

Dr Hosam H. Titi, Prof.
Department of Animal Production
Faculty of Agriculture
The University of Jordan, Amman, Jordan
TEL: 00-962-6-5355000 EXT: 3034/22384
Mobile: 0777424592
FAX: 00-962-6-5300806
E-mail: htiti@ju.edu.jo
Nationality: Jordanian
Marital Status: Married (2 sons & 1 daughter)
Date of Birth: 11/6/1969
Place of Birth: Alhfouf- KSA



EDUCATION

- 1996-1998 Texas Tech University, Ph.D., Ruminant Nutrition.
- 1990-1992 University of Jordan, M.Sc., Reproductive Physiology.
- 1986-1990 University of Jordan, B.Sc., Animal Production and Protection.

EXPERIENCE

Sept. 2016 – Present

Chairman, Department of Animal Production, Faculty of Agriculture, The University of Jordan, Amman, Jordan.

2010- Present

Professor, Department of Animal Production, Faculty of Agriculture, The University of Jordan, Amman, Jordan.

2005–2009

Associate Professor, Department of Animal Production, Faculty of Agriculture, The University of Jordan, Amman, Jordan.

1998- 2004

Assistant Professor, Department of Animal Production, Faculty of Agriculture, The University of Jordan, Amman, Jordan.

1996-1998

Research Assistant, Department of Animal Science and Food Technology, Texas Tech University, Lubbock, Texas.

1993-1996

Research and Teaching Assistant, Department of Animal Production, Faculty of Agriculture, The University of Jordan, Amman, Jordan.

TEACHING EXPERIENCE:

No.	Course	Number	Level	CR
1	Principles of Animal Production	602211	BSc.	3
2	Feeds and Feeding	602382	BSc.	3
3	Feed Analysis	602483	BSc.	3
4	Ruminant Nutrition	602485	BSc.	3
5	Seminar in Animal Production	602491	BSc.	1
6	Practical Training in Livestock production	652499	BSc.	2
7	Diary Cattle Nutrition	602487	BSc.	3
8	Meat Animals Production	602417	BSc.	3
9	Seminar in Animal Production	602791	MSc.	1
10	Advanced Ruminant Nutrition	602782	MSc	3
11	Vitamins and Minerals in Animal Nutrition	602792	MSC	3

RESEARCH INTEREST

- Feed Additives for ruminant animals.
- Biotechnology in improving feedstuff utilization by animals.
- Interaction of nutrition and reproduction in farm animals.
- Untraditional feedstuff resources.
- Production & Management systems of Small Ruminants in Arids and Simi-Arids.

SKILLS

- **IT:** Microsoft office, windows platform, statistical packages....
- **Languages:** Excellent command of English (both written and spoken).

PUBLICATIONS

Papers

- Richardson, R. and H. H. Titi. 1998. Effects of Digest C plus a cellulase enzyme on performance of steers during backgrounding and subsequent high concentrate feeding. *Tech. Bull. No. DC003. Loveland Industries, Greeley, CO.*
- Titi, H. H., M. J. Tabbaa, M. G. Amasheh, F. Barakeh, and B. Daqamseh. 2000. Comparative performance of Awassi lambs and

Black goat kids on different crude protein levels in Jordan. *Small Rumin. Res.*, 37: 131-135.

