

CURRICULUM VITAE

Joyce Mnyazi Jefwa

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Summary of Skills

- Supervised 3PhD, over 15 Masters, Undergraduate and Diploma and certificate students on attachments
- Non-Degree training for Academic and non-academic students and staff
- Training community training on Mushroom cultivation
- Taxonomic skills (morphology and biochemical) in Fungi and plants
- Microbiological techniques in bacteria and fungi (culture and aseptic techniques)
- Micropropagation techniques in plants (succulents, orchids and vegetatively propagated plants such as banana)
- Coordination, management and implementation of mycological, agricultural, forestry, biodiversity, biotechnology, restoration and community related projects
- Fundraising through proposal writing and participating in meetings and presentation to donor agencies.
- Grant management and Report writing, publications, dissemination of information through conferences, workshops and meetings and internal monitoring and evaluation of progress on project achievements through formal and informal meetings and presentations.
- Ecological survey skills for undertaking biodiversity studies, bioprospecting and Conservation
- Curator of live and preserved mycological collections, germplasm and database of fungi for research, taxonomic and systematic studies and training.
- Negotiation skills with stakeholders (Regulatory agencies, NARS, Universities, NGO's, CBO's and Private companies)
- Translating Scientific information to utilization and development
- Mentorship of staff and students
- Leadership skills (In research, projects, specialist and non-specialist areas)
- Networking skills through specialist groups, professional and non-professional Associations and Societies.
- Training in Education (Psychology, Administration, Philosophy, Curriculum development, Teaching Methods)
- Social skills through studying and working in multicultural and gender diverse environments

- Organization of Conference, Workshops, seminars and meetings { Organizing Committee Member in the Integrated Soil Fertility Management (ISFM) Conference 2012, Nairobi Kenya (21st -26th 2012) and Convener for African Network on Mycorrhiza (AFRINOM) in the conference.; Organizer of Special Interest group International Mycological Congress (IMC) 2010 Edinburgh: Mycology in Africa: Success and challenges in a developing continent}

WORK EXPERIENCE

Consultant: Bioersity International Nairobi/WorldFish Zambia (2014)

- Consultant Co-ordinating and implementing diversity studies and domestication of wild edible mushrooms of the Barotse Plains of Western Zambia

Associate Scientist National Museums of Kenya (2014-)

Consultant: International Institute of Tropical Agriculture (IITA) (August 2013 – January 2014)

- Scientist: Implementing trials on Biofertilizers Generating Standard Operation Procedures (SOP's) on Quality Control of Biofertilizers for Regulatory purposes
- Developing tools for Evaluation of University Curriculum on Biofertilizers and Biopesticides
- Supervising students in proposal writing project implementation
- Advising on Minimum equipment required for Quality Control of Biofertilizer

Postdoctoral Research Co-ordinator, Tropical Soil Biology and Fertility institute of the International Centre for Tropical Agriculture (CIAT-TSBF) (2004 –August 2007)

- Co-ordinating research on banana and mycorrhiza and farmer and nutrient management for optimum production Innovative Research: integrating biological interventions into the framework of Integrated Soil Fertility Management (ISFM)
- Co-ordinating and supervising research in root tubers and banana management in relation to ISFM
- Capacity building: Academic and non-Academic training and supervision

Postdoctoral Fellow, Tropical Soil Biology and Fertility institute of the International Centre for Tropical Agriculture (CIAT-TSBF) (2007-2009)

- Integrating Mycorrhiza inoculants into banana management in Rwanda: Bio-prospecting the use of indigenous mycorrhizal inoculants
- Capacity building: Masters and non-Academic training and supervision

Scientist, Tropical Soil Biology and Fertility institute of the International Centre for Tropical Agriculture (CIAT-TSBF) (2009 –August 2013).

- Lead scientist and co-ordinator of biofertilizer and biopesticides in agriculture and other ecosystems. Evaluating and promoting use of commercial microbial products by farmers. (Kenya, Uganda, Tanzania and Ethiopia)
- Capacity building in biological fertilizers and biopesticides in regulatory agencies, Universities and research organizations
- Innovative Research: integrating biological interventions into the framework of Integrated Soil Fertility Management (ISFM)
- Co-ordinating and supervising research in root tubers and banana management in relation to ISFM
- Capacity building: Academic and non-Academic training and supervision
- Part of Consulting team of three for CIAT on FAO project: "Status report and trends study on the conservation and use of micro-organisms and invertebrates in root crop-based systems"
- Organizer of Special Interest group IMC 2010 Edinburgh: Mycology in Africa: Success and challenges in a developing continent
- Committee Member in the Integrated Soil Fertility Management (ISFM)
- Conference 2012, Nairobi Kenya (21st -26th 2012) and Convener for African Network on Mycorrhiza (AFRINOM) in the conference.

