وسام ممدوح محمد عبيدات، دكتوراه
Wisam Mamdouh Mohamad Obeidat, PhD
Phone: + 962-6-535-5000#22518
wi.obeidat@ju.edu.jo
wisam_obeidat@yahoo.com

PERSONAL INFORMATION

Career Goals and Objectives

- Pursue a career that provides the opportunity to continually develop technical knowledge and skills, communication and exposed to general business conduct.
- Pursue a career that is intellectually engaging expose, provide new challenges and problem solving, and goal is oriented

EDUCATION

PhD in Philosophy, Plant Agriculture, Crop Physiology/ Plant genetics Major, University of Guelph. Ontario, Canada. September 2011 - June 2017.

- A thesis based Ph.D., "Genetic Variation for Chilling Stress and Spectral Reflectance in Short-Season Maize".
- Through thesis and graduate courses, gained experience in knowledge acquisition through literature reviews, developing experiments with regards to the scientific method, data collection, and management, statistical analysis, data interpretation, and communication of results via oral presentations and written a thesis.
- Conduct field measurements based on research proposal/protocol, coordinate assistance, and measurement taken at other locations, help with plot harvests.

MSc in Science, Plant Agriculture, Weeds Science Major, University of Guelph. Ontario, Canada. September 2008 - April 2011

- Thesis based master, "Maize (*Zea mays* L.) Yield in Response to Light Quality and Drought Stress".
- The hypothesis test that the reduction in root biomass caused by low red:far-red will reduce the ability of maize to recover from subsequent drought stress.
- Conduct experiments on weed ecology and in the semi-hydroponic system, preparing fertilizer mixture and measurement taking at seedling and at maturity stage.

MSc of Science, Department of Horticulture and Plant Protection, Entomology Major, University of Jordan. Amman, Jordan. September 1997 - June 2000.

- Thesis based master, "Bionomics and control of Pomegranate butterfly *Virachola (Deudorix) Livia* (Klug) (Lepidoptera: Lycaenidae) in northern Jordan".
- Gained experience and knowledge of fruit trees, developing experiments with regards to the scientific methods.

- Participated in applied date palm, pomegranate and olive tree research projects investigating fruit cracking.
- Insect and disease identification, stages, pressures, distribution in the fields to the growers and supervising fruit growers through field walk reports to facilitate pest management decisions.

Bachelor of Science in Plant Protection, Department of Plant Protection, Plant Protection Major, University of Baghdad. Baghdad, Iraq. September 1993 - June 1997.

- Completed a Bachelor of Science Degree in Plant Protection. Major Plant Protection.
- Insects and disease identification, stages, pressures and pest management decisions.

PROJECTS

Drone Pilot: Remote Sensing tools for assessing plant health and monitoring irrigated agriculture to improve water productivity: February 2021 to April 2021, Amman, Jordan.

- Training courses, conferences, and specialized workshops are organized by NARC at their research centers throughout the country. This extension service can be improved with information on spatial data and near-real-time observations, as can be generated through remote sensing technology. In particular, flying sensor (drone) technology provides added value to agricultural extension services. Flying sensor technology has observed growing interest and demand in the agricultural sector of Jordan. This course help to achieve a basic understanding of flying sensor technology, understand the processing steps required for flying sensor imagery, and discover the various practical applications of flying sensor technology for the agricultural sector, particularly for crop monitoring. Using different tools to process aerial imagery into maps and 3D such as Orthomosaic, Open Drone Map ODM, Digital elevation model and spatial analysis using geographic information system (QGIS).

Farming with alternative pollinators (FAP): February 2020 to 2023, Amman, Jordan.

- This project was funded by the International Center for Agricultural Research in the Dry Areas (ICARDA) with the National Agricultural Research Center (NARC). This project investigates physiological changes for different vegetable genotypes under farming with alternative pollinators (FAP) and under FAP-free conditions, by using habitat enhancement plants in FAP treatment to enhance the productivity of the main crop, by attracting a higher diversity of pollinators and natural enemies and various crop options for farmers income.

Monitoring the Mediterranean honey bee subspecies and their resilience to climate change for the improvement of sustainable agroecosystems April 2021 to April 2025, Amman, Jordan.

- This project is funded by The Partnership for Research and Innovation in the Mediterranean Area (PRIMA) with National Agricultural Research Center (NARC). The goals of this project are: a) to unravel the genetic background of the Mediterranean honey beesubspecies, b) to describe and understand their adaptation to Mediterranean environmental conditions and c) to identify their resilience to climatic change.

