

Curriculum Vitae

Levi Shadeya-Mudogo Akundabweni

Work Address: Department of Agricultural Land Use Management (ALUM)
School of Agriculture and Veterinary Sciences and Technology (SAVET)
Masinde Muliro University of Science and Technology (MMUST)
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Personal: l.mudogo@gmail.com

Personal details: Kenyan citizen; Male and married with children.

Area of interest: Research focused on linking Plants, People and Practices with Disciplines of Agronomy, Plant breeding & plant biotechnology

Education background

- 1) PhD. South Dakota State University, Brookings, South Dakota; USA (Forage Breeding and Agronomy- African clovers)
- 2) MSc. South Dakota State University; Brookings, South Dakota; USA (Pasture alfalfa agronomy and warm season grasses)
- 3) BSc. University of Minnesota- St. Paul campus; Minnesota (Agronomy and Applied Plant Genetics)
- 4) A-Level: Thompsons Falls High (Ndururumo) School-Kenya
- 5) O-Level: Musingu High School-Kenya

Work Record and Designations

1. Full professor the ALUM Department at Masinde Muliro University of Science and Technology (To date).
2. Full Professor at the Department of Agricultural Production & Technology at University of Namibia in Namibia (2013-2021).
3. Local Coordinator and partner on Mobreed (Modern Breeding) Project of the IntraAfrica Academic Mobility Scheme in a consortium of University of Namibia, Abomey University-Calavi (Republic of Benin, Jimma University in Ethiopia, Abonye State University in Nigeria and University of Kwazulu Natal).
4. Associate Professor at the Department of Plant Science and Crop Protection, at the University of Nairobi (1994-2012). Member of the Senate (University of Nairobi), College Management and College Academic Board (College of Agriculture and Veterinary Sciences- The University of Nairobi).

5. Acting Dean-Faculty of Agriculture, the University of Nairobi (2004-2005)
6. Associate Dean-Faculty of Agriculture; University of Nairobi (2007-2013)
7. Chairman of the Department of Crop Science-University of Nairobi (1999-2004)
8. Senior Lecturer at the University of Nairobi (1991-1994)
9. Lecturer at the University of Nairobi (1987-1991).
10. Junior Scientist (1985-1987) International Institute of Tropical Agriculture (IITA), Ibadan-Nigeria
11. PhD Research Scholar (1982-1984) at the then International Livestock Center for Africa (ILCA) in Ethiopia.

Research Grant activities

1. Enhancing training and research mobility for novel crops breeding in Africa: EU Grant 581221-PANAF-1-2016-1-BJ-PANAF-MOBAF2 'MoBreed' (2016- 2021).
2. Introduction of Foxtail Millet as a new crop into the Namibian Dryland Ecology: Varietal testing. A Cooperation Agreement on Scientific Research Entered into Between the University of Namibia and Zhangjiakou Academy of Agricultural Sciences (ZAAS) and Namibia Contract Haulage. Under limited Chinese Funding (2013-2016).
3. Screening indigenous plant biodiversity and products, of a premium value, produced on smallholder farming systems of Lake Victoria Basin in East Africa. Under a Ruforum grant-RU/CGS/GRG/30/06/09: (2009-2011).
4. Marker Assisted Selection of the Stay-Green Trait of Sorghum to Enhance Terminal Drought Tolerance in Eastern Africa. ASARECA 2nd Phase BIOTECH/AWARD/005/04 (2007/ 2008).
5. Establishment of a Research XRF Lab Link at the Institute of Nuclear Science & Technology (University of Nairobi) Support provided by International Plant Research Institute (IPGR) (2003).
6. Linking Functional Agrobiodiversity to Land Use and Nutraceutical-based Cropping as a Poverty and Hidden Hunger Reduction Strategy: A Pilot Study on Women Smallholders in the Lake Basin. Under a ViCRes grant: 2005 Group-Vic/P04/05/08/85. (2005-2007).
7. Piloting Variation Capture in Kenyan Solanum spp. germplasm Using XRF Analysis Procedure. Small grant from the International Atomic Energy Agency (2003)'
8. Establishment of a pioneer M.Sc. Biometric Teaching Laboratory with for Strengthening Biometry Teaching at the Faculty of Agriculture at the University of Nairobi. (Principal Investigator). Rockefeller Foundation hardware provision and limited funding (1995).