- Irshaid, R. H., M. Y. Harb and H. H. Titi. 2003. Replacing soybean meal with sunflower seed meal in the ration of Awassi ewes and lambs. *Small Rumin. Res.*, 50: 109-116.
- Titi, H. H. 2003. Replacing soybean meal with sunflower meal with or without fibrolytic enzymes in fattening diets of goat kids. *Small Rumin. Res.*, 48: 45-50.
- Titi, H. H. 2003. Evaluation of feeding a fibrolytic enzyme to lactating dairy cows on their lactational performance during early lactation. *Asian-Aust. J. Anim. Sci.*, 16(5): 677-684.
- Titi, H. and W. F. Lubbaddeh. 2004. Effect of feeding cellulase enzyme on productive responses of pregnant and lactating ewes and goats. *Small Rumin. Res.*, 52: 137-143.
- Titi, H. and M. J. Tabbaa. 2004. Efficacy of exogenous cellulose on digestibility in lambs and growth of dairy calves. *Livest. Prod. Sci.*, 87:207-214.
- H. Titi. 2004. Response of Awassi lambs to enzymatic treatment fed two different forages. 1: Digestibility and growth performance. *Dirasat*, 31:302-310.
- H. Titi. 2004. Response of Awassi lambs to enzymatic treatment fed two different forages. 2: Carcass traits and financial analysis. *Dirasat*, 31:331-338.
- H. H. Titi and R. Awad. 2007. Effect of dietary fat supplementation on reproductive performance of goats. *Anim. Reprod.*, 4(1): 23-30.
- R.T. Kridli, A.Y. Abdullah, B.S. Obeidat, R.I. Qudsieh, H.H. Titi, M.S. Awawdeh. 2007. Seasonal variation in sexual performance of Awassi rams. *Anim. Reprod.*, 4(1): 38-40.
- M. J. Tabbaa, M. A. Alnimer, M. Shboul, H. H. Titi. 2008. Reproductive characteristics of Awassi ewes mated artificially or

naturally to Jordanian or Syrian Awassi rams. *Anim. Reprod.*, 5(2): 23-29.

- H.H. Titi, R.O. Dmour and A.Y. Abdullah. 2008. Growth performance and carcass characteristics of Awassi lambs and Shami goat kids fed yeast culture in their finishing diet. *Anim. Feed Sci. Tech.*, 142:33-43.
- H.H. Titi, M. Alnimer, M.J. Tabbaa and W.F. Lubbadeh. 2008. Reproductive performance of seasonal ewes and does fed dry fat during their postpartum period. *Livest. Sci.*, 115:34-41.
- H. H. Titi and R.T. Kridli. 2008. Reproductive performance of seasonal ewes fed dry fat source during their breeding season. *NZ. J. Agr. Res.*, 51 (1):25-32.
- B. S. Obeidat, A. Y. Abdullah, M. S. Awawdeh, R. T. Kridli, H. H. Titi, R. I. Qudsieh. 2008. Effect of Methionine Supplementation on Performance and Carcass Characteristics of Awassi Ram Lambs Fed Finishing Diets. *Asian-Aust. J. Anim. Sci.* 21(6):831-837.
- H.H. Titi, A.Y. Abdullah, W.F. Lubbadeh, and B.S. Obeidat. 2008. Growth and carcass characteristics of male dairy calves on a yeast culture-supplemented diet. *S. A. J. Anim. Sci.*: 38 (3).
- H. H. Titi and B. S. Obeidat. 2008. Effects of Ca salt supplementation on milk production and composition and lamb growth of Awassi ewes. *Livest.Sci.*, 119:154-160.
- A. Y. Abdullah, F. T. Awawdeh, H. S. Musallam, H. H. Titi, B. S. Obeidat, R. T. Kridli, R. I. Qudsieh and M. A. Abu Ishmais. 2008. Performance and carcass characteristics of intact and castrated male Black goat kids fed diets of various energy levels. *Aust .J Exp. Agr.*, 48(9): 1-8.
- H.H. Titi, R.T. Kridli and M.A. Alnimer. 2010. Estrus synchronization in sheep and goats using combinations of GnRH, progestagen and prostaglandin F_{2α}. *Reprod Dom Anim*: 45, 594–599.

