

Academic Staff Profile

1.1 Personal Profile

1.1.1 Personal Details

Name: Dr. Leonard Munga PF No 7821 Department: Animal Science Designation: Lecturer Email: munga.leonard@ku.ac.ke Area of Specialization: Animal Health and Production Research Interests: - Animals diseases control - Livestock Production - Disease resistance in animals Google Scholar: ORCID ID: https://orcid.org/0000-0003-2724-4868	
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1.1.2 Academic & Professional Qualifications

- PhD, Kenyatta University, 2010
- Master of Science. (Tropical Animal Health and Production) University of Edinburgh, UK, 1992
- Bachelor of Veterinary Medicine, University of Nairobi, 1988

Short Courses

- Biometrics and Statistical Skills, 7th to 11th March 2011, KARI Thika Research Centre
- Participatory Research, 24th -28th May 1999. Intermediate Technology Development Group (ITDG) /KETRI
- Effective Project Planning and Evaluation, 22nd to 25th April 2008
- Communication for Scientists, The University of Edinburgh / British Council, May 1996
- Scientific Communication, 17th to 28th July 1995, The University of Edinburgh /KETRI, The British Council

1.1.3 Employment History

- 2011- to date: Lecturer, Chairman, Department of Animal Science, Kenyatta University
- 2004-2011: Senior Research Officer, Head of Epidemiology Division, Kenya Agricultural Research Institute (KARI, now KALRO)
- 2003-2004: Senior Research Officer (KETRI)
- 1994-2002: Research Officer, Senior Research Officer, (KETRI)
- 1989-1993: Assistant Research Officer, Research Officer, Senior Research Officer Kenya Trypanosomiasis Research Institute (KETRI)
- 1988-1989: Veterinary Officer, i/c Nyakach Division, Kisumu District

1.1.4 Achievements

As the Chairman of Department of Animal Sciences, I successfully steered:

- Establishment of the Department, establishment of teaching and research facilities

- Development of teaching programmes, and accreditation of the Animal Health and Production programme by the Kenya Veterinary Board (KVB)
- Accreditation by KVB as Continuous Professional Development training centre.

1.2 Publications

1.2.1 Referred Journals

- James Kibugu, David Mburu, **Leonard Munga**, Francis Lusweti, Grace Delia and Johanna Lindahl (2022) Mycotoxins Hazards in the Kenyan Foods and Feeds Market – A Retrospective Study. *African Journal of Food Nutrition and Development* 22(1): 19306-19325
<https://doi.org/10.18697/ajfand.106.20995>
- James Kibugu, Raymond Mdachi, **Leonard Munga**, David Mburu, Thomas Whitaker, Thu P. Huynh, Delia Grace and Johanna F. Lindahl (2021). Improved Sample Selection and Preparation Methods for Sampling Plans Used to Facilitate Rapid and Reliable Estimation of Aflatoxin in Chicken Feed. *Toxins* 2021, 13, 216.
<https://doi.org/10.3390/toxins13030216>
- Laban Onono, George Orinda and **Leonard Munga** (2021). Evaluation of Zinc in Blood, Semen and their Relationship to Sperm Quality Among Males Attending Infertility Clinic in the Kenyatta National Hospital. *East African Medical Journal Vol. 98 No. 10 October 2021*
- Kibugu, James, **Munga, Leonard**, Mburu, David, Grace, Delia and Lindahl, Johanna (2021) Exposure to Chronic Dietary Aflatoxin Poisoning Is Potentially a Compromising Condition in COVID-19 Patients in Africa, *African Journal of Agriculture, Food, Nutrition and Development (AJFAND)* Volume 21 No.6.
<https://www.ajfand.net/Volume21/No6/lettertoeditor.html#gsc.tabLetter to the Editor>
- Ketente Gedion Kipaya, Dr. Purity Nguhiu, Dr. Leonard Munga (2020). Social Economic Factors Influencing Adoption of Improved Livestock Farming Practices among Members of Livestock Cooperatives in Kajiado County, Kenya. *World Journal of Innovative Research, Volume-8, Issue-3, Pages 01-09*.
https://www.wjir.org/download_data/WJIR0803014.pdf
- Wesonga, F. D. Wesonga, J. O., Chemuliti, J., Wanjala, K., **Munga, L.** and Gitau, P. (2006). Seroprevalence of Ehrlichia ruminantium (Heartwater) in small ruminants in a pastoral production system in Narok district, Kenya. *Bulletin of Animal Health and Production in Africa* 54: 23-33
- Wesonga, J.O., Chemuliti, J., Wesonga, F.D., Wanjala K., **Munga, L. K.**, Ngare P and Murilla, G. A. (2005) Prevalence of parasitic infections in small ruminants in a pastoral community in Narok District, Kenya. *Bulletin of Animal Health and Production in Africa* 53:218-255
- Stevenson, P., Rossiter, P.B., **Munga, L.K.**, Ndung'u E.K. and Dolan R.B. (1999). Rinderpest vaccination and the incidence and development of trypanosomosis in cattle. *Tropical Animal Health and Production*. 31:65-73
- Njagi, O.N., Ndarathi, C. M., Nyaga, P.N. and **Munga, L.K.** (1998). An epidemic of Besnoitiosis in cattle in Kenya. *Onderstepoort Journal of Veterinary Research* 68:133-136.
- Eisler, M. C., Stevenson, P., **Munga, L. K.** and Smyth, J.B.A. (1997). Concentrations of isometamidium chloride (SamorinR) in sera of zebu cattle which showed evidence of hepatotoxicity following frequent trypanocidal treatments. *Journal of Veterinary Pharmacology and Therapeutics*. 20(3): 173-180.