Major Consultancy Assignment

1. As a key consultant (2010-2013), I have served at Gibb International Africa as an Agricultural Development Agronomist (ADP) with exercises in the Republic of Tanzania in the Mara, Ngono and Bugwema Schemes and Bukoba under the agricultural development plan of the Nile Equatorial Lakes Subsidiary Action Program (NELSAP).
2. Under an FAO supported Drought Recovery (1993/1994) Program (Kenya), I consulted as an agronomist for the design, planning, implementation and the subsequent distribution of planting seed of various cereals and pulses to drought-stricken farmers in Bomet District.

Professional tours

- Member of the Selection Panel for Admission into MSc and PhD programmes to the Pan African University for Life & Earth Sciences Institute (including Health and Agriculture – PAULESI. Participated in Plant breeding curriculum development at its inception and subsequently retained on the Selection Panel (2015-2017).
- Visiting Scholar/trainee (laboratory practices): Italian government-International Plant Genetic Resources Institute (IPGRI) under capacity development programme (National Council of Science/University of Naples Genetics Lab-Portici, Naples-Italy) (April 1994- April 1995).
- Visiting Scholar at:

- University of Missouri-Colombia: ADF & NDF Cellulose Solution Digestion - Procedure for Nutritive Quality Analyses Research Laboratory under Prof Sleper (Short term lab practice (Short term 1992).
- California Institute of Biological Research (CIBRI), La Jolla, USA-California Institute of Biological Research (CIBRI) Lab- Strategene lab, La Jolla, USA to practice on the Novel arbitrary Primed PCR procedure for DNA fingerprinting (Short term 1992).
- Fellow of the United Nations University Institute of Natural Resources in Africa (UNU-INRA) Tokyo, Japan. Small Grant provided for a Survey on Home Gardens and Food Preparations from them (1988).

International attachments

- One month attachment at University of Missouri-Colombia (USA): Cellulase Solution Digestion Procedure for determination of ADF & NDF; Research Laboratory under Prof Sleper (1992).
- One month attachment at California Institute of Biological Research (CIBRI), La Jolla, USA-California Institute of Biological Research (CIBRI) Lab, La Jolla, USA on the use of arbitrarily primed polymerase reaction (a-PCR) to distinguish wild populations of cowpea collected from the Kenyan Coast (1992).
- One year biotechnology trainee at the University of Naples/Italian National Council of Science and Technology-Naples, Portici on the use of restriction fragment length polymorphism (RFLP) protocol to assessing a gene responsible for heat stress tolerance in cowpea (1994).
- Plant breeder (Cowpea)International Institute of Tropical Agriculture (IITA; Ibadan, Nigeria)-(1985-1987)
- Research Fellow (Forage legumes): International Livestock Centre for Africa (ILCA-Now ILRI, Addis Ababa, Ethiopia) (1982-1984).
- Graduate Research/Teaching Assistant-Dept. of Plant Science at South Dakota State University (1978-1981).

Community service

- Chair of the Agricultural Research Task force for transformation policy toward the formation of Kenya Agricultural Livestock Development Organization (KALDO).
- Chairman of the Industry Committee at the Kenya Bureau of Standards (1988-1998).
- Founder and Board Chair of the Ngong Road Friends Primary School, Nairobi (1995-2009)..
- Committee Member on RePRAC (Research Proposal Review and Advisory Committee-Cereals Value chain Kenya Agricultural Productivity & Agribusiness Project (KAPAP). RePRAC responsible for the coordination of technical review of Competitive Research Grants (CRG)proposals & their approval while also playing an advisory role to KAPAP secretariat (2011-2013).
- Committee Member of the Improved Maize for African Soils''- (IMAS)-Operating Committee(IMAS-OC) supported by the Bill and Melinda Gates Foundation and USAID in partnership with CIMMYT, Pioneer Hi- Bred, the Kenyan Agricultural Research Institute (KARI), and the Agricultural Research Council (ARC) of South Africa (2011-12).
- Chair and Committee Member of the National Research Taskforce (NRTF) for the Development of the National Agricultural Research Systems Policy drafting as a service to Kenya Government

to restructure NARS Policy (2006-2009); National Research Taskforce (NRTF) for the Development of the National Agricultural Research Systems Policy—in service to Kenya Government.