- S. Darawish, M. Harb, H. H. Titi. 2010. Effects of replacing Alfalfa hay by Barley Straw on Growth Performance, Carcass and nutrient digestibility for fattening Awassi lambs. *J. J. Agr. Sci.*, 6:27-40.
- H. H. Titi, S. Darawish, M. Harb. 2010. Effects of replacing Alfalfa hay by Barley Straw on Growth Performance, Carcass and nutrient digestibility for fattening Shami goat kids. *J. J. Agr. Sci.*, 6:353-364.
- Abdullah Y. Abdullah & Marwan M. Muwalla & Rasha I. Qudsieh & Hosam H. Titi. 2010. Effect of bitter vetch (*Vicia ervilia*) seeds as a replacement protein source of soybean meal on performance and carcass characteristics of finishing Awassi lambs. *Trop Anim Health Prod.*, 42:293–300.
- Belal S. Obeidat & Mofleh S. Awawdeh & Hosam H. Titi & Amer A. AbuGhazaleh & Fatima A. Al-Lataifeh & Ibrahim A. Alawneh & Majdi A. Abu Ishmais & Rasha I. Qudsieh & Hadil S. Subih. 2011. Effect of feeding calcium salts on performance of nursing Awassi ewes. *Trop Anim Health Prod.*, 42:293–300.
- H.H. Titi. 2011. Effect of Varying Levels of Protected Fat on Performance of Shami Goats During Early and Mid Lactation. *Turk. J. Vet. & Anim. Sci.*, 14:17-24.
- Titi, H.H., Y.L. Hasan, K. Al-Ismail, H. Zakaria, M.J. Tabbaa, A.Y. Abdullah and B.S. Obeidat. 2011. Response of Shami goats and kids to variable levels of soybean or sunflower oils in diets. *J. Anim & Feed Sci.*, 20, 2011, 493–508.
- B. S. Obeidat, S. G. Haddad, H. H. Titi, M. A. Abu Ishmais and B. T. Telfah. 2012. Performance of Nursing Awassi Ewes Fed Different Levels of Bread By-product. *Asian-Aust. J. Anim. Sci.*, 25: 1132 – 1137.
- H.A. Zakaria, A. Hammad, A. Alfataftah and H.H. Titi. 2013. Replacing Soybean Oil in the Finisher Phase with Different Levels of Dry Protected Plant Fat and Two Forms of Feed and their Effect on Performance, Carcass Quality and Blood Parameters of Broilers. *Int. J. Poult. Sci.*, 12: 37-44, 2013.

- H. Titi and A. Fataftah. 2013. Effect of supplementation with vegetable oil on performance of lactating Awassi ewes, growth of their lambs, and on fatty acid profile of milk and blood of lambs. *Arch Tierz* 56: 45.
- H. Titi, Saleh Azzam, and Mufeed Alnimer. 2013. Effect of protected methionine supplementation on milk production and reproduction in first calf heifers. *Arch Tierz* 56: 58.
- Al-Qaisi, M. and Hosam H. Titi. 2014. Effect of rumen-protected methionine on production and composition of early lactating Shami goats milk and growth performance of their kids. *Arch Tierz* 57: 1.
- F. M. Hayajneh, M. A. Alnimer, H. H. Titi and M. Abu-Zanat. 2016. Public Awareness about Two Foodborne Pathogens and Food Poisoning among Consumers in Jordan. *American-Eurasian J. Agric. & Environ. Sci.*, 16 (12): 1769-1775.
- A. Abdelqader, R. Irshaid, M. J. Tabbaa, M. Abuajamieh, H. Titi, A. Al-Fataftah. 2017. Factors influencing Awassi lambs survivorship under fields conditions. *Livest. Sci.*, 199: 1–6.
- H. H. Titi. 2017. Effect of long-term rumen-protected methionine supplementation on performance of Shami goats and growth performance of their kids. *Anim. Prod. Sci.*: 57:1713-1718.
- Belal Obeidat, Kamel Mahmoud, Mohammed Obeidat, Mysa Ata, Rami Kridli, Serhan Haddad, Hosam Titi, Khaleel Jawasreh, Hosam Al-Tamimi, Hadil Subih, Safaa Hatamleh, Majdi Abu Ishamis, Roba Abu Affan. 2018. The effects of *Saccharomyces cerevisiae* supplementation on intake, nutrient digestibility, and rumen fluid pH in Awassi female lambs. *Veterinary World*, 11:20.
- F. H, H. H. Titi, M. Alnimer and R. Irshaid. 2019. Evaluation of Anthelmintics Resistance Against Gastrointestinal Parasites Infection in Awassi Sheep in Jordan and The use of Alternative Herbal Anthelmentics. *Amer J. Anim. Vet. Sci.*, 14: 122-126.

