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Research Interests

1. Development and application of innovative and appropriate crop production techniques with emphasis on physiology, plant nutrition, controlled/modified growing environments, water use efficiency, weed management in intensive cropping systems
2. microRNA and other small RNA elucidation, development of novel elucidation methods, genome analysis, and strategies for the application of DNA markers in practical plant cultivar and variety identification.
3. Development and deployment of interventions towards dissemination of research findings to all stakeholders particularly farmers
4. Mechanisms to make commercial agriculture attractive to growers especially the youth, women and farmers in marginal environments

Publications

- ❖ Dennis Beesigamukama, Benson Mochoge, Nicholas Korir, Martha W Musyoka, Komi KM Fiaboe, Dorothy Nakimbugwe, Fathiya M Khamis, Sevgan Subramanian, Thomas Dubois, Sunday Ekesi, Chrysantus M Tanga. Nitrogen Fertilizer Equivalence of Black Soldier Fly Frass Fertilizer and Synchrony of Nitrogen Mineralization for Maize Production, *Agronomy* 2020,10,9, 1395, MDPI
- ❖ Beesigamukama, Dennis; Mochoge, Benson; Korir, Nicholas K; Fiaboe, Komi KM; Nakimbugwe, Dorothy; Khamis, Fathiya M; Dubois, Thomas; Subramanian, Sevgan; Wangu, Musyoka M; Ekesi, Sunday; Biochar and gypsum amendment of agro-industrial waste for enhanced black soldier fly larval biomass and quality frass fertilizer, *Plos one*,15,8, e0238154,2020,"Public Library of Science San Francisco, CA USA"

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- ❖ Chelangat, Awa; Gweyi-Onyango, Joseph P; Korir, Nicholas K; Mwangi, Maina; Influence of Arbuscular Mycorrhizae on Callusing and root colonization of Tea (*Camellia sinensis*) Clones in Kenya,*Asian Soil Research Journal*, 21-26,2021,
- ❖ Chelangat, Awa; Gweyi-Onyango, Joseph P; Korir, Nicholas K; Mwangi, Maina; ,"*Glomus intraradices* and *Funneliformis mosseae* am Strains Influence on Soil Physical, Biological and Chemical Characteristics in Tea Plantations in Kenya", *Asian Journal of Soil Science and Plant Nutrition*,,,13-18,2021,
- ❖ Dong, Qing-Hua; Cao, Xue; Yang, Guang; Yu, Hua-Ping; Nicholas, Kibet Korir; Wang, Chen; Fang, Jing-Gui; Discovery and characterization of SNPs in *Vitis vinifera* and genetic assessment of some grapevine cultivars, *Scientia horticulturae*,125,3,233-238,2010,Elsevier
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- ❖ Ocharo, Edgar N; Korir, Nicholas K; Gweyi-Onyango, Joseph; Green pepper growth and yield response to the integration of mulching materials and row plant spacing, *Journal of Agriculture and Crops*,3,9,72-77,2017, Academic Research Publishing Group
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Conference Presentations and publications

- ❖ Dennis Beesigamukama, Benson Mochoge, Nicholas Korir, Komi K. M. Fiaboe, Fathiya M. Khamis, Sevgan Subramanian, Musyoka M. Wangu, Sunday Ekesi and Chrysantus M. Tanga. Effects of Black Soldier Fly Frass Fertilizer on the Growth, Yield and Nitrogen Use Efficiency of Maize in Central Kenya. Insects to feed the world virtual conference, 23rd – 26th November 2020, Quebec City, Canada.
- ❖ Dennis Beesigamukama, Benson Mochoge, Nicholas Korir, Komi K. M. Fiaboe, Fathiya M. Khamis, Sevgan Subramanian, Musyoka M. Wangu, Torto Baldwyn, Sunday Ekesi and Chrysantus M. Tanga. Impact of Feedstock Carbon to Nitrogen Ratio on Black Soldier Fly Larval Yield and Frass Fertilizer Quality. Kenyatta University biennial research and innovation conference, 23rd – 25th October 2019, Kenyatta University, Nairobi, Kenya.
- ❖ Dennis Beesigamukama, Benson Mochoge, Nicholas Korir, Komi K. M. Fiaboe, Fathiya M. Khamis, Sevgan Subramanian, Musyoka M. Wangu, Torto Baldwyn, Sunday Ekesi and Chrysantus M. Tanga. Biochar Amendment of Feedstock Increases Black Soldier Fly Larval Production and Enhances Nutrient Content in Residue. African conference on edible insects, 14th – 16th August 2019, Harare, Zimbabwe.
- ❖ Anyega O. Anyega, Nicholas Korir, Musyoka W. Musyoka, Subramanian S, Ekesi S, van Loon J.J.A., Dicke M. and Tanga CM. Influence of Insect-Based Organic Fertilizer Soil Amendments on the Growth and Yield of *Phaseolus vulgaris*, *Solanum lycopersicum* and *Brassica oleracea* var. *acephala* in Kenya. African conference on edible insects, 14th – 16th August 2019, Harare, Zimbabwe.

