart Farm on Tuesday 29/7/2025. Photo credit: MIRRA.



What We Shred

We collect and shred various agricultural residues generated during daily farm operations, including:

Unfortunately, most farmers in Jordan use plastic soil mulch – check our newsletter for June 2023 for a comprehensive assessment of current unsustainable practices.

Picture 2: Ayman, our Egyptian farm worker, feeding grape pruning waste into the agricultural shredder on Tuesday 29/7/2025. Photo credit: MIRRA.

Picture 3: Collecting shredded residues on a sheet for easy handling and storage on Tuesday 29/7/2025. Photo credit: MIRRA.

Picture 4: Applying shredded residues as mulch around okra plants to conserve soil moisture and suppress weeds on Tuesday 29/7/2025. Photo credit: MIRRA.

Picture 5: Okra field covered with organic mulch from recycled crop residues, promoting sustainable farming practices on Tuesday 29/7/2025. Photo credit: MIRRA.

Benefits and Importance of Crop Residue Recycling

Improves soil fertility
Shredded residues act as organic matter, enriching the soil and improving its structure and water retention capacity.

Reduces agricultural waste
Prevents residue accumulation or disposal through harmful methods or burning of residues, which causes harmful emissions.

Lowers production costs
Provides natural alternatives to fertilizers and mulching materials, reducing the need to purchase additional inputs.

Promotes agricultural sustainability
Supports circular economy principles by reusing materials that would otherwise be considered waste.

Using Shredded Material as Mulch

One of the most effective uses of shredded residues is applying them as mulch on the soil surface around plants. This practice offers multiple advantages:

Reduces water evaporation from the soil, helping save irrigation water.

Suppresses weed growth, reducing competition for nutrients and water.

Maintains stable soil temperatures, protecting it from excessive heat in summer and extreme cold in winter.

Reduces soil erosion caused by wind or rain.

Through this process, we not only keep our farming environment clean and efficient but also create a sustainable production cycle that integrates waste management with soil improvement, enhancing both crop productivity and quality.

MIRRA, the Ministry of Agriculture (MoA) and the National Agriculture Research Center (NARC) held their First Coordination

FUSION

From waste to value. From field to future

The first coordination meeting between the Methods for Irrigation and Agriculture (MIRRA), the Ministry of Agriculture (MoA) and the National Agricultural Research Center (NARC) was held on Tuesday, July 29, 2025 as part of the preparations for launching the FUSION project in Jordan.

The meeting began with MIRRA's team delivering an introductory presentation about the project, outlining its objectives and expected outcomes, while highlighting the importance of its role in supporting agricultural innovation and promoting climate-smart farming practices.

The presentation also emphasized the partnership with institutions from various Mediterranean countries. Additionally, the work packages for Jordan were reviewed, including the development of a roadmap for adopted technologies, data collection on food loss and waste, implementation of pilot activities and capacity building, as well as communication, coordination, and periodic reporting.

Picture 1: A visual summary from the presentation slides of the FUSION project

المركز الوطني للبحوث الزراعية
National Agricultural Research Center

During the discussion, both parties agreed on mechanisms for collaboration, whereby NARC would oversee the implementation of MIRRA's field and technical activities, ensuring that the center is kept informed through periodic reports and updates upon achieving key milestones. The meeting also included a discussion of potential sites for piloting project technologies, including MIRRA's Climate Smart Farm.

This meeting marks an important step in strengthening coordination and defining roles among stakeholders, ensuring joint efforts are integrated toward the success of the FUSION project and delivering tangible impact in Jordan's agricultural sector.

YOUTH CAPACITY BUILDING

MIRRA Opens Its Doors to Students: Supporting the Next Generation of Changemakers

Water Scarcity in Jordan: A National Challenge

Jordan is one of the most water-scarce countries in the world. With annual renewable water resources falling far below the international water poverty line, the country faces a pressing crisis that impacts agriculture, industry, and everyday life. Rapid population growth, climate change, and the influx of refugees have further strained limited water supplies. This situation makes innovation and sustainable management of water resources not just an option, but a necessity for the nation's future.

MIRRA's Commitment to the National SDGs

In line with Jordan's **National Water Strategy (2023–2040)** and the **Sustainable Development Goals (SDGs)**, MIRRA has positioned itself as a leader in advancing solutions for water and agriculture. Most notably, MIRRA contributes directly to **SDG 6: Clean Water and Sanitation**, by promoting innovative water-saving technologies and supporting communities in better managing their scarce resources. Beyond that, MIRRA's initiatives also reinforce **SDG 13: Climate Action** and **SDG 12: Responsible Consumption and Production**, ensuring that sustainability is embedded in all its activities.

But MIRRA's impact goes beyond technical projects. The organization strongly believes that **youth engagement and education** are central to achieving long-term sustainability. By opening its doors to students, MIRRA fosters a culture of learning, innovation, and responsibility among the next generation, empowering them to become agents of change in addressing Jordan's most urgent environmental challenges.

The Student Engagement: An Inspiring Exchange

As part of this mission, **Eng. Ammar Namarneh from MIRRA** recently hosted an interview with **Hashim Al-Hudhud**, a student at the Modern Montessori School, as part of the International Baccalaureate (IB) Diploma Programme's Global Politics Engagement Project.

Hashim's project, titled *"To what extent has the Water Innovations Technologies (WIT) Project been successful in mitigating the water crisis in Mafraq Governorate, Jordan?"*, reflects both the importance of community-centered research and the role of partnerships between educational institutions and organizations like MIRRA.

In his reflections, Hashim highlighted how experiential learning combines classroom study with real-world engagement. By consulting sources and meeting with experts, students can grasp the complexity of issues such as water scarcity and explore practical pathways to solutions. He emphasized that the interview with MIRRA shed light on the organization's pivotal work and the efforts of its engineers in addressing one of Jordan's biggest crises—water scarcity.

Picture 1: Students training at MIRRA through these projects: Al-Balqa Applied University Training Program (left), AVSI – JODHOUR (center), and NUFFIC – Enhancing Capacities of Syrian and Jordanian Youth on Smart Agriculture (right)

MIRRA: Always Open for Students

This collaboration is a reminder of MIRRA's ongoing commitment to support students, whether through research, training, or practical field exposure. The organization views such engagement as an investment in the nation's future, ensuring that students are not only aware of the challenges Jordan faces but are also equipped with the knowledge, tools, and inspiration to be part of the solution.

As MIRRA continues its journey toward achieving the SDGs and strengthening Jordan's resilience against water scarcity, one thing remains clear: **its doors will always remain open to students**. By nurturing the curiosity, passion, and creativity of the younger generation, MIRRA ensures that the seeds of innovation and sustainability continue to grow—benefiting communities today and securing a better tomorrow.

Picture 2: Eng. Ammar Namarneh from MIRRA (Left) with Hashim Al-Hudhud from Modern Montessori School (Right), during an inspiring exchange on water innovation and student engagement on Sunday 24/8/2025. Photo credit: MIRRA.

https://mirra-jo.org
info@mirra-jo.org
941454 Amman 11194 Jordan
Methods for Irrigation and Agriculture - MIRRA
7 Abdelaziz Al-Thaalibi Street, Shmeisani, Amman, Jordan.

MIRRA
Methods for Irrigation and Agriculture
لتطوير أساليب الري والزراعة