1.2.2 Other publications

(i) Refereed Learning Modules

- KAS401 module; Written by Dr. Leonard Munga, Edited by Dr. John Mathenge
- KAS401 module; Written by Dr. Leonard Munga, Edited by Dr. Purity Nguhiu

(ii) Conference Papers and Workshops Papers

- **Munga L.K. (1997)** The current tsetse and trypanosomosis situation in western Kenya. Kenya Veterinary Association Annual General Meeting and Scientific Conference, 1997. Kisumu, Kenya.
- **Munga L.K.** Stevenson P. Okech G. and Ndung'u J.M. (1996) Establishment and the role of a Technical Team in KETRI. Paper presented at the Kenya Veterinary Association Annual general meeting and Scientific Conference, 1996. Mombasa, Kenya
- Stevenson, P. **Munga L.K.** and Dolan R. B. (1993). The detrimental effects of frequent treatment of cattle with trypanocidal drugs. Proceedings of the Twenty Second meeting of the International Council for Trypanosomiasis Research and Control, 25-29 October, 1993. Kampala, Uganda OAU/STRC Publication no 117.
- Olaho-Mukani W., Nyang'au, J. Masake A., **Munga, L. K.** and Ndung'u, J.M. The use of Antigen ELISA in evaluation of the efficacy of tsetse control using cypermethrin dip formulation. Eleventh African Health Sciences Congress.
- Stevenson, P. **Munga, L K.** Baylis, M., Makumi J. and Alushula (1991). The use of deltamethrin pour-on for tsetse and trypanosomiasis control on ranch cattle in Kenya. Twenty-first meeting of International Scientific Council for Trypanosomiasis Research and Control. Yamassoukro. Ivory Coast.
- **Munga, L. K.**, Stevenson P., Mwangi E. and Alushula A. (1990). Differences in susceptibility of three breeds of cattle to trypanosomiasis. Tenth KEMRI/KETRI Annual Scientific Conference
- Dolan, R. B., Alushula, H., **Munga, L. K.**, Mwendia C. Okech G. Sayer P. D. Stevenson P. Baker R.L. and Magadi M. (1994). The Orma Boran – Ten Years of field observations. In Rowlands G. J. and Teale, H. J. (eds) 1994. Towards increased use of Trypanotolerance: Current research and Future Directions. Proceedings of workshop organized jointly by ILRAD/ILCA. 26-29 April 1993. ILRAD/ILCA, Nairobi, Kenya.