Senior Scientist, Herbarium Department: National Museums of Kenya (1987-2007):

- **Head of Mycology:** Initiated, planned, managed and co-ordinated research in fungi. In-charge of curation, identification, inventory, monitoring and documentation of fungal biodiversity of Kenya; Initiated collaboration with NARS, Universities, International research organizations in fungal research. In collaboration with local, regional and international Institutions, co-ordinated mushroom collection and it increased it to slightly over 1,000 specimens, as the only collection in sub-Saharan Africa apart from South Africa.
- Leader in application of mycology to agriculture, forest, conservation, restoration and industry
- Conservation programmes (plant species and habitats)
- Belowground biodiversity (BGBD) research and conservation
- Curator of live and preserved mycological collections, germplasm and database of fungi for research, taxonomic and systematic studies and training.
- Conservation and monitoring Fungal (ecto-, arbuscular and orchidaceous) diversity in agro- and forest systems improving for quality of environment
- Mushroom production (cultivation and spawn) and training of rural communities processing and utilization of agricultural organic residues to sustain production.
- Plant conservation (Taxonomic and Ecological approaches) and micro-propagation

Research management and development (2014)

- Implementing cultivation of wild edible mushrooms

Research management and development (2001-2013)

- **Research management and development (2001-2013):**
- Project implementation through coordination and supervision of East Africa region (Kenya, Uganda, Tanzania, and Ethiopia) 2013 funded by Bill and Melinda Gates and implanted by IITA -: “Institutionalization of quality assurance mechanism and dissemination of top quality commercial products to increase crop yields and improve food security of smallholder farmers in sub-Saharan Africa–Commercial products project (COMPRO)-II.
- **Project implementation through research and student supervision 2009- 2011:** Project funded by Bill and Melinda Gates Foundation on: “Evaluation and scaling up of new chemical and biological commercial products for improving and sustaining crop yields in selected agro-ecological zones in sub-Saharan Africa” Commercial products project (COMPRO) I implemented by CIAT.
- **Leader of Bill and Melinda Gates project on 2012-2013 April:** Evaluation and scaling up new chemical and biological commercial products for improving and sustaining crop yields in selected agro-ecological zones in sub-Saharan Africa” (COMPRO I).
- **Post doctoral research implementation of mycorrhizal activities in banana systems for Directorate General Development Cooperation (DGDC) Belgian funded project (Rwanda) 2007-2009 (Post-doctoral Fellow):** Monitoring diversity of Arbuscular mycorrhizal fungi in banana systems of Central Africa. Establishing field trials to evaluating effectiveness of arbuscular mycorrhizal fungi under field conditions.
- **Post doctoral research co-odination 2004-2007:** Project of Tropical Soil Biology and Fertility (TSBF)-CIAT (Centro de Internationale Agricultura Tropical, Colombia) on “Exploration of integrated soil fertility management for banana production and marketing in Uganda and Kenya: arbuscular mycorrhizal fungi help establishment and production of tissue culture banana”.
- **Principal investigator for Kenya 2003:** In the GEF -UNEP project conducted in Brazil, Mexico, India, Indonesia, Ivory Coast, Uganda and Kenya on “Belowground Biodiversity”. The global co-odination of the project was by CIAT-TSBF
- **Programme Co-odinator mushroom domestication and cultivation and spawn production programme,** National Museums of Kenya (2003-2007). Promoting Fungi (mushroom) in agribusiness as an economically and environmentally friendly viable enterprise by providing high quality and cheap mushroom spawn.
- **Head of mycology section of the Botany/East African Herbarium department, National Museums of Kenya: Leader of fungal research, co-odinating,** supervising and reporting on fungal research activities (2000-2007)
- **Project leader (Kenya) in ectomycorrhizal mushroom project for conservation of the Miombo Woodland in and Tanzania Kenya 2001- 2004:** Undertaking

- project planning financial management and reporting and research in taxonomy, ecology and backstopping for socio-economics; on “Useful mushrooms of the miombo ecozone: contribution to rural economy, food security and global biodiversity” funded through the African Forestry Network (AFORNET) programme of the African Academy of Sciences (AAS).
- **Postgraduate Research with ICRAF in Malawi** (World Agroforestry Centre (1995-2002). Biodiversity of beneficial fungi in agro-systems
 - Conservation of rare and endangered plants of Kenya (1992-1995)
 - Restoration of degraded lands semi-arid lands in Kenya (1987-1992)