Professional membership

- African Crop Science Society (To date)
- American Crop Science Society (ACS)- Past

Other testimonials

- Certificate of Competence training on eContent and use of Learning tools at at University of Nairobi (2006)
 - Federation of Kenya Employers: An in-house training Program on Financial Management and Human Resource Management for Deans and Directors of University of Nairobi related to Transformative leadership and Management. (29th September to 2nd October, 2005).
 - State of Israel/International Arid Lands Consortium (IALC)/Keren Kayemet Le Israel (JNP)/Ministry of Agriculture Centre for International Agricultural Development Cooperation(CINADCO): An International Training Workshop: Arid and Semi-arid Ecological Systems(November 15-December 5, 1995)
 - Toastmasters International. Honor as a competent Toastmasters Communication and Leadership Program (November 13, 1981).
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Teaching and learning

Courses taught at the University of Nairobi (1987-2013)

1. Department of Plant Science & Crop Protection (MSc.)- Crop & Forage production Systems.
- Fundamentals of Crop Improvement
2. Agricultural Economics Department - Agricultural Information Management on Cropping Systems
3. Faculty of Agriculture (Offered to B.Sc. Agriculture; B.Sc. Range Management& BSc. Agricultural Education and Extension students combined).
- Field & Laboratory Experimentation (Year 4)
- Fodder & Range Pastures (Year 2s plus Year 3)

At University of Namibia (2013- 2021)

1. Plant Science to BSc. Year 2 Crop Science students
2. Crop Ecophysiology BSc. Year 3 Crop Science students
3. Plant Breeding BSc. Year 3 Crop Science students
4. Plant Biotechnology Year 4 Crop Science students.

Postgraduate MSc. Taught Course

Drafted a taught course in MSc .Plant Breeding (pending Senate approval) for the Department of Crop Production & Agricultural Technologies..

Postgraduate Students under supervision

1. Dr. Bartholomew Chataika (from Malawi) –PhD On Cleome Plant Breeding: MoBreed Project (IntraAfrica Academic Mobility Scheme) -University of Namibia
2. Ms. Awoke Priscilla- 12 Months research attachment on Bambara mutation breeding and SSR bio-assaying mutant variation at UNAM: 2019: Proceeded to Home institution for MSc thesis