- ❖ Abel O. Anyega, Nicholas Korir, Martha W. Musyoka, Sevgan Subramanian, Sunday Ekesi, J. J. A. Van Loon, M. Dicke and Chrysantus M. Tanga. Influence of Insect-Based Organic Fertilizer Soil Amendments on the Growth and Yield of *Phaseolus Vulgaris*, *Solanum Lycopersicum* and Brassica Oleracea Var. Acephala in Kenya. Kenyatta University biennial research and innovation conference, 23rd – 25th October 2019, Kenyatta University, Nairobi, Kenya
- ❖ Wafula WN, Siambi M, Ojulong H, Korir N and Gweyi-Onyango J (2018). Finger Millet (*Eleusine coracana*) Fodder Yield Potential and Nutritive Value under Different Levels of Phosphorus in Rainfed Conditions. “Strengthening Theoretical Research Methods-Systems Analysis” 17th Workshop on Sustainable Horticultural Production in the Tropics. Pwani University, Kilifi-Kenya 12th-16th February 2018. Pg 11.
- ❖ Kibet P, Korir NK, Mugwe JN, Ngetich FK, Mucheru-Muna MM and Mugendi DN 2017 Granulated and powdered lime effects on soil and maize yields In Chuka, Tharaka Nithi County 12th Egerton University International Conference and Innovation week (1th to 4th April 2018)
- ❖ Kibet P, Korir NK, Mugwe JN, Ngetich FK, Mucheru-Muna MM and Mugendi DN 2017 : Effect Of Lime Types On Soil Properties and Maize Yield In Chuka, Tharaka Nithi County 11th Egerton University International Conference and Innovation week (29th to 31st March 2017)
- ❖ Munene R, Changamu E, Korir NK and Gweyi-Onyango JP. (2018). Impact of nitrogen forms on Biomass and biochemical accumulations in two vegetable amaranth varieties, Kenya. Sustainable Horticultural Production in the Tropics. Conference held at Pwani University, Mombasa, Kenya on 12th to 16th February 2018. Oral presentation
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- ❖ Simon M Mwangi, Joseph P Gweyi-Onyango and Nicholas Kibet Korir (2014). Root Development Does Not Affect Regeneration of Double Node Cutting in Tea Propagation. Building a New Generation of Agricultural Scientists. "Bridging The Gap between Society, Science and Industry" – Conference held at Kenyatta University, Nairobi, Kenya- 1st to 5th December 2014- pg 129-130.
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Book Chapter

- ❖ Chunhua Zhang, Zhijun Shen, Ruijuan Ma, Nicholas Kibet Korir, and Mingliang Yu "Role of MicroRNAs and Short Interfering RNAs in Plants", in "MicroRNA and Non-Coding RNA: Technology, Developments and Applications" ISBN: 978-1-62618-442-8. Nova Science Publishers, Inc. Hauppauge, New York, USA

Projects and consultancies

- ❖ Influence of one and two node cuttings on vegetatively propagated infilling tea plants –NACOSTI –ksh150,000 2013-214 (Co-Supervisor)
- ❖ Participatory Identification, Enhancement and Retention of Phytochemical and Nutrients in African Leafy Vegetables in Nairobi County and Three Counties in Central Kenya –KU Vice Chancellor's Research Grant- Ksh1,5000,000-November 2014-October 2015 (Co- PI)
- ❖ Promotion of technologies to enhance passion fruit productivity under recurring drought events in semi-arid eastern Kenya- RUFORUM (2014-2016)- USD 59,600- Co-Investigator
- ❖ Integration of Biofertilizer for improved Maize Productivity in different ecological zones in Kenya- AMI-BIO organics, Principal Investigator

- ❖ Development of insect-based compost for sustainable soil health management using by products from insect mass rearing for food and feed-ICIPE (2019-2021)- Co-Investigator
- ❖ Provides regular ad-hoc technical backstopping services to the agricultural industry on various aspects along the value chain
- ❖ Participates in Policy and Standards formulation on various areas in the Agricultural industry such as fertilizer, fodder, feed, phytosanitary and pest management aspects