Project Development and Implementation

- Commercial Products project (COMPRO) of the Tropical Soil Biology and Fertility – CIAT (COMPRO I (USD \$4M) and COMPRO II (USD \$ 8M)
- Rockefeller project (USD 300,000)
- **Conservation and utilization of ectomycorrhizal mushroom project for conservation of the Miombo Woodland in and Tanzania (USD 50000)**
- Belowground biodiversity (BGBD) GEF-UNEP project
- Developed research project on “cultivation of indigenous edible ectomycorrhizal mushrooms to promote utilization and conservation of Fungal diversity” (funded by the Kenya Museum Society (2002-) with the aim to promote domestication of wild edible mushrooms; promote consumption and devise strategies to conserve mushroom germplasm.
- Project on Low cost Spawn production for sustainable mushroom production in Kenya (2004) funded by the Biodiversity Conservation Program (BCP) (Ksh 300,000)
- Appointed in a seven National team member to participate in proposal writing at the National Council for Science and Technology (NCST) for the establishment of Kenya Biological Resource Centre for Microorganisms
- Conservation of rare, threatened and endemic plant species of Kenya (DFID-funded project on DFID- funded project
- Restoration of drylands in Kenya: Tree establishment in the semi-arid lands of Kenya (DFID implemented by the Institute of Terrestrial Ecology, UK)
- **Scientist, DFID-funded project on conservation of rare, threatened and endemic plant species of Kenya (1992-1994):** Responsible for microbial and plant symbiotic associations and preservation of germplasm and the micropropagation of rare and threatened orchids and succulents of Kenya.
- **Assistant Scientist, DFID-funded project on Restoration of degraded semi-arid lands through tree establishment (1987-1992):** The project was on restoration of degraded habitats with microsymbionts. Responsible for evaluating mycorrhizal symbiosis; inoculum production and inoculation; management and monitoring of nursery seedlings and the subsequent growth after establishment.

- **Postgraduate Fellow, World Agroforestry Centre (Formerly International Centre for research in Agroforestry–ICRAF) (1995-1997):** Research on Arbuscular Mycorrhizal Fungi in Malawi: Taxonomy, diversity and Ecology.
- **Scientist: In project on Evaluation of farm soils for Microbial functions (mycorrhizal inoculum potential in farm soils from western Kenya) (1992-1993):** a collaborative project between ICRAF and the National Museums of Kenya (MNK). Responsibilities in experimental layout, monitoring and management of data.

Experience in individual and institutional capacity building.

- Project and Grant management
- Project development
- Supervision of staff and academic training and supervision
- Project co-ordination, management and implementation
- Community training
- Organizing Training workshops
- Formal and informal Mentoring
- Conference and workshop organization
- Monitoring and evaluation
- Proposal, Report and Publication writing
- Media communication of Science to public
- Teaching

Official Supervision of PhD and Msc. Projects

Efficacy of commercial biological and chemical products on root health and nutrient uptake of tissue culture banana under different soil conditions in Kenya. **{(PhD-Agnes Kavoo Jomo Kenyatta University of Agriculture and Technology (JKUAT)-2009-2013 (Completed))}**

The Impact of Arbuscular Mycorrhizal Fungi on agricultural management practices in Kenya- soil structure, nutrient use efficiency of crops, and interactions with macrofauna. **{(PhD–Mary Nyawira Muriithi, University of Wageningen, Netherlands, 2007-2013) (Completed)}**

Use of Commercial biofertilizers based on Arbuscular mycorrhizal fungi in agriculture and performance on P uptake. Faculty of Science Technique, Cheikh Anta Diop University (UCAD), Dakar, Senegal. **{(PhD – Aliou Faye) Completed}**

Interaction of Microbiological and Chemical Commercial Products and their Effects on Growth and Health of Tissue Culture Banana. **{Ruth Mukhongo Lukwago (Msc. Moi University 2009-13(Completed))}**

Effect of Arbuscular Mycorrhizal Fungi (AMF) Inoculation and Management of Indigenous AMF Population on the Ex-situ Performance of Maize and Beans in Embu and Taita, Kenya **(Msc. -John Mwangi Nyaga, Botany, Jomo Kenyatta University of Agriculture and technology- 2009-2012)**