completion: Abonye State University-Akabaliki, Nigeria

3. Mr. Nwodom Stan – 12 months thesis work research attachment on Cleome trait association among accessions evaluated for Aphid Resistance: 2020: Proceeded to Home institution for MSc completion: Abonye State University-Akabaliki, Nigeria
4. Dr. Fidelis Mwazi: PhD in Crop Science-Agronomy (2017)-Namibian
5. Dr. Edgar Mowa: PhD in Crop Science (2018)-Agronomy-Namibian
6. Dr. S. Nitembu (Late) Posthumous PhD in Crop Science (2018)-Agronomy-Namibian.
7. Mrs. H. Kandongo (M.Sc. Agricultural Engineering-Drip irrigation on Onion production)-Namibian (2021).
8. Ms. Johanna Shekupe Valombola (MSc. Plant Breeding)-on Bambara groundnut-Namibian(2020)
9. Prof. Maobe S. N (2010)-University of Nairobi. Completed PhD.
10. Ms. Sussy Munialo: (MSc. Investigation of the viability of Premium Influenced Land Use Raised Cropping Bed in the Quality Indigenous Vegetables planted in Jinja-Uganda and Vihiga-Kenya (2013).
11. Ms. Kihara Wangeci Naomi. MSc. On Forage Micronutrient Density Nutritive Quality Potential in the African Annual Clover (*Trifolium quartinianum*, cv. Mealton in Relation to soil status (2013).
12. Mr. Ronoh, Meshack Kipkemboi: MSc. Dissertation on: The effect of sponsors on content in vernacular agricultural radio programs: Case Study of KASSFM (2013).
13. Ms. Jane Mwangi: MSc. Dissertation on: 'The Potential of Mobile Phone Usage in agricultural information dissemination: A case study in Kikuyu County-Kenya (2012).
14. Mr. Emanuel Katali: MSc. Dissertation on Evaluation of Agricultural Pesticide Label Information Awareness and its Dissemination in Nairobi by Retailers and End-Users (2012).
15. Mr. Hezekia Orwa Opiyo: Small-holder utility-based phyto-ionomic diversity mapping at Lake Victoria Basin sites in the interest of nutraceutical-implied security (2010).
16. Ms. Lydia Wamalwa: MSc. on: Heritability of Micro and Macro-elements of Nutritional interest in two *Solanum scabrum* (Miller) accessions from Kenya and Cameroon (2007).
17. Mr. Jonathan Mutonyi: The Zero grazing Yield potential of two native clovers grown alone and with Sudan grass at Kabete, Kenya (2006).
18. Ms. Regina Wanjiru Munene: MSc. on: Characterization by Energy Dispersive X-ray Fluorescence (EDXRF) Analysis of Interspecific Variation in Trace Element Micronutrient Density in Germplasm of Selected Indigenous Vegetables, Cereals and Fruits (2005).
19. Mr. Kipkosgei, LK: MSc. on: Response of *Solanum nigrum* and *Cleome gynandra* to farm yard manure, C.A.N and Pest infestation in Keiyo district (2004).
20. Ms. Jane Muthoni: MSc. on: The Potential of Annual African Clover-*Trifolium quartinianum*- Cv. Mealton 5 for Zero Grazing (2004).
21. Mr. Kiriiru, F.K. MSc. on: Effects of Organic and Inorganic Nitrogen Sources on Growth and Yield of Green grams (2004).
22. Mr. Akuja, T. E. 1995. MSc. thesis on: of Legume Intercrop Management practices and inorganic nitrogen application on growth and yield of finger millet (*Eleusine coracana* L.).

Research Publications

Publications between 2022-

1. Barthlomew Yonas Chataika, Levi Shadeya-Mudogo Akundabweni, Aristide Carlos Houdegbe, Enoch G Achigan-Dako, Julia Sibiya, Kingsley Masamba (2021). Dietary Phytochemical

Screening of Spider Plant (*Gynandropsis gynandra* (L.) Briq.) Accessions from Africa and Asia to identify Genotypes for Use in Nutraceutical Breeding. *Frontier. Sustain. Food Syst.*, 05 October 2021; Sec. Crop Biology and Sustainability; Volume 5 2021; <https://doi.org/10.3389/fsufs.2021.733909>

2. Barthlomew Yonas Chataika; Levi Shadeya-Mudogo Akundabweni, Julia Sibiya, Enoch G. Achigan-Dako, Dêdi E. O. Sogbohossou, Kingdom Kwapata and Simon Awala. (2022) Major Production Constraints and Spider Plant [*Gynandropsis gynandra* (L.) Briq.] Traits Preferences Amongst Smallholder Farmers of Northern Namibia and Central Malawi. This article was submitted to Land, Livelihoods and Food Security, a section of the journal *Frontiers in Sustainable Food Systems*; Published: 27 May 2022.

Publications between 2021 and 2017

3. Barthlomew Yonas Chataika, Levi Shadeya-Mudogo Akundabweni, Aristide Carlos Houdegbe, Enoch G. Achigan-Dako, Julia Sibiya, and Kingsley Masamba. (2021). Dietary Phytochemical Screening of Spider Plant (*Gynandropsis gynandra* (L.) Briq.) Accessions From Africa and Asia to Identify Genotypes for Use in Nutraceutical Breeding. *Frontiers in Sustainable Food Systems* | www.frontiersin.org. October 2021 | Volume 5 | Article 733909.
4. Kandongo, B Mudamburi, L Akundabweni, K Hove and G Hatutale (2020) Effect of Deficit Irrigation and Irrigation Types on Yield and Gross Margin of Onion in a Semi-Arid Sub-Saharan Africa Namibia, Omusati Region. *International Journal of Recent Engineering Research and Development (IJRERD)* ISSN: 2455-8761. www.ijrerd.com || Volume 05 – Issue 02 February 2020 || PP. 16-23.
5. Mwazi, F.N, L.S.M. Akundabweni, P. Graz and C. Gwanama. (2020). Spatial and Temporal Variability of Soil Moisture in Non-flooded Landscape Units in Namibian Zambezi Region.
6. Valombola, JS L.M. Akundabweni, SK Awala, and K Hove, (2019). Agronomic and morphological diversity of Bambara groundnut (*Vigna subterranean* (L.) Verdc.) S accessions in North-Central Namibia, *Welwitschia International Journal of Agricultural Science*, Vol 1(1): pp 88- 99, <http://journals.unam.edu.na/index.php/WIJAS/article/view/1369/1173>.
7. Edgar Mowa, Levi Akundabweni, Percy Chimwamurombe and Gaddafi Liswaniso (2018). Analysis of nitrifying microbial community for organic hydroponics. *African Journal of Microbiology* Vol. 12(1), pp. 1-8, 7 January, 2018 DOI: 10.5897/AJMR2017.8635 Article Number: 1C48FCA55661 ISSN1996-0808 Copyright © 2018.

