

Marwan A. Al-Hijazeen

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Major in Meat Science and Technology



Associate Professor

Department of Animal Production@Agriculture Collage.

Mutah University; Karak, Mutah (61710), Jordan P.O. Box (7).

Education

PhD 2014 Iowa State University; (Meat Science) IA, Ames, 50010, USA.

MS 2006 Jordan University of Science and Technology; (Animal Production) Irbid, Jordan.

BS 2003 Mutah University; (Animal Production) Karak, Jordan.

Skills

- HPLC and GC-MS technique and operation.
- Protein analysis.
- Excellent computer skills: Microsoft Office, ICDL, Microsoft Team.
- Microbiology research experiences.
- DNA Techniques: PCR, plasmid Isolation, sequencing, genotyping.
- SAS and SPSS analysis, database management.
- Fat and Fatty acid analysis.
- Feed formulation and analysis (sheep and poultry production).
- Food analysis.
- Food Safety.
- Teaching Assistant.
- Meat quality analysis.
- Budget management.
- Meat processing techniques.
- Product development.

Research/work experience areas

- Natural antioxidants and antimicrobial additives in meat preservation.
- Improving small ruminant growth performance, weight gain, feed conversion and its digestibility.
- Lipid and protein oxidation in various meat products.
- Effect of dietary natural antioxidants on meat quality and safety.
- Improving consumer's acceptability of different meat products.
- Effect of adding a medicinal plant extracts and/or their essential oils on meat quality.
- The antimicrobial effect of medicinal plants against different pathogenic (Foodborne diseases).
- Effect of using natural dietary antioxidant on broiler growth performance.

- Study the total volatiles compounds (GC-MS) which produce from raw and cooked poultry meat.
- Products development especially for meat industrial purposes.
- Improving poultry diets and enhances their growth, digestibility, and feed conversion.

Publications

1. Effect of oregano essential oil and tannic acid on storage stability and quality of ground chicken meat. **Graduate Theses and Dissertations**. 2014. *ISU Digital Repository*; USA. 13699. 2572-679X.
2. Al-Hijazeen, M., Lee, E.J., Mendonca, A., & Ahn, D. 2016. UK. Effect of oregano essential oil (*Origanum vulgare subsp.hirtum*) on the storage stability and quality parameters of ground chicken breast meat. **Antioxidant**, 5, 18. MDPI, Basel, Switzerland.
3. Al-Hijazeen, M., Lee, E.J., Mendonca, A., & Ahn, D. 2016. Effects of tannic acid on lipid and protein oxidation, color, and volatiles of raw and cooked chicken breast meat during storage. **Antioxidant**, 5, 19. MDPI, Basel, Switzerland.
4. Al-Hijazeen, M., Lee, E.J., Mendonca, A., & Ahn, D. 2017. Effect of oregano oil and tannic acid combinations on the quality and sensory characteristics of cooked chicken meat. **Poultry Science**. <http://dx.doi.org/10.3382/ps/pex285>. OXFORD Academic OXFORD University Press.
5. Al-Hijazeen, M., Ahn, DU., & Mendonca, A. 2018. Effect of oregano essential oil on the storage stability and quality parameters of ground chicken breast meat. **Animal Industry Report**, 664 (1), 7.
6. Al-Hijazeen, M., Mendonca, A., Lee, E.J., & Ahn, DU. 2021. Inhibition of natural bacterial flora, *Staphylococcus aureus*, and enterotoxin A production in cooked ground chicken with oregano oil or tannic acid (TA) alone or combination. **Korean Journal of Food Preservation**, 28(7):857-867. <https://doi.org/10.11002/kjfp.2021.28.7.857>.
7. Wang, G. Z., Al-Hijazeen, M. A., Samaraweera, H., Lee, E. J., & Ahn, D. U. 2013. Breast meat quality of broiler chickens can be affected by managing the level of nitric oxide. **Poultry Sci.** 92(11): 3044-3049.
8. Effect of fibrolytic enzyme inclusion in high concentrate fattening diets on nutrient digestibility and growth performance of *Awassi* lambs". **Livestock Science**, 111 (2007) 225-258.
9. Al-Hijazeen, M. 2018a. Effect of direct adding oregano essential oil (*Origanum syriacum* L.) on quality and stability of chicken meat patties. **Food Science and Technology**, <http://dx.doi.org/10.1590/1678-457x.17117>.
10. Al-Hijazeen, M., & Al-Rawashdeh, M. 2019. Preservative effects of rosemary extract (*Rosmarinus officinalis* L.) on quality and storage stability of chicken meat patties. **Food Science and Technology**, <http://dx.doi.org/10.1590/1678-457x.24817>.
11. Al-Hijazeen, M., & Al-Rabadi, G. 2017. Dietary energy source affecting fat deposition mechanism. muscle fiber metabolic, and overall meat quality. **Regulatory Mechanisms in Biosystems**, 8(3):433-437.