Effect of arbuscular mycorrhizal fungi and phosphate solubilizing bacterial dual inoculants on phosphorus uptake by orange fleshed sweetpotatoes (*Ipomoea batatas* (L) Lam)' (Msc. **Caroline Agamala Kundu, Nairobi University-2010-2013**)

Enhancing production of disease resistant potato cultivars through Arbuscular mycorrhizal inoculants and phosphate solubilizing (Msc. **Joyce A. Aguk, Nairobi University-2011 - 2014**)

The influence of arbuscular mycorrhizae on nursery and initial field performance of banana in Rwanda (Msc. **-Edouard Rurangwa of DGDC project Rwanda: JKUAT-2009-2011**)

Response of giant cavendish established in two soil substrates to inoculation with commercial and indigenous arbuscular mycorrhizal fungi (Msc. **Juma Robinson (RF project), Jomo Kenyatta University of Agriculture and Technology (2008 - 2011)**)

Developing strategies for restoration of degraded Sites in Kakamega forest using Arbuscular Mycorrhiza Fungi (AMF). **Simon Nguru Wandeto Nairobi University (2008-2014)**

Effects of *Trichoderma hirzianum* and mycorrhizae on growth and disease management in tea cuttings, tomato seedlings and napier grass cuttings (Msc. **-Margaret Mwangi of Kenyatta Unuveristy a BGBD project co-supervised by Shiela Okoth of University of Nairobi) (Completed- 2009)**)

Mycorrhizal status of improved cassava (*manihot esculenta* crantz) cultivars in different fertilizer regimes in western Kenya (Msc. **-Thomas Ondara Jomo Kenyatta University of Agriculture and technology Co-Supervised by Anneke Fermont of IITA, (Submitted)**)

Effect of *Bacillus thuringensis* Delta-Endotoxin on Arbuscular Mycorrhizal Fungi in sorghum (*Sorghum bicolor* (L.) Moench) (Msc. **-Elijah Lelmen, Jomo Kenyatta University of Agriculture and Technology, (2004) (Completed)**)

Arbuscular Mycorrhizal fungi (AMF) dependency of different tissue culture banana cultivars inoculated with exotic strains. (Msc. **-Mwashasha Rashid Mwajita (RF project) Jomo Kenyatta University of Agriculture and technology, Msc. Horticulture, (Completed-2006)**)

EDUCATION

- **PhD Botany (2004)** University of Pretoria, republic of South Africa on “The taxonomy and ecology of arbuscular mycorrhizal fungi (AMF) in agroforestry systems in Malawi” (supervised by Dr. Robert Sinclair, Dr. Johanne Veldie van Greuning and Prof. Jumanne Maghembe).
- **Diploma Biosaftey and Biotechnology (2011-2012):** Gent University, Belgium.
- **Msc. in Conservation of Soil Fertility (1990-1991)** University of Kent at Canterbury, United Kingdom with course work undertaken at the University of Kent and Wye College, University of London. Dessertaion on methods for quantification of Vesicular Arbuscular Mycorrhizal Fungi (Supervision Dr. John Dodd and Prof. Peter Jeffries).

- **B.Ed., Science Kenyatta University, Kenya (1984-1987):** Botany (major) and Zoology and Education (psychology, sociology, philosophy, administration, teaching methods and curriculum development). Final year project on “Effects of the nematode *Meloidogyne incognita*” on Amaranth spp. (Supervised by Prof. Stanley Waudu).

Relevant Professional qualifications

- Certificate in Corporate Governance Course for Directors (24th – 28th February 2014)
- AWARD Women’s Leadership and Management Course held in Kampala, Uganda May 4-10, 2014
- Certificate in GIS (Remote Sensing and Mapping)
- Certificate in Data analysis, (World Agroforestry Centre –ICRAF) (1999)
- Certificate in Experimental design and analysis, (World Agroforestry Centre – ICRAF) (1996)