- R. Irshaid, A. Abdelqader, M. Abuajamieh, F. Hayajneh, H. Titi. 2019. Effect of Feeding Rumen Protected Methionine with Calcium Salts and Yeast on Productive Performance of Lactating Ewes when Fed Barley Straw. *J. Exp Biol Agr Sci.*, 7: 233 – 242.
- Al-Ismail, K., S. A Al-Awamleh, M. Saleh, and H. Titi. 2019. Impacts of Oil Types and Storage Conditions on Milk Fat Quality of Strained Yogurt Immersed in Oil. *J Am Oil Chem Soc.*, 96: 171–178.
- Abu-Zanat, M. M. W., H. H. Titi, M. W. Akash, T. A Al-Antary. 2020. Effect of Planting Forage Shrubs and Barley on Attributes of Natural Vegetation in Arid Lands. *Fresenius Environmental Bulletin*, 29: 4777-4788.
- Abedal-Majed, M. A., H. H. Titi, M Al-Qaisi, M. Abuajamieh, M. Alnimer, A. Abdelqader. 2021. Effects of Supplementing Rumen Protected Methionine on Performance of Primiparous Dairy Cows during Presynch-Ovsynch Protocol. *Agrociencia*, 55(10): 149-176.
- M. Al-Qaisi, M. Abuajamieh, M. A. Abdel-Majeed, M. A. Alnimer, R. Irshaid, A. Abdelqader, H. H. Titi, A. A. Al-Fataftah, and L. H. Baumgard. 2021. Effects of dietary betaine on body temperature indices, performance, and metabolism of dairy heifer calves during summer hot conditions. *J. Dairy Sci.* 104, Suppl. 1:271.
- M. Al-Qaisi, M. A. Abedal-Majed, M. Abuajamieh, M. Alnimer, A. A. Al-Fataftah, Rabie Irshaid, H. Titi and A. Abdelqader. 2022. Effects of dietary betaine on body temperature indices, performance, metabolism, and hematological variables of dairy heifer calves during hot summer conditions. *Vet. World*. 15: 8.
- Titi, H .H. M. A. Alnimer & M. A. Abedal-majed. 2022. Effect of supplemental rumen-protected methionine on reproduction and production of Awassi ewes. *It. J. Anim. Sci.*, 21: 624-633, DOI: <https://10.1080/1828051X.2022.2048973>.

- Mohamed A. Abedal-Majed, Mohannad Abuajamieh, Mohmmad Al-Qaisi, Kevin M. Sargent, Hosam H. Titi, Mufeed A. Alnimer, Anas Abdelqader, Ahmad I. Shamoun, and Andrea, S. Cupp. 2023. Sheep with ovarian androgen excess have fibrosis and follicular arrest with increased mRNA abundance for steroidogenic enzymes and gonadotropin receptors. *J. Anim. Sci.*, 101: 1–11. <https://doi.org/10.1093/jas/skad082>.
- Abedal-Majed, Mohamed Ayoub, Hosam Hani Titi, Mohmmad Al-Qaisi, Anas Abdelqader, Mohammad Jihad Tabbaa. 2023. Effects of Supplementing Rumen Protected Methionine on Performance of Primiparous Dairy Cows during Presynch-Ovsynch Protocol. *Animal Science Journal*, 94:1-13. <https://doi.org/10.1111/asj.13835>.
- Rula Awad1, Aziza Mohamed-Brahmi, Hosam Titi, Mohamed Jaouad, Aziza Gasmi-Boubaker. 2023. Characterization of the Small Ruminant Value Chain in Arid Regions: Case Study of the North-Eastern Badia Basalt Plateau in Jordan. 9th Int. Conference on Multidisciplinary Sciences (9th *icomus*). 24-29 April 2023, Antalya/Turkey.
- Awad, R., A. Mohamed-Brahmi, Hosam Titi, Mohamed Jaouad, and Aziza Gasmi-Boubaker. 2023. Assessing the small ruminant value chain in arid regions: A case study of the North-Eastern Badia Basalt Plateau in Jordan. *J. Glob. Innov. Agric. Sci.*, 11:549-560. <https://doi.org/10.22194/JGIAS/23.1193>
- Rula Awad , Hosam Titi , Aziza Mohamed-Brahmi, Mohamed Jaouad, Aziza Gasmi-Boubaker. 2023. Small ruminant value chain in Al-Ruwaished district, Jordan. *Reg. Sust.*, 4: 416-424. <https://doi.org/10.1016/j.regsus.2023.11.006>
- Awad, R., Aziza Mohamed-Brahmi, Hosam Titi, Mohamed Jaouad, and Aziza Gasmi-Boubaker. 2024. Exploring the Value Chains in the Small Ruminant Sector: A brief review of the literature. *J. Agr. Env. & Vet. Sci.*, 8: 61 – 38.