12. Al-Rabadi, G., Al-Rawashdeh, M., Al-Hijazeen, M., & Al-Omari, H. **2018**. Effects of sucrose-based high-lysine diet on blood chemistry, growth performance, and gastrointestinal morphology of broiler chickens during the growing stage. **The Journal of Poultry Science**, doi:10.20141/jpsa.0170206.
13. Al-Hijazeen, M. **2018b**. Evaluate Anti-bacterial activity of *Rosmarinus officinalis* Linn. Extract and *Origanum syriacum* L. essential oil using raw chicken meat. **Carpathian Journal of Food Science and Technology**, 10(2), 132-145.
14. Al-Rabadi, G., & Al-Hijazeen, M. **2018**. Variation in dietary cation-anion differences (DCAD) of feed ingredients in relation to milk fever disease in dairy cattle. **Ukrainian Journal of Ecology**, 8(1):51-56.
15. Al-Hijazeen, M. **2019**. Preservative effect of *Origanum syriacum* L. essential oil on stability and quality of cooked chicken meat. **Brazilian Journal of poultry Science**, Accepted in July 2018, *in Press* (v21).
16. Al-Hijazeen, M. **2021**. The combination effect of adding rosemary extract and oregano essential oil on ground chicken meat quality. **Food Science and Technology, Ahead of Print**.
17. Al-Hijazeen, M. **2021**. Anti-bacterial effect of *Rosmarinus officinalis* Linn. extract and *Origanum syriacum* L. essential oil on survival and growth of total aerobic bacteria and *Staphylococcus aureus* using cooked chicken meat. **Food Science and Technology, Ahead of Print**.
18. Al-Hijazeen, M., Al-Rawashdeh, M., & Al-Rabadi, G. **2022**. Cooked broiler meat quality affected by different Mediterranean medicinal plants in the diet. **Animal Bioscience**, 35(2):290-298. doi: 10.5713/ab.21.0264.
19. Nasr Al-Rabadi, Razan Haddad, Marwan A. Al-Hijazeen, Mazen Massoh, Jafar M.I. Alqudah, Anwar G. Jiries, Muhammad H. Alu'datt, Saddam A. Al-Dalain, Rasha S. Al-Dmour, Farh M. Al Nasir, Amal Mayyas, & Ghaid J. Al-Rabadi. **2020**. Effect of Garlic powder Supplementation level at different growth stages on Broiler performance. **Bull. Env. Pharmacol. Life Sci.**, Vol 9[11]: 67-76.
20. Nasr Al Rabadi., Ghaid J. Al-Rabadi., Marwan A. Al-Hijazeen., Mustafa S. Al-Rawashdeh., Saddam A. Al-Dalain., Eyad Tamer., Farah Al-Nasir., Razan Hadad. **2019**. Assessment of heavy metals in milk and dairy cattle feed in Syria: Correlation Analysis. **Bull. Env. Pharmacol. Life Sci.**, 9(1): 43-47.
21. AL-Rawashdeh, M.S., Al-Hijazeen, M.A., & Al-Rabadi, G. **2022**. Preservative effect of dietary oregano and germander on quality and storage stability of raw broiler meat. **The J. Anim. Plant Sci.**, 32 (5) “in press: October issue”.
22. Al-Hijazeen, M. **2022**. Lipid oxidation, total volatiles, and sensory evaluation of cooked chicken meat treated with *Origanum syriacum* L. essential oil. **Food Science and Technology Research**, 28(3) “a head of print”: May issue.