Professional attachments

- Training in micropropagation of banana and Mycorrhizas in banana and plantains (2004). The Katholieke University Lueven, Belgium (Supervised by Dr. Annemie Elsen).
- Training in curation and maintenance of living collections and database management of Arbuscular Mycorrhizal Fungi (AMF) (1994). At the Forestry commission, Northern Station, Edinburgh, Scotland, UK. (Supervised by Dr. Christopher Walker)
- Training in Biochemical (use of isozymes) methods for identification of AMF (1994). Biological Laboratories, University of Kent at Canterbury, UK. (Supervised by Dr. John Dodd),
- Training in identification of fleshy macrofungi, including, processing, preservation, identification and curation of mushrooms and lichens (1994). The Royal Botanic Gardens, Edinburgh, Scotland, UK. (Supervised by Dr. Roy Watling).
- Training in arbuscular mycorrhizal techniques in sampling, isolation, culturing, preservation microscopy and morphological identification (1993). At the Forestry commission, Northern Station, Edinburgh, Scotland, UK. (Supervised by Dr. Christopher Walker)
- Training on Ectomycorrhizal symbiosis: Collection of fruit bodies and mycorrhiza, identification of fruit bodies and mycorrhizas, preparation of herbarium specimen (1993). At the Institute of Terrestrial Ecology, Northern station, Penicuik, Edinburgh, Scotland, UK (supervised by Kevin Ingleby).
- Training in-vitro culture techniques in ectomycorrhizal mushrooms, preparation of inoculum and inoculation of seedlings (1993). At the Institute of Terrestrial Ecology, Northern station, Penicuik, Edinburgh, Scotland, UK (supervised by Kevin Ingleby).

- Training in symbiotic and asymbiotic propagation of orchids: at the micropropagation laboratory, Royal botanic Gardens, Kew, UK. (supervised by (Dr. Micheal Fay and Grace Prendgast)
- Training in general mycorrhizal techniques (1989). At the Institute of Terrestrial Ecology, Northern station, Penicuik, Edinburgh, Scotland, UK (supervised by Kevin Ingleby).

AWARDS

- Earthwatch fellowship programme award by the European Commission to participate in a study of biodiversity of Cameroon's rainforests (2000). Participated in the documentation and assessment of biodiversity in Banyang-Mbo rain forest.
- Ford Foundation Fellowship for Women in Southern and Eastern Africa, administered by ICRAF (1995-1997), based in Malawi. Study on the "Arbuscular Mycorrhizal Fungi in Agroforestry Systems of Malawi: Diversity and Taxonomy.
- Rockefeller Foundation PhD scholarship, administered by the World Agroforestry Centre-ICRAF) 1998- onwards "The taxonomy and ecology of arbuscular mycorrhizal fungi in agroforestry systems in Malawi".
- British Council Training Award

PUBLICATIONS

- Jefwa, J.M., E. Rurangwa., S.V. Gaidashova., A. M. Kavoo., M. Mwashasha., J. Robinson., Bloome, G., B. Vanlauwe (2013). Indigenous Arbuscular Mycorrhizal Fungi and Growth of Tissue-cultured Banana Plantlets under Nursery and Field Conditions in Rwanda. In: Banana Systems in the Humid Highlands of Sub-Saharan Africa: Enhancing Resilience and Productivity. (Ed.) Guy Bloome, Piet Van Asten and Bernard Vanlauwe. p.83-92.
- Joyce Mnyazi Jefwa, Esther Kahangi, Turop Losenge, Joseph Mung'atu, Wilson Ngului, Stephen Ichami, Nteranya Sanginga, Bernard Vanlauwe (2012) . Arbuscular mycorrhizal fungi in the rhizosphere of banana and plantain and the growth of tissue culture cultivars. *Agriculture, Ecosystem and Environment* 157: 24-31.
- Jefwa J.M, S. Okoth, P. Wachira, N. Karanja, J. Kahindi, S. Njuguini, S. Ichami, J. Mung'atu, P. Okoth (2012). Impact of land use types and farming practices on occurrence of arbuscular mycorrhizal fungi (AMF) Taita Taveta district in Kenya. *Agriculture, Ecosystem and Environment* 157: 32-39
- Kavoo- Mwangi AM , E.M. Kahangi, E. Ateka, J. Onguso , R.W. Mukhongo , E.K. Mwangi, J.M. Jefwa (2013). Growth effects of microorganisms based commercial products inoculated to tissue cultured banana cultivated in three different soils in Kenya. *Applied Soil Ecology* 64: 152–162.
- Gryzenhout M., Jefwa JM., Yorou NS (2012) A status of mycology in Africa: A document to promote awareness. *IMA FUNGUS* 3 (1): 99-102