- AWAD, R., AZIZA GASMI-BOUBAKER, AZIZA MOHAMED-BRAHMI, HOSAM TITI, MOHAMED MOHAMED JAOUAD. 2024. ENHANCING SMALL RUMINANT RESILIENCE AND SUSTAINABLE MANAGEMENT APPROACHES IN THE FACE OF CLIMATE CHANGE. *THE 4th MEDITERRANEAN BIODIVERSITY CONFERENCE Sousse – Tunisia 3-5 Mai.*

TEXT BOOKS

Abu-Zanat, M. 2001. Animal Feeds and feeding. Agriculture program, Al-Quds Open University (Evaluator).

CONFERENCES/SCIENTIFIC DAYS/SEMINARS

Titi, H. H. Feeding enzymes to improve livestock production. Third Scientific Agricultural Conference, April, 1999, University of Muta, Kerak, Jordan.

Titi, H. H. Using biotechnology in feeding small ruminants in Jordan. Workshop of Facts of Sheep and Goat in Jordan. National Center of Agricultural Research and Technology Transfer, March 2001, Amman, Jordan.

Titi, H. H. Full Fat Soybean. American Soybean Association, 14-16 May 2002, Amman, Jordan.

Titi, H. H. Dairy Feed Ration Formulation. American Soybean Association, 7-9 May 2002, Amman, Jordan.

Titi, H. H. Interaction between nutrition and reproduction in dairy cows. Agricultural Engineers Association, October, 2002, Amman, Jordan.

Titi, H. H. Relative Value of Feed. American Soybean Association, October, 2002, Amman, Jordan.

Titi, H. H. Effect of Diet on Milk Composition in Dairy Cattle. American Soybean Association, October, 2002, Amman, Jordan.

Titi, H. H. Corn handling and storage. American Soybean Association, September, 2004, Amman, Jordan.

- Titi, H. H. Effect Feeding management and dairy herd health. Delaval Jordan, October, 2004, Amman, Jordan.
- Titi, H. H. “Performance of Awassi Lambs fed Two Different Forages with or Without Exogenous Enzymes .The 5th Scientific Agricultural Conference, May 2005, Al-Balqa Applied University, Jordan.
- Titi, H. H. “Artificial Insemination and Reproductive Hormones”. Intervet (Jordan). October, 2005, Amman, Jordan.
- Titi, H. H. “General Rules in Feeding dairy Cows and Using Dry Fat in Their Rations”. Tulip Int. (Jordan), July, 2006, Amman, Jordan.
- Titi, H. H. Using Enzymes in Ruminant Nutrition. Biological Treatments of Agricultural By-products. National Center of Agricultural Research and Technology Transfer, December 2006, Amman, Jordan.
- Titi, H. H. Poultry Diseases and Nutrition. American Soybean Association, January, 2007, Amman, Jordan.
- Titi, H. H. Biological Treatments and Direct Fed Microbes for Feedstuffs. Modern Technologies in Raising Sheep and Goat. National Center of Agricultural Research and Technology Transfer, February 2007, Amman, Jordan.
- Titi, H. H. Milk Chain from Stable to Table. FAO/Faculty of Agriculture – University of Jordan, November 2008, Amman, Jordan.
- Titi, H. H. Feed Additives for dairy cows. Scientific Day for management and feeding of dairy cattle. Association of Agricultural Engineers. June, 2010, Amman, Jordan
- Titi, H. H. Expert Consultation Meeting on Livestock Activities and their Impacts on Environment”. FAO, 14-16 June 2011 Amman, Jordan,
- Titi, H. H. Programs in improving cattle, Sheep and goat: Respiratory and Reproductive performance. Pfizer, 6&7 June, 2011, Amman, Jordan.