Publications between 2017 and 2014

8. Mowa, E., Akundabweni, L., Chimwamurombe, P., Oku, E., & Mupambwa, H. A. (2017). The influence of organic manure formulated from goat manure on growth and yield of tomato (*Lycopersicum esculentum*). *African Journal of Agricultural Research*, 12(41), 3061-3067.
9. Akundabweni, LSM; Tuyenikelao, K, Njunge, J; Zhou Zhihai (2017). Pot-Induced Water Stress Tolerance Test on Four Foxtail Millet (*Setaria italica* L.) Varieties under Dry Conditions of North Central Namibia. *International Journal of Agriculture, Life Sciences & Sustainable Development (IJALS)* Volume 3, Issue 1, Feb, 2017:31 - 40 Available online at: www.cencadpublishers.ca.
10. Munialo S., Akundabweni L. S. M., Mburu J., Namutebi A., & Joshua K. (2015). Investigating viability of the premium influenced land agro-usage structure for production of African leafy vegetables in Vihiga and Jinja. *African Journal of Agricultural Research*, 10(14), 1659-1674.
11. M.I Lengarite, G. Getachew, L. Akundabweni, D. Hoag. (2014). Supplementary feeding of lactating goats with processed and unprocessed *Acacia tortilis* pods and local grass in the dry season in northern Kenya. *Agricultural Science Research Journal* 4(3); pp. 63- 71, March 2014. Available online at <http://www.resjournals.com/ARJ>. ISSN: 2026 – 6332 ©2014 International Research Journals.
12. Akundabweni, Shadeya, L. M, Munene Regina, Wand Maina David. (2014). X ray Fluorescence-analyzed mineral micronutrient density variation among Kenyan Local vegetables. *Sustainable*

