

Shobak Agricultural Research Center

Tasks of the Center

The center is responsible for implementing applied agricultural and developmental research and services intended to develop the agricultural sector in the region within a clear vision and mission.

Services provided by the Center

1. Develop the center's laboratories and facilitate the task of analyzing soil, water and plant diseases samples and serve farmers
2. Deploy and disseminate many agricultural technologies to farmers to serve the agricultural sector.
3. Train farmers and associations on fish breeding and provide them with fingerlings and follow-up.
4. Qualify and support women's associations in the manufacture and production of natural apple cider vinegar
5. Rehabilitate farmers and those interested in sound agricultural practices as a matter of social responsibility

Scientific Papers

- Publish nine scientific papers in scientific journals and circulate them through the Center's mail and social media groups to inform fellow researchers and interested people Prepare an article on the environment of herbs " and circulate it to colleagues through the Center's groups.
- Al-Ramamneh. E, Dura. S, Asoufi. H, Al-Syouf. M, Salameh. M , Al-Tawaha. A and Karajeh. M, 2020. Molecular Characterization of Jordanian Pomogranate (*Punica Granatum*. L.) Genotypes Using RAPD Markers in Ma'an Region. *Fresenius Environmental Bulletin*. 29 (12A): 11761-11767.
- Abdel-Monnem Kahlel, Alaa Ghidan, Tawfiq Al-Antary, Ibrahim Alshomali and Hassan Asoufi. 2020 Effects of Nanotechnology Liquid Fertilizers on Certain Vegetative Growth of Broad Bean (*Vicia faba* L.). *Fresenius Environmental Bulletin*. 29 (06): 4763-4768
- Alaa Ghidan, Abdel-Monnem. Kahlel Tawfiq Al-Antary and Hassan Asoufi. 2020 Efficacy of Nanotechnology Liquid Fertilizers on weight and chlorophyll of Broad Bean (*Vicia faba* L.). *Fresenius Environmental Bulletin*. 29 (06): 4789-4793
- Tawfiq Al-Antary, Abdel-Monnem. Kahlel, Alaa Ghidan and Hassan Asoufi. 2020 Effects of Nanotechnology Liquid Fertilizers on Fruit set and Bods of Broad Bean (*Vicia faba* L.). *Fresenius Environmental Bulletin*. 29 (06): 4763-4768
- Al-Antary, T and Asoufi, H. 2019 A Case Report of the Black Weevil *Calosoma Olivieri* Dejean (Coleoptera: Carabidae) from Jordan. *Fresenius Environmental Bulletin*. 28 (11A): 8659-8662.
- Asoufi, H., Al-Antary, T., Awwad, A. 2018 Effect of Green Synthesized Magnetite (Fe_3O_4) Nanoparticles on the Green Peach Aphid *Myzus persicae* Sulzer (Homoptera: Aphididea) Longevity and Fecundity. *Advances in Environmental Biology*. 12(2): 8-10.
- Asoufi, H., Al-Antary, T., Awwad, A. 2018 Green route for synthesis hematite ($\alpha-Fe_2O_3$) nanoparticles: Toxicity effect on the green peach aphid, *Myzus persicae* (Sulzer). *Environmental Nanotechnology, Monitoring & Managemen.*, 9: 107-111.
- Asoufi, H., Al-Antary, T., Awwad, A. 2018 Effect of biosynthesized FeS nanoparticles on the GPA longevity and fecundity. *Fresenius Environmental Bulletin*. 27(11):7817-7821.
- Asoufi, H., Al-Antary, T., Awwad, A. 2018 Biosynthesis and Characterization of Iron Sulfide Nanoparticles and Evaluation their Aphicidal Activity on the Green Peach Aphid. *Fresenius Environmental Bulletin*. 27(11):7767-7775.
- Prepare scientific articles under different titles and publish them through daily newspapers and various media websites, such as

a) Lighting on nanotechnology in the agricultural sector "

<https://alghad.com/%D8>

b) Integrated management of pests towards safe products and a clean environment

<https://alanbatnews.net/article/318636>

c) Biodiversity is a national heritage and sustainable food security

<https://nayrouz.com/article/196680>

d) Sammah is a promising plant in the Jordanian desert

<https://arradnews.com/ar/index.php/2018-02-06-11-02-39/item/12245>

e) Farmer Field Schools (schools without walls.