Professional experiences

Sept/2018-now (2022)	TA	Teaching meat and animal science courses in both Ans & FHN Department. Teaching: Principles of meat science; Processed meat; Animal products; Fish production...etc.
Teaching experiences		
Sep/ 2014 to Sep/ 2018	TA	Teaching meat and animal science courses in both Ans & FHN Department. In addition doing my research throughout the Laboratory of the Agriculture collage at Mutah University.
Teaching courses which differ for each semester needs	Teaching: Special issues in Animal production; Biotechnology; Processed meat...etc.	
August 22, 2013 (Fall S)	TA Work @ ISU	Teaching Assistant ISU. Ames, IA. Fundamental of Human Anatomy/GDCB.
January 2012 to May 2012	TA Ph.D. courses program	ISU Ames, IA Sheep Science Class
January 2013 to May 2013	TA Ph.D. courses program	Teaching Assistant ISU Ames, IA Ans 229/ Using <i>Turning point technology</i> .
August 2004 to Dec 2004	TA Ms. courses program	Teaching Assistant Jordan University of Science and Technology Environmental physiology /Department of Animal Science Irbid, Jordan
January 2005 to June 2005	Research Assistant @ Jordan University of Science and Technology. Irbid, Jordan	Research projects included Fattening <i>Awassi</i> Lambs, Castration, Yeast Additive, Blood Sampling, Semen Collection, Fecal Collection, Hormone Assay, Meat Analysis, Ration Formulation and Proximate Feed Analysis.
January 2006 to August 2006	Research Assistant Jordan University of Science and Technology Irbid, Jordan	Research projects included Fattening <i>Awassi</i> Lambs, Castration, Yeast Additive, Blood Sampling, Semen Collection, Fecal Collection, Hormone Assay, Meat Analysis, Ration Formulation and Proximate

October 2006 to August 2007	Training program	<p>Feed Analysis.</p> <p>Vet Store-training program supported by the Agriculture of Engineers Association. Help in animal health program, Animal medical program, help in surgery issues, practical giving some medicine (sub-cautious, vein, and intra -muscle...etc), learning all medicine effect such as antibiotic, vitamins, premix, vaccines, hormones, and help farmers develop their production. karak, Jordan.</p>
August 2007 to September 2008	Industry work	<p>Arab Company for Livestock Development- Broiler (Grandparent project- DAWAGEN ACOLID). Work as poultry specialist in broiler (<i>Lohman</i>) farm responsible for all farm management issues; improve egg production rate, and quality, feeding, responsible for the entire employee, improve egg fertilizing, for broiler production purpose/ Zarka, Jordan.</p>
September 2008 to May 2009	Industry work	<p>National Poultry Company (<i>Del-Monte</i>) . Product Manger assistant. Work on poultry slaughtering house and meat processing plant as a manger assistant in the production department, responsible for all production system, safety and quality. Section, and develop HACCP plan. karak, Jordan.</p>

Industrial Experiences

- During my work in the **Arab company** (Broiler breed), I was developing the production rate of the fertilized egg which gave the maximum egg production during the peak period. In addition I was using the least cost production system to achieve better benefits (2007).
- During my work in the **National Poultry Company** (See *above*) in Jordan (Al-karak) as a manger assistant in the slaughtering house. I was helping to improve the quality and safety of the poultry meat production, using **HACCP** plan, increase the benefit, decrease the waste product, organize the production area, and decrease the cost of production (2008).

Funding projects: Two funding research (70000 JD) around meat safety and quality in progress until 2021 (**currently one is closed**).

Currently: Apply for a new opportunity of research funding from different sources.

Training and workshop

- 2011 **Iowa State University**
Ames, IA
Workshop in Protein Techniques, Includes fermentation, protein isolation, protein purification, SDS-PAGE, Western blotting, NMR, confocal microscopy and laser microdissection, immunophenotyping, and monoclonol antibody production.
- 2010 **HACCP training**
Ames,IA
Successfully completed HACCP Training program for Meat, Poultry and Egg Products.
Iowa State University/ Meat Laboratory.
October 21-23, 2010.
- 2010 **Product development training**
Meat Laboratory/ processing facility
Iowa State University State
Ames, IA.
- 2005 **Feasibility** study preparation @ the Agriculture of Engineers Association.
23/4/2005.Irbid.Jordan.

Affiliations

- Volunteer at *Reiman gardens*, Iowa State University, Ames, IA (2011-2013).
- Member in the *American meat Science Association* Since 2015.
- Member and certified as Agricultural specialist (Agricultural Teaching) by *the Agricultural Engineers Association Jordanian* (3001354).
- Participate into different **local activities** which help and support farmers and the poultry production industry in Jordan.
- Giving a **free consultant** to the local farmers, NGO, and local meat industry.