Publications between 2010 and 2006

13. Levi-Shadeya-M Akundabweni, G. Mulokozi and D M Maina. (2010). Characterization of African leafy Vegetables for Organo- and Mineral Micronutrient Densities based on X- ray Fluorescence and High Performance Liquid Chromatography (HPLC). African Journal of Food and Nutrition Development (AJFAND) 10: No. 11 (2010).
14. Levi-Shadeya-M Akundabweni, R.W. Munene, D M Maina and S.KBartilol.(2010). Mineral Micronutrient Density in Local Cereals Sample from Bungoma, Maseno and Kibwezi areas. AJFAND 10: 11.
15. Levi-Shadeya-M Akundabweni, R.W. Munene, D M Maina and J.M. Mangala. (2010). Mineral Micronutrient Density Characterization Using Energy Dispersive X ray Fluorescence (XRF) Analysis in Four On-Farm Kenyan Wild African Fruit tree Germplasm. Journal of Food Agriculture Nutrition and Development (AJFAND On-Line) Volume 20 No 8.
16. Maobe S. N, L.S.M Akundabweni, M.W.K. Mburu, Ndufa J.K. J.G. Mureithi, C.C.. Gachene, F.W. Makini and J.J. Okello. (2010). Effect of Green manure and inorganic Fertilizer Urea Nitrogen Sources and Application Rates on Harvest of maize (*Zea mays* L.). World Journal of Agric. Science 6 (5) 532-539.
17. Maobe S. N, L.S.M Akundabweni, M.W.K. Mburu, Ndufa J.K. J.G. Mureithi, C.C.K Gachene, F.W. Makini and J.J. Okello. (2010). Residual Effect of *Mucuna pruriens* Green manure Application Rate on Maize (*Zea mays* L.) Grain Yield. World Journal of Agric Science 6(6) 720-727.
18. 17. Maobe, S. N Mburu, M.W. K, Ndufa, J. K; Akundabweni, L. S, Mureithi, J. G, Gachene, C.K. K, Makini, F, Okello, J. J. (2010). Potential Effect of Mucuna Green Manure Application Rates on the Decomposition and Availability of Nitrogen in Varying Soil Moisture Levels under Greenhouse Conditions. J. of Sustainable Development in Agriculture & Environment Vol. 5(1). 2010 ISSN0794-8867. ©Paraclete Publishers 5.
19. Maobe, S. N Mburu, M.W. K, Ndufa, J. K, Akundabweni, L. S, Mureithi, J. G, Gachene, C. K. K, Makini, F, Okello, J. J. (2010). Effect of Mucuna Green Manure Rate Applied on Maize Grain Yield During the Application Season. J. of Sustainable Development in Agriculture & Environment Vol. 5(1). 2010ISSN 07948867. ©Paraclete Publishers 5.
20. 19.Maobe, S. N., Mburu, M.W.K., Ndufa, J.K. Akundabweni L. S.M. (2008). Legume biomass quantity requirement for maize production with reference to mucuna green manure in Kenya, In: Proceedings of the XXI International Grassland Congress and VIII International Rangeland Congress: Multifunctional Grasslands in a Changing World. Volume II.29th June - 5th July, Hohhot, China. pp239.
21. Muthoni, J. and Akundabweni L.M.S. (2008). Effects of low rates of nitrogen and phosphorus fertilizers on productivity of an annual African clover, *Trifolium quartianum* cultivar Mealton 5, for zero grazing in Kenyan highland small holdings. African Journal of Range & Forage Science 2008, 25(1): 29–35.
22. Hutchinson, M, Kipkosgei, L.K. Obudho, E and Akundabweni L. S. M. (2006). The effect of farmyard manure and calcium ammonium nitrate on vegetative growth, leaf yield and nutritive quality of *Cleome gynandra* (Cat's Whiskers) in Keiyo District, Rift Valley Province. Journal of Agriculture, Science and Technology Vol.8, No.1 (2006).
23. Akuja, T E, Akundabweni L.S., Chweya, J.A. (2003). Effect of Intercropping Finger Millet with two Indigenous Legumes at different Nitrogen Levels in Kabete and Njoro, Kenya. Eastern Africa Journal of Rural Development Vol. 19: 81-89.
24. Akundabweni L.S.M, Monti, L; Fonzo, D. (2000). Detached leaf test as a rapid stress appraisal in cowpea germplasm, *Vigna unguiculata* (L) Walp. for draught resistance. Discovery and Innovation, 12 (3-4): 132 – 136 (2000).
25. Akundabweni L S M. (1996). Seed Production of Native hay clovers in the Highlands of Eastern Africa. Tropical Grasslands 30:275-261.
26. Kahangi, E. M., J. A. Chweya, L S M Akundabweni. (1996). Cardinal Temperatures and Thermal

- times for vernalization in Carrot Cv. "Nantes". Journal of Horticultural Science, 22 (4):132- 139.
27. Kahangi, E.M. and Chweya, J.A. and Akundabweni, L.S. (1996). Cardinal temperatures and thermal times for vernalisation in carrot cv. 'Nantes'. AfricanCrop Science Journal. Volume 4 #1. March. p. 57-62.
 28. Kahangi, E. M., J. A. Chweya, L S M Akundabweni and D.M. Munyinyi. (1996). Effect of natural and artificial chilling in carrot cv. "Nantes" at different locations in Kenya. I. Effect of bolting and flowering. J of Horticultural Science, 22(4) 140-148.
 29. Kahangi, E. M., J. A. Chweya and L .S .M. Akundabweni. (1996). Effect of natural and artificial chilling in carrot cv. "Nantes" at different locations in Kenya. II. Effect on seed maturity, seed stalk heights, umbel number, seed yield and subsequent germination of the harvested seed. J.of Horticultural Science 22 (4) 149158.