Titi, H. H. ASA IM Poultry Feed Seminar, ASA, Amman, Jordan May 15th & May 16th 2011.

Titi, H. H. Silage Making. Workshop on forage development in Jordan. Sustainable utilization of treated waste water for income generation and poverty alleviation in the East part of Zarqa city, Jordan Jordanian Society for Organic Farming. Sept. 2011, Amman, Jordan.

Titi, H. H.

Training course "Using of crop residues & By-products in Animal Feeding Formulas"

- Physical and chemical methods to improve nutritive value of alternative & non conventional feedstuffs.
- Feed additive method to improve nutritive value of alternative & non-conventional feedstuffs.
- Biological treatment of by-product to improve its nutritional value.
- Nutrition and reproduction in farm animals.

National Center for Agricultural Research and Extension (NCARE), October 2011, Amman, Jordan.

Expert Consultation Meeting on Livestock Activities and their Impacts on Environment", FAO, Amman, Jordan, 14-16 June 2011.

Programs in improving cattle, Sheep and goat: Respiratory and Reproductive performance. *Pfizer*, Amman, Jordan 6&7 June, 2011.

ASA IM Poultry Feed Seminar, American Soybean Association (ASA), Amman, Jordan May 15th & May 16th 2011.

Mastitis in Heifers. *Veepro Holland & Tulip Int'l Trading Est.* 2012/12/5 , Amman, Jordan.

Altech International Day. Altech. 2012/4/19, Amman, Jordan.

"Feed formulation techniques and purchasing planning methods", American Soybean Association (ASA). 2012/ 4/23-22 Amman, Jordan

Values of Full Fat Soybean Meal (FFSBM) and Extruded-Expelled SBM . American Soybean Association (ASA), 2012/6/18-17 . Amman, Jordan

Building Better Heifers. ABS Jordan Conference. March 26, 2013.
Amman, Jordan.

Management and nutrition in the transitional and productive phases of
Dairy Cattle. Vetagro & JACCO. Amman, June 24-25, 2013.

National Agricultural Conference. July 1, 2013. Amman, Jordan.
Fifth Arab Conference for Feed & Poultry. December 8-9, 2015. Amman,
Jordan.

AFFILIATIONS and MEMBERSHIP

- Animal Forage and Feedstuff Standards Committee. Jordan Institute for Standards and Metrology. 2008- Present (Chairman).
- Animal Forages and Feedstuff Committee of, Ministry of Agriculture.
- Committee of Feedstuff Registration, Ministry of Agriculture.
- Chairman, Department of Animal Production- Faculty of Agriculture, University of Jordan. Academic year 2016/2017.
- National committee for livestock production and development. NCART. 2008-2010.
- American Society of Professional Animal Scientists in the field of Dairy Cattle.
- American Society of Professional Animal Scientists in the field of Beef Cattle.
- American Society of Professional Animal Scientists in the field of sheep & Goat.

RESEARCH AND DEVELOPMENT PROJECTS

Project Title: *Effect of fibrolytic enzyme treatment on performance of Friesian lactating cattle in the Jordan valley.* 2000. Deanship of Scientific Research, University of Jordan, Amman, Jordan.

Project Title: *Growth performance and meat quality of Awassi lambs supplemented with cellulase enzyme.* 2001. Deanship of Scientific Research, University of Jordan, Amman, Jordan.

Project Title: *Effect of long term cellulase feeding on pregnant and lactating ewes and goats.* 2001. Shouman Fund for Supporting Scientific Research, Amman, Jordan.

Project Title: *Effect of Yeast Culture on Growth Performance and carcass Quality of Farm Animals Fed Traditional Feedstuff in Jordan.* 2002. Diamond V Mills, Inc., Iowa, USA.