WORK EXPERIENCE

Full time lecturer: November 2022 to Date, University of Jordan, Amman, Jordan

- Weed Ecophysiology, Weed biology, Weed genomic, and weed control.

Weed Researcher: February 2019 to November 2022, National Agricultural Research Center (NARC). Amman, Jordan.

- Weed biology and ecology
- Herbicides activity and diagnosed species' herbicide injury.
- Explain appropriate safety precautions for using a hazardous material such as herbicide application for different treatments in the herbicide lab.
- Managed and conducted project in applied vegetables (Zucchini,faba bean, and Okra) research projects in rain-fed cropping systems at different location sites in two years for International Center for Agricultural Research in the Dry Areas (ICARDA), investigating physiological changes for different vegetable genotypes under farming with alternative pollinators (FAP) and under FAP free conditions, by using habitat enhancement plant in FAP treatment to enhance the productivity of the main crop, by attracting a higher diversity of pollinators and natural enemies and various crop options for farmers income.

Post-Doctoral Fellow: July 2017 to September 2017, University of Guelph, Ontario, Canada.

- Participation in weed science research projects investigating ecological changes under weed stress.
- Study plant root morphological changes under weed stress conditions.

PhD Research: September 2011 to June 2017, University of Guelph. Ontario, Canada.

- Participation in applied corn research projects investigating physiological changes of different genotypes under cold stress and under non-stress conditions, pollination and crossing different corn inbred lines to prepare and develop new maize hybrid lines to evaluate them under cold stress conditions (cold tolerance) at a different location at Elora research station and Arthur field site in different years.
- Experience with quantitate genetics experiments such as investigating the broad sense and narrow sense heritability in maize hybrids by using North Carolina meeting design II to study the main effect of combining ability in male (GCA_m) and female (GCA_f) and the specific combining ability male × female ($SCA_{m\times f}$) interaction, general combing ability (GCAs) and specific combining ability (SCA).
- Programming languages Unix and Perl and SAS and R software
- Running a growth chamber experiments for RNA extraction for two corn inbred genotypes (CG102 and CG60) to investigate physiological and molecular traits associated with the genetic differences in cold tolerance.
- GWAS Workshop. Using TASSEL, GAPIT, and R packages for GWAS (Genome-wide association studies) and GS (Genomic selection).
- Harvest the whole cobs from the new hybrids and store them in dark cold storage to keep seeds vigorous for more than 5 years.
- Experience in examining plant growth and developments and eco-physiological changes under different environmental conditions from the seedling stage until yield components harvest by conducting different types of experiments in the field, growth chambers, and greenhouse.
- Evaluate stress effects by using nondestructive measurements using different agriculture technologies such as the normalized difference red edge index (NDRE), simple ratio (SR), normalized difference vegetation index (NDVI), photochemical reflectance index (PRI), and the

water index ratio (WI) and using multiple regression modeling in order to predict plant biomass under stress conditions.

- Evaluate plant growth and development under abiotic (drought and cold) and biotic stress such as insect damaged, disease damage, and weed-crop interaction and competition at a different stage of development in the field and in the control environment.
- My field works at Elora research station which is the same location as the Canadian center corn varieties trials that obtained to observe and interact with the corn researchers on a regular basis this gives me the opportunity to know more about corn research.
- Experience in applied research operation: designing different physiological trials by using various experimental designs (randomized complete block, split plot and split block) calibrating and operating farm equipment to apply treatments, maintain trails, collect and manage data, coordinating and facilitating yield data collecting by plot combine or weight, summarizing data for statistical analysis, interpreting results of statistical analysis to identify key finding to be used for presentations, reports and development of future recommendations.
- Experience in studying whole plant shoot and root growth and development with a focus in root morphology and root respiration by using different types of equipment such as *WinRHIZO* machine to study root morphology and Li-840A CO_2/H_2O gas analyzer to study root respiration.
- Experience with analysis data using heat maps, principal component analysis, and multiple regression analysis.
- Coordinating research activity with others team member helpers, sourcing and maintaining necessary research supplies (seed, bags, flags etc.), decision making (best time to plant, dealing with equipment failures, judging field suitability, working around weather demands, working around weather demands).
- Hiring summer students and planning workloads to keep them busy throughout the summer.
- Assisted in the development and writing of formal research proposals and final reports to research funding and grants such as NSERC, as well as scientific term papers and two MSc thesis and Ph.D. thesis, summarizing key findings of research projects with the industry target audience.
- Provided assistance assembling slideshows, posters, and magazine articles regarding plant genetic and stress physiology for industrial meetings such as Pioneer Hi-bred and *Syngenta* companies and conferences.
- Give Poster an oral presentation at different local and international conferences such as American Society of Agronomy, Tampa, Florida, USA, 2013; Weed Science Society of America, Portland, USA, February 2011; and Canadian Weed society meeting, Regina, Canada, November 2010.
- Assisted in developing appropriate budgets (categories, amounts) during research proposal writing, track ongoing research program expenses, and manage budget data by allocating incurred expenses towards appropriate project budget categories through a custom spreadsheet.