- Okumu MO, van Asten PJA, Kahangi E, Okech SH, Jefwa J, Vanlauwe B (2011) Production gradients in smallholder banana (cv Giant Cavendish) farms in Central Kenya. *Scientia Horticulturae* 127: 475-481
- Margaret W. Mwangi, Ethel O Monda, Sheila A Okoth, Joyce M Jefwa (2011). Inoculation of tomato seedlings with *Trichoderma harzianum* and Arbuscular mycorrhizal fungi and their effect on growth and control of wilt in tomato seedlings. *Brazilian Journal of Microbiology*. 42: 508-513.
- Karanja N.K, J.M. Kimenju, A.O. Esilaba. J.Jefwa and F. Ayuke (2011). Legume based cropping and biodiversity dynamics. P. 67-84. In: Andre Batiano, Boaz Waswa, Jeremiah M. Okeyo, Fredah Maina, Job Kihara, Uzo Mokwunye (Editors). *Fighting poverty in sub-Saharan Africa: Multiple Roles of Legumes in Integrated Soil Fertility Management*. pp. 246.
- Jefwa J, Vanlauwe B, Coyne D, van Asten P, Gaidashova S, Rurangwa E, Mwashasha M and Elsen A (2010) Benefits and potential use of Arbuscular Mycorrhizal Fungi (AMF) in banana and plantain (*Musa* spp.) systems in Africa Proc. IC. In: *Banana and Plantain in Africa*. Eds Dubois et al., 2010. *Acta Hort*. 879: 479-486
- Jefwa JM, Ohiokpehai O, Kavoo AI, Wasike VW (2010) Soil microbe mediated zinc uptake in soy bean: Review. *African Journal of Food Agriculture Nutrition and Development* 10(11) 4340-4349
- Gaidashova SV., Van Asten P., Jefwa JM., Delvaux B and Declerck S. (2010). Arbuscular mycorrhizal fungi in East African Highland banana cropping systems as related to edapho-climatic conditions and management practices: case study of Rwanda. *Fungal Ecology* 3: 225-233.
- Joyce Jefwa, Joseph Mungatu, Peter Okoth, Edward Muya, Henry Roimen, Susan Njuguni (2009). Influence of land use types on occurrence of Arbuscular mycorrhizal fungi in the high altitude regions of Mt Kenya. *Journal of Tropical and Subtropical Agroecosystems* 11: 277-290.
- Mwangi MW., Jefwa JM., Monda EO and Okoth SA. (2009) Effect of *Trichoderma harzianum* and arbuscular mycorrhizal fungi on growth in tomato (*Lycopersicon esculanta* Mills.) seedlings and Napier (*Pennisetum purpureum* L.) and Tea (*Camellia sinensis* L) cuttings. *Journal of Tropical and Subtropical Agroecosystems* 11: 423-429.
- Joyce M Jefwa., Robert Sinclair and Jumanne A. Maghembe (2006). Diversity of glomale mycorrhizal fungi in maize/sesbania intercrops and maize monocrop systems in southern Malawi. *Agroforestry Systems* 67: 107-114.
- Joyce JM., Mwangi LM., Odee D and Mugambi G (2004). Preliminary studies on mycorrhizal symbiosis in plant conservation forestry and farming systems in Kenya. *Journal of Tropical Microbiology* 3: (1) 48-62.
- Munro RC., Wilson J., Jefwa J and Mbutia KW (1999). A low-cost method of mycorrhizal inoculation improves growth of *Acacia tortilis* in the nursery. *Forest Ecology and Management*. 113: 51-56.
- Shepherd kD., Jefwa J., Wilson J., Ndufa JK., Ingleby K and Mbutia KW (1996). Infection potential of farm soils as mycorrhizal inocula fo *Leuceana leucocephala*. *Biol. Fertil. Soils*. 22:16-21.