(iii) Research

- A genomic approach to improved trypanotolerance in cattle
- Tsetse control technology transfer between KETRI, DFID-UK, ITDG, KEPDA and Three Rural Communities in Kenya.
- Evaluation of the efficacy of Cypermethrin dip formulation (Ectomin™) against tsetse and trypanosomiasis in the Coast Region of Kenya.
- Evaluation of the efficacy of alpha-cypermethrin 1,5% pour-on (Renegade™) against tsetse flies and livestock trypanosomiasis in Kenya
- Evaluation of the efficacy of new deltamethrin-based insecticide formulation (Butox™ and Delete™ Deltab™) against tsetse and trypanosomosis in Kenya
- The efficacy of - cypermethrin 5% E.C. (Renegade 50 TM Spray) against tsetse and trypanosomosis in cattle in a community ranch in Narok, South West Kenya
- Studies on the isometamidium toxicity in cattle

(iv) Conferenced/Workshops/Seminars Attended

- Technology Transfer and Commercialization of Intellectual Property, 22nd to 24th March, 2021, Kenyatta University
- Leadership Workshop Training for Deans and Heads of Departments, Kenyatta University
- School of Agriculture and Enterprise Development (SAED) 2nd Biennial International Conference 29th November to 2nd December, 2016
- The International Expo for Poultry and Livestock, 2nd -3rd July 2015, KICC, Nairobi, Kenya
- Online training on “Chicken Necropsy” Conducted by Vet Page, On 15th August 2014
- Practical Approaches for Diagnosis and Treatment of Poultry Diseases, 6th August, 2014, University of Nairobi
- Training Technology, Emerging Livestock Species and Value Addition, 3-4 July 2014, Animal Health Training Institute, Kabete
- The First KAFACI Training Workshop on “Artificial Insemination and Embryo Transfer in Cattle” July 4 to 13, 2011, Addis Ababa Ethiopia
- Kenyatta University Postgraduate Seminar, 18th June 2010
- Orenge, O., Kimwele, C.N., Kemp, S.J., Korol, A.B., Munga, L.K., Murilla, G., Hanotte, O. and Soller, M, 2009. Effect of N'Dama origin marker alleles on trypanotolerance in a backcross cattle population under natural tsetse and trypanosomosis challenge. In: Proceedings of the 30th ISCTRC Conference held in Kampala, Uganda. pp. 125
- Kenya Veterinary Association / PATTEC Training Workshop, 5th -7th February 2009, Embu, Kenya
- Orenge, C.O., Korol, A ., Kimwele, C. N., Kemp, S., Hanotte, O., **Munga, L.K.**, Gibson,J.P., Murilla, G. and Soller, M., 2007. Detection of Quantitative Trait Loci (QTL) controlling trypanotolerance in a backcross of (N'Dama X Kenyan Boran) X Kenyan
- Boran cattle population under a natural tsetse and trypanosomosis field conditions in Narok District (Kenya). In: ISCTRC conference, 30 September – 6 October 2007. Luanda, Angola.
- Training Workshop on the “Role of Private Veterinary Practitioners in Tsetse fly/ Trypanosomosis Control in the Lake Victoria Belt, Naselical Hotel, Kisumu, Kenya
- Olaho-Mukani W., Nyang’au, J. Masake A., Munga, L. K. and Ndung’u, J.M. The use of
- Antigen ELISA in evaluation of the efficacy of tsetse control using cypermethrin dip formulation. Eleventh African Health Sciences Congress, Nairobi, Kenya
- Trypanocidal drug resistance in Tanzania Mwambo H., Ndung'u, J. M., Murilla, G.A., Munga, L.K., Sinyangwe, L., Holmes P.H. and Eisler, M.C. (1999). Proceedings of the
- Twenty-fifth Meeting of the International Council for Trypanosomiasis Research and Control, 1999. Mombasa Kenya, OAU/STRC Publication no 120: p 168-174.
- Munga L.K. (1997) The current tsetse and trypanosomosis situation in western Kenya. Kenya
- Veterinary Association Annual General Meeting and Scientific Conference, 1997. Kisumu, Kenya.
- Munga L.K. Stevenson P. Okech G. and Ndung’u J.M. Establishment and the role of a
- Technical Team in KETRI. Paper presented at the Kenya Veterinary Association Annual general meeting and Scientific Conference, 1996. Mombasa, Kenya.
- Dolan, R. B., Alushula, H., Munga, L. K., Mwendia C. Okech G. Sayer P. D. Stevenson P.