- Project Title:** *Performance of growing milk type calves supplemented with direct fed fibrolytic enzyme in their rations.* 2003. Deanship of Scientific Research, University of Jordan, Amman, Jordan.
- Project Title:** *Effect of Dietary Fat Supplementation on Reproductive Performance of Awassi ewes Shami Goats.* 2003. Deanship of Scientific Research, University of Jordan, Amman, Jordan.
- Project Title:** *Lactation performance of lactating Awassi ewes and Shami goats fed dry fat in their rations.* 2004. Deanship of Scientific Research, University of Jordan, Amman, Jordan.
- Project Title:** *Biomass Accumulation and Nutrient Dynamics of Saltbushes in Low Rainfall Areas of Jordan.* 2008. Deanship of Scientific Research, University of Jordan, Amman, Jordan.
- Project Title:** *Effect of Feeding Different Conjugated Linoleic Acid Precursors to Lactating Awassi ewes on Milk Production and Fatty Acid Composition.* 2008. Deanship of Scientific Research, University of Jordan, Amman, Jordan.
- Project Title:** *Improving nutritive value of cereals and legumes straws for ruminant nutrition by either aqueous ammonia treatment or fibrolytic enzymes with addition of some feed additives.* 2011. Scientific Research Support Fund, Amman, Jordan.
- Project Title:** *Using of various energy sources in ruminant rations with some rumen-protected essential amino acids and its effect on ruminant's productive performance.* 2012. Deanship of Scientific Research, University of Jordan, Amman, Jordan.
- Project Title:** *Effect of adding protected methionine on performance of late pregnant and early lactating Shami goats and on the growth of their kids.* 2012. Shouman Fund for Supporting Scientific Research, Amman, Jordan.
- Project Title:** *Productive and reproductive response of Awassi ewes to supplemental source of rumen protected methionine.* 2015. Deanship of Scientific Research, University of Jordan, Amman, Jordan.
- Project Title:** *Effects of dietary betaine supplementation on performance, inflammatory biomarkers, and intestinal integrity during feed restriction in sheep.* 2020. Deanship of Scientific Research, University of Jordan, Amman, Jordan.
- Project Title:** *Effect of different energy levels post-weaning on ovine intestinal health and ovarian follicular development in vivo and in vitro.* 2020. Deanship of Scientific Research, University of Jordan, Amman, Jordan.

Project Title: Effect of organic zinc on the ovine performance, gut integrity and ovarian follicular development *in vivo* and *in vitro*. 2020. Deanship of Scientific Research, University of Jordan, Amman, Jordan.

Project Title: *Effects of dietary betaine supplementation on performance, inflammatory biomarkers, and intestinal integrity during feed restriction in sheep*. 2020. Deanship of Scientific Research, University of Jordan, Amman, Jordan.

Consultations

- The Hashemite Fund for Development of Jordan Badia. Wadi Mousa Project. Development of Livestock and Forage Utilization.
- Ministry of Environment- UNCC. Badia Restoration Program (BRP), Community Action Plan. Monitoring and evaluation Project. Livestock Production Expert. Amman, 2012- 2018.
- The higher Counsel for Science & Technology, The National Center for Research and Development (NCRD). Improving the Productivity of Small Farmers flocks by means of applying some sheep production techniques. Amman, 2015.
- Feasibility study of developing a Geographical Index for Awassi sheep in Jordan. Ministry of Agriculture/ SIGHT Project-FAO & IFAD. 2022-2023.

GRADUATE COMMITTEES

Supervisor

- *“Effect of Yeast Culture on Growth Performance and carcass Quality of Awassi Lambs and Shami Kids Fed Traditional Feedstuff in Jordan”*.
- *“Effect of Dietary Fat Supplementation on Reproductive Performance of Shami Goats”*.
- *“Effects of protected methionine supplementation on milk production and reproduction in first calf heifers”*.
- *“Effect of Feeding Different Conjugated Linoleic Acid Precursors to Lactating Shami Goats on Milk Production and Fatty Acids Composition”*.
- *“EFFECT OF FEEDING CONJUGATED LINOLEIC ACID PRECURSORS ON GROWTH AND CARCASS CHARACTERISTICS OF FATTENED AWASSI LAMBS”*.