- Waudu S and Jefwa J (1995). Comparative susceptibility of Amaranth to *Meloidogyne incognita*. E.Afr. agric. For. J. 60: (3) 181-183.
- Wilson J., Munro RC., Dick J McP., Mason PA., Jefwa J., Muthoka PN., Newton A and Leahey RRB. (1992) Tree establishment in semi-arid lands of Kenya-Role of Mycorrhizal inoculation and water retaining polymer. Forest Ecology and Management. 45: 153-163.
- Joyce Jefwa, Joseph Mungatu, Peter Okoth, Edward Muya, Henry Roimen, Susan Njuguni (2009). Influence of land use types on occurrence of Arbuscular mycorrhizal fungi in the high altitude regions of Mt Kenya. Journal of Tropical and sub-Tropical Agroecosystems 11: 277-290.
- Mwangi MW., Jefwa JM., Monda EO and Okoth SA. Effects of *Trichoderma hirzianum* and arbuscular mycorrhizal fungi on growth of tomato (*Lycopersicon esculanta* Mills.) seedlings and napier (*Pennisetum purpureum* L.) cuttings. Journal of Tropical and sub-Tropical Agroecosystems 11:423-429
- Gaidashova SV., Van Asten P., Jefwa JM., Delvaux B and Declerck S. Arbuscular mycorrhizal fungi in East African Highland banana cropping systems as related to edapho-climatic conditions and management practices: case study of Rwanda Accepted for publication in the Fungal Ecology Journal on 15th July 2009.
- Joyce M Jefwa., Robert Sinclair and Jumanne A. Maghembe (2006). Diversity of glomale mycorrhizal fungi in maize/sesbania intercrops and maize monocrop systems in southern Malawi. Agroforestry Systems 67: 107-114.
- Joyce JM., Mwangi LM., Odee D and Mugambi G (2004). Preliminary studies on mycorrhizal symbiosis in plant conservation forestry and farming systems in Kenya. Journal of Tropical Microbiology 3: (1) 48-62.
- Munro RC., Wilson J., Jefwa J and Mbuthia KW (1999). A low-cost method of mycorrhizal inoculation improves growth of *Acacia tortilis* in the nursery. Forest Ecology and Management. 113: 51-56.
- Shepherd kD., Jefwa J., Wilson J., Ndufa JK., Ingleby K and Mbuthia KW (1996). Infection potential of farm soils as mycorrhizal inocula fo *Leuceana leucocephala*. Biol. Fertil. Soils. 22:16-21.
- Waudu S and Jefwa J (1995). Comparative susceptibility of Amaranth to *Meloidogyne incognita*. E.Afr. agric. For. J. 60: (3) 181-183.
- Wilson J., Munro RC., Dick J McP., Mason PA., Jefwa J., Muthoka PN., Newton A and Leahey RRB. (1992) Tree establishment in semi-arid lands of Kenya-Role of Mycorrhizal inoculation and water retaining polymer. Forest Ecology and Management. 45: 153-163.

Oral presentations from 1999

- Jefwa Joyce Mnyazi, Okoth S., Kavoo, A., Nyawira M., Kabacia S., Otieno V., Nyaga J. (2014). Plant communities and fungal diversity: Approaches to distribution, utilization and conservation of mushrooms and mycorrhizal fungi. Association pour l'Etude de la Taxonomie de la Flore d'Afrique Tropicale /The Association

- for the Taxonomic Study of the Flora of Tropical Africa. XXth Congress of AETFAT – AETFAT 2014, 13 to 17 January 2014.
- Jefwa Mnyazi J., Masso C, Faye A., Kavoo, A.M., Jemo M., Majengo C., Rurangwa E., Gaidashova S., Mukhongo R., Muleta, D., Vanlauwe B (2013). Commercial Mycorrhizal Inoculants as agricultural inputs: quality, efficacy and adoption in Africa. Seventh International Conference on Mycorrhiza. January 6-13, 2013.
- Jefwa JM, Sheila Okoth, Victor Otieno, Susan Kabacia (2014) The State of Mycology in Africa: Making Mycology Visible in Research and Development. African Conference on Edible and Medicinal Mushrooms (ACCEMM). Masinde Muliro University Kakamega Golf Hotel. 25th – 29th May 2014.
- Jefwa J., Asrat, A., Hermann, L., Jemo, M., Kavoo, A., Lesueur, D., Majengo, C., Mucheru, M., Mukhongo, R., Mulet, F., Munyahali, W., Mutegi, E., Mwangi, E., Ncho, C., Nwoke, O.C., Okalebo, R., Pypers, P., Were, B., and Yusuf, A (2011) Do commercial biological and chemical products increase crop yields and economic returns under smallholder farmer conditions? Oral presentation at the Consortium for Improving Agriculture-based Livelihoods in Central Africa (CIALCA) International Conference, Rwanda Kigali, 24th-27th October 2011.
- Jefwa J Mukhongo R, Kavoo A, Didier L, Pyper, Okalebo R, Were B and Jefwa J (2011) Impact assessment of effects of commercial products on beneficial and pathogenic fungi in the rhizosphere of Tissue Culture (TC) banana. Poster presentation at the Consortium for Improving Agriculture-based Livelihoods in Central Africa (CIALCA) International Conference, Rwanda Kigali, 24th-27th October 2011.
- Joyce Mnyazi, Okoth S., Kavoo, A., Nyawira M., Kabacia S., Otieno V., Nyaga J. (2014). Plant communities and fungal diversity: Approaches to distribution, utilization and conservation of mushrooms and mycorrhizal fungi. XXXth Congress of the Association for the Taxonomic Study of Flora of Tropical Africa (AETFAT). AETFAT 2014, Cape Town South Africa, 13 – 17 January 2014.
- A., Lesueur, D., Majengo, C., Mucheru, M., Mukhongo, R., Mulet, F., Munyahali, W., Mutegi, E., Mwangi, E., Ncho, C., Nwoke, O.C., Okalebo, R., Pypers, P., Were, B., and Yusuf, A (2011) Do commercial biological and chemical products increase crop yields and economic returns under smallholder farmer conditions? Oral presentation at the Consortium for Improving Agriculture-based Livelihoods in Central Africa (CIALCA) International Conference, Rwanda Kigali, 24th-27th October 2011.
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- Muchane MM., Kuyper T., Jefwa J., Vanlauwe B. Effects of tillage and cropping systems on arbuscular mycorrhizal communities in Western Kenya. International conference on “Integrated Soil Fertility Management in Africa: Microbes to Markets”. Safari Park Hotel, Nairobi, Kenya 22-26 October 2012
- Kavoo, A.M., Kahangi, E.M., Ateka, E.M., Onguso, J., Mwangi, E.K and Jefwa, J.M. Integration of commercial products into soil fertility practices as potential options for acclimatization of tissue culture banana. International conference on “Integrated Soil Fertility Management in Africa: Microbes to Markets”. Safari Park Hotel, Nairobi, Kenya 22-26 October 2012
- Rurangwa E., Jefwa J.M., Vanlauwe B., Gaidashova S., Blomme Guy. Indigenous arbuscular mycorrhizal fungi (AMF) improve field establishment of tissue cultured (TC) AAA-EA and AAB bananas in Rwanda. International conference on “Integrated Soil Fertility Management in Africa: Microbes to Markets”. Safari Park Hotel, Nairobi, Kenya 22-26 October 2012