Publications between 1995 and 1991

30. Akundabweni L.S. M; and Monti, L. Absciscic acid (ABA) accumulation in roots and leaves of *Vigna unguiculata* L., Walp. under imposed water stress. (1995). Legume Research J. 33:11- 13.
31. Akundabweni L. S. M. (1995). The potential of the arbitrarily primed polymerase chain reaction as a method to distinguish different genetic lines in *Vigna unguiculata*, L. (Walp.) and in the related botanical strains. South AfricanJ. Of Botany 61:1-5.
32. Akundabweni L. S. M, and D. Sleper. (1993). The Prepared Cellulase Solution Digestion for screening forage grass germplasm for digestibility. African J of Crop Science 1: 67-71.
33. Akundabweni L S M., J R Lazier, and G Lemme. (1991). Morphological and soil measurements for determining ecotypic variation in *Trifolium tembense* in the Ethiopian highlands. Discovery and Innovation 31: 99-104.
34. Akundabweni L S M., J R Lazier, and G Lemme. (1991). Comparative growth of some African clovers planted at different times. Tropical Grasslands 25: 358-354.

Publications between 1989 and 1980

35. Akundabweni L.S, Peter-Paul, C. and Singh, B. B. (1989). Evaluation of elite lines of cowpea (*Vigna unguiculata* (L) for leaf fodder cum grain. Tropical Agriculture (Trinidad) 67: 133 136. [www.dairy.org/Additional Res/Crop Residues/chap4.htm](http://www.dairy.org/Additional%20Res/Crop%20Residues/chap4.htm).
36. Akundabweni L S M. (1984). Forage potential of the genus *Trifolium* in the Ethiopian highlands. PhD Thesis. South Dakota State University; Brookings, South Dakota, USA.
37. Akundabweni L S M. (1980). Stand Densities of Interseeded Alfalfa (*Medicago sativa*); and the effect of nitrogen and phosphorus on establishment of 5 warm season grasses. M. Sc. Thesis. South Dakota State University. Brookings, South Dakota, USA.

Conference/Workshop papers

1. JPN Hanyehatilia, JS Valombola, S.K Awala, and LS Akundabweni, (2018).Morphological characterisation and agronomics evaluation of Bambara groundnut (*Vigna subterranea* L. Verdc) accessions in Northern Namibia Presented a the International Conference on Agriculture and Natural Resources (ICANR) held at University of Namibia-Neudamm Campus in October 2018.
2. JS Valombola, LM Akundabweni, and S.K Awala, (2017). Selection of pre-breeding materials using agro-morphological markers in Bambara groundnut (*Vigna subterranea* L. Verdc) accessions in Northern Central Namibia. Presented at International Conference on Agriculture and Natural Resources (ICANR) held at University of Namibia-Ogongo Campus in October 2017.
3. Munialo S., Akundabweni L. S. M., Mburu J., and Namutebi A. (2013). Evaluation of the Economic Net Benefits of the various fields found on a smallholder farming system in Vihiga- Kenya. 4th International Conference of the African Association ofAgricultural Economists, September 22-25, 2013, Hammamet, Tunisia.
4. Kimani, P.M., John Nderitu and Levi Akundabweni. (2008). Towards Vision2030: New Bean Varieties for improved productivity, food and nutrition security and wealth creation. 9-12 November

2008, Strategy for Revitalising Agriculture, Second National Workshop, Safari Park Hotel, Nairobi (Award winning poster presentation). Presented to H.E the President, H.E. Vice- President and Hon Minister for Agriculture.

Book Chapters

1. Levi-Shadeya M Akundabweni, Namutebi, S A, Kimiywe, J, O. 2008. Screening and Mapping Nutraceutical Dense Biodiversity on Women Smallholder Farms Based on Farmer's Decision Points and X-ray Fluorescent Spectroscopic Analysis. Acta Horticulturae 806. International Society for Horticultural Science; Leuven, Belgium. 739 pp.
2. Akundabweni, L.S.M 1985. In: Potentials of forage legumes in farming systems of sub-Saharan Africa, ILCA, Addis Ababa, Ethiopia, 16-19 Sept. 1985. Feedipedia Animal feed resources information system.

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