

PROF. RICHARD OMBUI NYANKANGA

Department of Plant Science and Crop Protection College of Agriculture & Veterinary Sciences
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richardnyankanga@yahoo.com

Professional Preparation

Egerton University, Kenya	Horticulture	B.S., 1991
Cornell University, USA	Horticulture	M.S., 1997
Cornell University, USA	Horticulture	Ph.D., 2003
Cornell University, USA	Horticulture	2003

Appointments

2017-present Head Crop Science, Department of Plant Science, University of Nairobi
2012-2016 Manager, Kabete Field Station, CAVS, University of Nairobi
2004-2012 Head of Horticulture, Department of Plant Science, University of Nairobi
2019- Present Associate Professor, Horticulture, Department of Plant Sci. University of Nairobi
2011 – 2019 Senior Lecturer, Horticulture, Department of Plant Sci University of Nairobi
2004 – 2010 Lecturer , Horticulture, Department of Plant Sci University of Nairobi
1998- 2002 Graduate/Teaching Assistant, Dept of Horticulture, Cornell University, USA
1997-1998 Assistant Lecturer, Dept of Horticulture, Egerton University, Kenya

Publications

Selected publications

1. Murigi W.W., R.O. Nyankanga, S.I. Shibairo. 2021. Effect of storage temperature and postharvest tuber treatment with chemical and biorational inhibitors on suppression of sprouts during potato storage. *Journal of Horticultural Research* 2021, vol. 29(1): DOI: 10.2478/johr-2021-0001
2. James J. Odanga, Samira Mohamed, Richard Nyankanga, Florence Olubayo, Tino Johansson & Sunday Ekesi. 2020. Temporal Population Patterns of Oriental Fruit Flies and False Codling Moths within Small-holder Avocado Orchards in Southeastern Kenya and Northeastern Tanzania. *International Journal of Fruit Science*, DOI: 10.1080/15538362.2020.1746728
3. Maobe M.A, K. Ngugi, T. Mendes, R. Nyankanga. 2020. Adaptability and Stability of Elite Potato (*Solanum Tuberosum*. L) Genotypes in Kenya. *Global Journal of Science Frontier Research: D Agriculture and Veterinary* Volume 20 Issue 6 Version 1.0
4. Murigi W.W, and R.O. Nyankanga. Efficacy of chlorpropham (CIPC) alternatives on suppressing sprouting of ware potato tubers stored at ambient tropical temperatures. *Journal of Postharvest Technology* 06(4): 65-74
5. Chepkemoi J. R.N Onwonga, R.O Nyakanga. 2018. Soil Organic Carbon Stocks as Influenced by Topography and Vegetation Cover Types at Different Soil Depths. *Journal of Agriculture and Sustainability* 13, (2020): 1-19
6. Muiruri J, J. Ambuko, R. Nyankanga and W O. Owino. 2018. Maturity Indices of Specific Mango Varieties produced at a medium altitude agro-ecological zone in Kenya. *Acta Horticulturae* (Accepted)
7. Love1 J.H., R. O. Nyankanga. 2018. Response of growth and grain yield of Amaranth (A.