Recent Posters in Conferences

- Faye A, Dalpe Y., Ndungu K., Jefwa J., Ndoye I., Macoumba D., Lesueur J. Effectiveness of marketed arbuscular mycorrhizal fungi inoculants on a breed soybean in Kenya. International conference on “Integrated Soil Fertility Management in Africa: Microbes to Markets”. Safari Park Hotel, Nairobi, Kenya 22-26 October 2012.
- Kundu C., Karanja N., Jefwa J., Ndolo P., Mwangi, E. Root colonization of orange fleshed sweet potato by different arbuscular mycorrhizal fungi. International conference on “Integrated Soil Fertility Management in Africa: Microbes to Markets”. Safari Park Hotel, Nairobi, Kenya 22-26 October 2012
- Espoir BM., Gustave M., Pypers P., Jefwa J., Prince M. Mycorrhiza can be better component of ISFM practices in weathered soil. International conference on “Integrated Soil Fertility Management in Africa: Microbes to Markets”. Safari Park Hotel, Nairobi, Kenya 22-26 October 2012
- Mukhongo R., Okalebo R., Were B., Kavoo A., Mwangi E., Jefwa J. Combined inoculation of commercial microbial and chemical products on survival and growth of tissue cultured banana in soils from different agro-ecological zones in Kenya. International conference on “Integrated Soil Fertility Management in Africa: Microbes to Markets”. Safari Park Hotel, Nairobi, Kenya 22-26 October 2012
- Waweru B., Gaidashova S.V., Rurangwa E. and Jefwa J. Effect of inoculation time on growth of two banana genotypes inoculated with commercially produced arbuscular mycorrhizal fungi. International conference on “Integrated Soil Fertility Management in Africa: Microbes to Markets”. Safari Park Hotel, Nairobi, Kenya 22-26 October 2012
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inoculation on ex-situ colonization and performance of maize and common beans in Kenyan highlands.. International conference on “Integrated Soil Fertility Management in Africa: Microbes to Markets”. Safari Park Hotel, Nairobi, Kenya 22-26 October 2012

Public Programmes

Kenya Broadcasting Cooperation (KBC) Radio presentation for BGBD Kenya, (in Kiswahili-National Language for Kenya) on role of Micro-organisms in Agriculture, during the International Agrobiodiversity celebration co-ordinated by UNEP and a second media presentation at KBC Kiswahili service on soil Health.

Membership

- Vice President of the African Mycological Association (AMA) 2009 – January 2014
- Representative of African Network on Mycorrhiza (AFRINOM), East Africa
- African Forestry Network (AFORNET) - Member
- African Network of Soil Scientists (AFNET)-member
- Habitat restoration Initiative (HARI) committee of Nature Kenya- Chairperson
- East African Wildlife Society (Member)
- International Society of Fungal Conservation (ISFC)
- African Women in Agriculture Research and Development Mentor
- Church Choir