Research Assistant: Summer/Fall 2011, University of Guelph. Ontario, Canada.

- Managed and conducted project evaluation weed adverse effects using a semi-hydroponic irrigation system
- Assisted in developing sampling protocol with the objective of producing scientifically defendable data at Arkell research station.
- Set up and develop the irrigation system and prepare and maintain necessary fertilizers and seeds
- Managed sampling operations – communicated with the coordinator to ensure hand harvesting was completed prior to farm harvest, managed sampling and data collection from the field, directed assistant labour.
- Produce and summer yield data, statistical analysis of the data, and discussion of the results for the lab group.
- Design experiments for new grad students.

Teaching Assistant: September 2014 to December 2014, University of Guelph. Ontario, Canada.

- Supervised third-year undergraduate lab "Crop Physiology PBIO 3110" using live plant demonstrations to convey principles of plant growth and development under stress conditions and optimal conditions.
- Design experiments for each lab group provide direction and assistance during the lab for using different machines and tools. Ensure students grasp key concepts of each lab group. Graded experiments reports, discussed answers and methodology of experiments.

Teaching Assistant: September 2012 to December 2012, University of Guelph. Ontario, Canada.

- Supervised third-year undergraduate lab "Crop Physiology PBIO 3110" using live plant demonstrations to convey principles of plant growth and development under stress conditions and optimal conditions.
- Design experiments for each lab group provide direction and assistance during the lab for using different machines and tools. Ensure students grasp key concepts of each lab group. Graded experiments reports, discussed answers and methodology of experiments.

Teaching Assistant: January 2011 to April 2011, University of Guelph. Ontario, Canada.

- Supervised diploma student lab "Turf Management DTM 2000" to emphasize interactions between turfgrass and its environment and how management impacts turfgrass playability and survival.
- Addresses management of turfgrasses in highly managed areas of golf courses, sports fields, and lawns
- Convey principles of plant nutrition and the technologies and methods of proper fertilization, addresses root zone management, and remediation of poor root zones.
- Graded weekly quizzes.

Teaching Assistant: September 2010 to December 2010, University of Guelph. Ontario, Canada.

- Supervised fourth-year undergraduate lab "Weed science CROP 4240" using live weed plants to identify common weed species.
- Conduct herbicide applications in the lab to develop a good understanding of herbicides activity and diagnose species' herbicide injury.
- Explain appropriate safety precautions for using a hazardous material such as herbicide application for different treatments in the herbicide lab.
- Gave brief introductory lessons in regards to each lab topic. Graded weekly quizzes.

Teaching Assistant: September 2010 to December 2010, University of Guelph. Ontario, Canada.

- Supervised fourth-year undergraduate lab "Weed science CROP 4240" using live weed plants to identify common weed species.
- Conduct herbicide applications in the lab to develop a good understanding of herbicides activity and diagnose species' herbicide injury.
- Explain appropriate safety precautions for using a hazardous material such as herbicide application for different treatments in the herbicide lab.
- Gave brief introductory lessons in regards to each lab topic. Graded weekly quizzes.

Assistant District Manager: September 2001 to June 2006, LEMA. Amman, Jordan.

- Planning workloads and leading 14 teams of 75 employees, keeping them busy throughout different tasks in water maintenance networks.
- Lead a pilot project with 2 teams containing 20 employees to reduce unaccountable water in South Amman, Jordan.
-

Landscape Engineer: July 2000 to October 2003, M.K Associates, Amman, Jordan

- Landscape and sharing designing several projects such as Sheraton hotel in Amman and Marriott hotel in the Dead Sea, Jordan.
- Revising and compiling "Landscape Plants for Jordan and the Middle East" by Dr. Kamel Mahadin
- Plant planner (outdoor plant planner)

International MSc Research: September 1997 to July 2000, University of Jordan. Amman, Jordan.