f) Olive Festival) in Olive Shade

<https://nabd.com/s/95555857-eb884b>

Activities and Conferences

1. Provide two lectures in the field of biodiversity within the workshop of the National Biodiversity Network with the Jordanian Association for Entrepreneurship and Creativity / Petra 2021
2. Present a lecture in the field of nanotechnology in the agricultural sector at the Eighth Agricultural Conference/Moata University 2018

Videos

- a. Prepare and participate in the preparation of short instructive films, such as " Taking care of apple orchards", "Taking care of pistachio orchards, apple stalk borer" and circulate them on social networking sites and television channel to benefit farmers and those interested in the agricultural field.
- b. TV report on the role of the center in community development/ Roya News.
<https://royanews.tv/video/25355>
- c. Ard al-Khair program on the role of the center and its research duties/Jordanian TV..
<https://fb.watch/97ju-R>

Operational Projects

- a. "The Effect of Iron sulfate nanoparticles Granules on Red Spider and Nematode Root Knots".
- b. Growing willow and adapting it to unconventional water.
- c. Growing promising crops and adapting them in the Shobak environment such as “ quinoa, Safflower, saffron.
- d. Introducing the cultivation of "sugar beets and adapting them environmentally in Shubak and Muhammadiyah.
- e. Genetic Complexes of Fruit Trees " Apple, Peach, Pistachio.
- f. Comparing varieties and types of vegetables " okra, cucumbers, corn and adapting them to climate change.

Completed Projects:

1. Establishing and maintaining the sustainability of the genetic complexes of apples (64 varieties) and pistachios (9) varieties in order to preserve the genetic material.
2. Studying the avian activity of the olive fruit fly in Ma'an Governorate.
3. Breeding and releasing the vital enemy to combat cotton aphids on apples.
4. Studying genetic variation of pomegranate in Ma'an Governorate.
5. Studying the confusion of mating and the use of sexual pheromone traps to combat the apple fruit moth in Shobak
6. A project to study the fertilizer and water needs of apples in Shobak.
7. Genetic improvement project for Awassi sheep in Shobak and Wadi Musa .
8. Integrated sheep care and breed improvement package project.
9. The National Barley Soil Project and comparing and evaluating strains of barley.
10. Explaining the Study of Genetic Mutations of Wheat and Barley in Shobak .

11. Producing local vegetable varieties from the gene bank in order to localization and preservation, such as:
 - A- melon
 - B- watermelon
 - C- okra etc.
12. A project to compare local tomato breeds under protected farming conditions.
13. Project of growing willow on unconventional water and using it as a fodder crop/ Meric
14. Conservation agriculture project in field crop cultivation.
15. Comparative study of the sensitivity of varieties of almond to Powdery mildew.

Staff:

The center has the following technical staff:

1. 1 Expert Researcher/ PhD
2. 2 Researchers/Bachelor's Degree
3. 1 Research Assistant/ Bachelor's degree
4. 3 Agricultural Technicians/ Secondary School
5. 1 Laboratory Technician/ Diploma.
6. 14 technical and administrative support team members/ administrators, drivers, supplies, accountant guards etc.

Generalized techniques

No.	Generalized techniques	Number of beneficiaries	Work Area
1	Using traps in the control of olive pests	400	Shobak, Husseinia, Wadi Musa, Ma'an and Badia
2	Using sponges in the regulation of sheep and goats	100	Shobak, Wadi Musa, Al-Husseiniya, Al-Nuaimat Villages
3	Creeping feeding and gradual weaning of sheep	75	Shobak, Wadi Musa, Al-Husseiniya
4	Irrigation Fertilization Technology	15	Shobak, Ma'an, Wadi Mousa
5	Techniques for pruning fruit trees	400	Shobak, Wadi Musa, Ma'an
6	Technology of optimal use and security of pesticides, calibration of spraying and pest control machines and use of Bordeaux solution	150	Ma'an, Shobak, Wadi Musa, Al-Husseiniya
7	Automatic olive harvesting	200	Shobak, Wadi Musa, Ma'an, Husseinia
8	Regenerative pruning of olive trees in ancient Chroam	200	Shobak
9	Soapmaking	120	Shobak, Wadi Musa, Ma'an, Husseinia
10	Food Processing	100	Shubak, Al-Marijah, and Badia
11	Manufacture of silage from alfalfa products	25	Jordanian Badia (Al-Jafir and Al-Husseiniya)
12	Cultivation of medicinal and aromatic plants	25	Shobak, Wadi Musa