- Baker R.L. and Magadi M. (1994). The Orma Boran – Ten Years of field observations. In: Rowlands G. J. and Teale, H. J. (eds) 1994. Towards increased use of Trypanotolerance: Current research and Future Directions. Proceedings of workshop organised jointly by ILRAD/ILCA. 26-29 April 1993. ILRAD/ILCA, Nairobi, Kenya.
- Stevenson, P. Munga L.K. and Dolan R. B. (1993). The detrimental effects of frequent treatment of cattle with trypanocidal drugs. Proceedings of the Twenty Second meeting of the International Council for Trypanosomiasis Research and Control, 25-29 October, 1993. Kampala, Uganda OAU/STRC Publication no 117.
- Munga, L. K., Stevenson P., Mwangi E. and Alushula A. (1990). Differences in susceptibility of three breeds of cattle to trypanosomiasis. Tenth KEMRI/KETRI Annual Scientific Conference

1.3 Quality Teaching, Learning and Mentorship

(i) Student evaluation of instructor and course

- Evidence of evaluation by students in all cases – Scored well above 70%

(ii) Postgraduate supervision

Successful supervision

- Anderson Maina: Growth performance and carcass characteristics of the African catfish (*Clarias gariepinus*) reared on diets containing black soldier fly (*Hermetia illucens*). (**Completed MSc in Animal Nutrition and Management, 2020**)
- Ketente Gedion Kipaya: Socio-economic Factors Influencing adoption of Improved Livestock Farming Practices Among Members of Livestock Cooperatives in Kajiado County, Kenya (**Completed Msc, Dryland Agriculture, 2023**)
- Laban Omondi Onono: Evaluation of Zinc in Blood, Semen and Their Relationship to Sperm Quality among Males Attending Infertility Clinic in Kenyatta National Hospital (**Completed MSc in Medical Biochemistry, 2023**)

On-going supervision - Masters

- Linus Kiriungi Wamai: Growth and Laying Performance of Layer Chicken Fed on Black Soldier Fly Larva Meal in Kenya (**Status: Submitted thesis for examination**)
- Damaris Wacu Nyingi: Insect Feed Utilization in Layer Diets: Effects of Black Soldier Fly Larvae Meal on the Laying Performance of Improved Indigenous Chicken (**Status: Submitted thesis for examination**)
- Kimani Lina Mwihaki: The Nutritional Potential of Discarded Cut Rose (*Rosa rubiginosa*) Flowers for Supplementary Feeding of Dairy Goats in Nakuru County Kenya (**On-going**)

On-going supervision - Ph. D

- James Kibugu Karuku: Dietary Aflatoxicosis in Chicken Value Chains in Kenya; Its Prevalence, Impact and Control (**on-going**)

1.4 Professional and Consulting

- Registered, The Kenya Veterinary Board
- Member, The Kenya Veterinary Association

1.5 Administration and Responsibilities

Chairperson of Department

- **Chairperson of Department**, Department of Animal Sciences, 10th June 2016 to 9th June 2020

Other responsibilities

- **Programme Coordinator**, Animal Health and Production Programme, 15th October 2014 to 10th June 2016
- **Chairman, Department Postgraduate Board**: 2012 to 2013
- Committee Member, Optical Telescope Observatory at Kenyatta University, appointed 29th June 2023
- **Committee Member**, Kenyatta University Animal Use and Care Committee, 2017 up to date
- **Kitui Campus Complaints Officer**, 2022 up to date

1.6 Community engagement

- Member Board of Governors, Wangunyu Secondary School, 2009 -2014
- Board Member, St Angela's Secondary School, 2015 to 2020
- Board Member, Kihara Secondary School, 2021 to date

1.7 Referee

- Dr. Lucy Kamau
Chairperson, Department of Animal Sciences, Kenyatta University
Tel. 0722356568