- Participated in applied pomegranate and olive tree research projects investigating fruit cracking, pests, and diseases management.
- Experience in applied research operation: designing trials, calibrating and operating farm equipment to apply treatments, maintaining trails, collecting and managing data, summarizing data for statistical analysis, interpreting results of the statistical analysis to identify key finding to be used for presentations, reports and development of future recommendations.
- Working with farmers and provide them with assistance on how to control pests and disease in fruit crops, and develop best practices to increase fruit production.

Publications

- Haddad N., Migdadi H., Brake M., Ayoub S., **Obeidat W**., Abusini Y., Aburumman A., Al-Shagour B., , AlAnasweh E., and Sadder M. (2021). Complete chloroplast genome sequence of historical olive (Olea europaea subsp. europaea) cultivar Mehras, in Jordan. Mitochondrial DNA Part B, 6: 194-195.

- Brake M., Migdadi H., Sadderc T. M., Awabdeh S., Jawasreh K., **Obeidat W.**, AlOmari R., and Haddad N. (2021). Complete mitochondrial genome sequence of Awassi-Jo sheep breed (Ovis aries) in Jordan. Mitochondrial DNA Part B, 6: 1263-1264.

- Haddad N., Migdadi H., Al-Atiyat R., Jawasreh K., Awabdeh S., **Obeidat W.**, AlOmari R., Aldamra M., Ababneh H., Tabbaa J. M., Brake M., and Farooq M. (2020). Whole Genome Resequencing of Jordanian Awassi Rams (*Ovis aries*) Using Hiseq Sequencing Technology: The First step towards sheep genomic selection.Genetics and Molecular Research 19: 1-14.

- **Obeidat W**., Avila L., Earl H., and Lukens L. (2018). Leaf spectral reflectance of maize seedlings and its relationship to cold tolerance. Crop Science 58: 2569-2580.

- Avila L., **Obeidat W**., Earl H., Nu X., and Lukens L. (2018). Shared and genetically distinct Zea mays transcriptome responses to ongoing and past low temperature exposure. BMC Genomics 19: 761.
- **Obeidat W.,** and Akkawi, M. (2002). Bionomics and control of Pomegranate butterfly Virachola (Deudorix) Livia (Klug) (Lepidoptera: Lycaenidae) in northern Jordan. Dirasat Journal 29: 1-12.

Conferences

Training:

- Drone pilot- Remote sensing tools for assessing plant health and monitoring irrigated agriculture to improve water productivity. 22 February 2021 to 13 April 2021. Understand the processing steps required for flying sensor imagery and its relevance for agricultural sector
  .
- QGIS for Hydrological Applications 16 September 2019 to 20 September 2019. Understanding of the methods of analysis of spatial data in physical geography.

- Data Acquisition, pre processing and Modeling using PCRaster python framework.16 September 2019 to 27 September 2019

Other Attributes:

- Hold a valid Ontario 'G' driver license with clean driving record.
- Flexible to travel, worker longer hours or weekends as needed.
- No issue with crop allergies.
- Ability to work in adverse weather conditions such as wet or cold.
- Dean's Scholarship (PAGR) 2009, 2010 and2012 University of Guelph,
- Pride Brand Seeds (Pride 5) Scholarship 2009, Pride Seeds Company, Canada
- Experience using Microsoft Office suite through report and thesis writing (Word), managing research data and budget expenses in spreadsheets utilizing calculations, functions, filtering, and summarization tools (Excel, Sigma plot), and creation of slideshows and posters for conveying graphics, research methods, results and key findings through work and educations (PowerPoint)
- Experience conducting basic and advanced analysis (analysis of variance, comparison of treatment means, correlations, linear/nonlinear regressions, heat maps, modelling) on data using SAS and R software through MSc and PhD research.

Selected Course:

- Weed Management in Agrosystems (PLNT*6240)
- Physiology of Ornamental Crops (PLNT*6490)
- Physiology and Field Crop production (PBIO 3110)
- Quantitative Genetics (MBG*3060)
- AU Foundations Molecular Biology Genetics (MBG*2040)

- Bioinformatics Programming (BINF*6410)
- Physiology of Crop Yield (PLNT*6010)
- Plant Physiology/Biochemistry (PLNT*6230)
- QTL & Genetic Markers (ANSC*6390)
- Plant Metabolism (PLNT*6320)
- Statistics: Plant Agriculture (PLNT*6170)
- Medicinal & Aromatic Plants (0641331)

INTERESTS

- Continual learning of scientific research, recommendations, and new technologies, extension publications, follow social media/the internet, attending conference/field days, farm shows
- Enjoy the outdoors and being active, fishing, biking.

REFERENCES

Upon request