- "Effect of rumen protected methionine on milk production and composition of early lactating Shami goats and growth performance of their kids."
- "EFFECT OF DIETARY RUMEN-PROTECTED CHOLINE ON PRODUCTIVE AND REPRODUCTIVE PERFORMANCE OF PRIMIPAROUS DAIRY COWS."
- EFFICACY OF PHYTOGENIC FEED ADDITIVE AS ALTERNATIVES TO ANTIBIOTIC GROWTH PROMOTERS IN CARP FISH (CYPRINUS CARPIO).

Member

- *"Inclusion of Prosopis juliflora pods in finishing Awassi lamb diets: Effect on growth performance, carcass, and meat characteristics"*.
- *"The effect of adding fat in the ration of lactating Awassi ewes on milk yield and composition"*.
- *"Inclusion Evaluation of milk yield and reproductive efficiency in pure and cross bred Awassi ewes"*.
- *"EFFECT OF DIFFERENT LEVELS OF ENERGY ON DAILY GAIN, FEED INTAKE AND CARCASS CHARACTERISTICS OF INTACT AND CASTRATED MALE KIDS". "THE EFFECT OF USING UREA-BASED FEED BLOCKS FOR AWASSI EWES NUTRITION UNDER FARM CONDITIONS"*.
- *"Effect of Fibrolytic Enzyme Inclusion in Fattening Diet on Growth Performance of Awassi Lambs"*.
- *"The Effect of Body weight on Meat quality of Awassi Ram Lambs"*.
- *"The Effect of partial Replacement of Barley Grain by Prosopis Juliflora Bods on Growth Performance, Nutrient Intake, Digestibility, and Carcass Characteristics of Awassi lambs fed finishing Diet"*.
- *"Comparing Chopped Barely Straw with Alfalfa Hay in Fattening Lambs and Goat Kids"*.
- *"Effect of Forage Level in High Concentrate Diets on Growth Performance of Growing Awassi Lambs"*.
- *"Effect of Supplemental Protected Fat on Performance of Shami Goats Fed Total Mixed Rations with Different Corn silage and Alfalfa Hay Rations"*.
- *"The Use of Progestagen to Advance Puberty in Awassi Ewe Lambs"*.

- *“Effects of Feeding Sesame Hulls on Growth Performance and Nutrient Digestibility of Black Baladi Kids”.*
- *“The Use of Melatonin for Progestagen to Advance Puberty in Awassi Ewe Lambs”.*
- *“Effect of Calcium Salts of Fatty Acids Supplementation on Performance of Latticing Dairy Cows and Awassi Ewe Lambs”.*
- *“Effect of Different Hormonal Treatments for Synchronizing Estrus on Fertility of Lactating Dairy Cows”.*
- *“Substituting Bread by-Products for Barley Grain in Fattening Diets for Awassi Lambs”.*
- *“Survey of Frisian Dairy Farms in Dulail Area in Jordan”.*
- *“Comparison of Plasma Testosterone, Thyroid levels, and Semen Characteristics of local and Cross of Improved Awassi Strains in Jordan”.*
- *“Effect of Different Energy Levels (using Plant Dry Fat), and Pelleted Feed on the Performance of Heat Stressed Broiler Chickens”.*
- *“Effect of Feeding Poultry Layer Litter on Growth performance and Carcass Characteristics of Awassi Lambs”.*
- *“Effect of enzymatic treated Soya Protein Concentrates (SPCE) on the performance and Immunity of broilers chickens”.*
- *“Effect of Feeding Atriplex Halmus L. on Growth and Carcass Characteristics of Fattening Awassi Lambs”.*
- *“Carcass and Meat Quality Characteristics of Black (Baladi)Goats Slaughtered at Different Body Weight”.*
- *“Factors Affecting Body Weight and Morphological Characteristics of Assaf lambs of different Ages Raised in Jordan.”*
- *“Effect of Replacing Methionine Hydroxy Analogue Free Acid with DL-Methionine in Broiler Productive Performance and Carcass Characteristics.”*

Academic Awards

“Distinguished Researcher Award” for the year 2011. 2012. The University of Jordan. Amman, Jordan.