- hypochondriacus) to combined manure and inorganic fertiliser pellets. *International Journal of Plant & Soil Science* 24(3): 1-10 DOI: 10.9734/IJPSS/2018/43110
8. Odanga J. James, Samira Mohamed, Sizah Mwalusepo, Florence Olubayo, Richard Nyankanga, Fathiya Khamis, Ivan Rwomushana, Tino Johansson and Sunday Ekesi. Spatial distribution of *Bactrocera dorsalis* and *Thaumatotibia leucotreta* in smallholder Avocado orchards along altitudinal gradient of Taita Hills and Mount Kilimanjaro. *Insects*. 9, 71; doi:10.3390/insects9020071
 9. Gateri M.W., R. Nyankanga, J. Ambuko and A. W. Muriuki. 2018. The influence of rate and time of nitrogen top dressing on the storage quality of onion (*Allium cepa* L.). *International Journal of Agriculture, Environment and Bioresearch* 3(4): 477-492. ISSN: 2456-8643
 10. Nyankanga, R.O. W.W. Murigi, S.I. Shibairo. 2018. Effect of packaging material on shelf life and quality of ware potato tubers stored at ambient tropical temperatures. *Potato Research* <https://doi.org/10.1007/s11540-018-9377-0>
 11. Gateri M.W., R. Nyankanga, J. Ambuko and A. W. Muriuki. 2018. Growth, Yield and Quality of Onion (*Allium cepa* L.) as Influenced by Nitrogen and Time of Topdressing. *International Journal of Plant & Soil Science* 23(3): 1-13 DOI: 10.9734/IJPSS/2018/42135
 12. Nyankanga R.O, W. W. Murigi, S. I. Shibairo, O. M. Olanya, and R. P. Larkin. 2018. Effects of foliar and tuber sprout suppressants on storage of ware potatoes under tropical ambient conditions. *American Journal of Potato Research* <https://doi.org/10.1007/s12230-018-9662-0>
 13. Odanga J., S. Mohamed, F. Olubayo, R. Nyankanga, S. Mwalusepo, S. Subramanian, T. Johansson, and S. Ekesi. 2017. Datasets on abundance of common blossom thrips and weather variables in small-scale Avocado orchards at Taita Hills and Mount Kilimanjaro. *Data in Brief* 15 308–313. <https://doi.org/10.1016/j.dib.2017.09.051>
 14. Mageto E.K, D. Makumbi, K. Njoroge, and R. Nyankanga. 2017. Genetic analysis of early-maturing maize (*Zea Mays* L.) inbred lines under stress and nonstress conditions. *Journal of Crop Improvement*, 31:4, 560-588, DOI: 10.1080/15427528.2017.1315625
 15. Odanga J. J, F. Olubayo, R. Nyankanga, S. Mwalusepo, T. Johansson. 2017. Records of arthropod species sampled from Avocado plant (*Persea americana* Mill) in Small scale Agro-ecosystems at Taita Hills and Mount Kilimanjaro. *International Journal of Environment, Agriculture and Biotechnology (IJEAB)* Vol 2, Issue 5, 2457-2465. <http://dx.doi.org/10.22161/ijeab/2.5.24>
 16. Odanga J. J., S. Mohamed, F. Olubayo, R. Nyankanga, I. A. Otieno, S. Mwalusepo, G. Mwachala, and T. Johansson. 2017. Spatial characterization of common blossom thrips (*Frankliniella schultzei*) in smallholder avocado orchards along slopes of Taita Hills and Mount Kilimanjaro. *International Journal of Environment, Agriculture and Biotechnology (IJEAB)* Vol2, Issue 5, 2675-2678. <http://dx.doi.org/10.22161/ijeab/2.5.50>
 17. Ojwang J. D., R.O. Nyankanga, O.M. Olanya, D.O. Ukuku, and J. Imungi. 2016. Yield components of vegetable pigeon pea cultivars. *Subtropical Agriculture and Environments*

18. Ojwang J.D., R O.Nyankanga, J. Imungi, M. Olanya, and D. Ukuku. 2016. Cultivar preference and sensory evaluation of vegetable pigeon pea (*Cajanuscajan*) in Eastern Kenya. *Food Security* 8:757–767. DOI 10.1007/s12571-016-0592-8
19. Ojwang J. D, R.O. Nyankanga, J. Imungi, and M.O. Olanya. 2016. Plant characteristics and growth parameters of vegetable pigeon pea cultivars. *Horttechnology* 26(1) 97-105.
20. Ojwang J. D, R.O. Nyankanga, J. Imungi, and M.O. Olanya. 2016. Growth parameters of vegetable pigeon pea varieties in Kenya. *Horttechnology spotlight* 5
21. Muchiri P.D, G. K. Gathungu, M. K. Njogu, R. O. Nyankanga, J. Ambuko¹ and J. A. Landeo. 2015. Optimization of seed potato (*Solanumtuberosum* L.) tuber dormancy and sprouting capacity through integrated gibberellic acid and benzylaminopurine application. *Journal of Agriculture and Ecology Research International* 4(4): 188-198.
22. Nyankanga R, W. Kiplagat, R. Narla¹, S. Shibairo, J. Kabira, J. Landeo and, M. Olanya. 2014. Effects of early and late harvest on agronomic performance and stability of late Blight resistant (R-gene Free) potato genotypes. *Journal of Crop Science and Biotechnology* 17 (2): 89-96. DOI No. 10.1007/s12892-013-0103-9.
23. Njogu M., E. Muindi, J. Muthomi, R. Nyankanga and P. Muchiri. 2014. Phytophthorainfestans responses to stinging nettle extract, phosphoric acid and fungicides combination, in Kenya. *Direct Research Journal of Agriculture and Food Science (DRJAFS)* Vol.2 (9) 128-134,
24. Ainebyona R., J. Mugisha¹, N. Kwikiriza¹, D. Nakimbugwe, D. Masinde and R. O. Nyankanga.2012. Economic Evaluation of Grain Amaranth Production in Kamuli District, Uganda. *Journal of Agricultural Science and Technology* 178-190
25. Nyankanga R.O., R. N. Onwonga, F. S. Wekesa, D. Nakimbugwe, D. Masinde, J. Mugisha. 2012. Effect of inorganic and organic fertilizers on the performance and profitability of grain amaranth (*Amaranthuscaudatus* L.) in Western Kenya. *Journal of Agricultural Science* 4 (1), 223- 232. doi:10.5539/jas.v4n1p223
26. Nyankanga R, M. Njogu, J. Muthomi, and M. Olanya. 2012. Efficacy of fungicide combinations, phosphoric acid and plant extract from stinging nettle on potato late blight management and tuber yield. *Archives of Phytopathology and Plant Protection* 45 (12), 1449-1463
27. Olanya O.M., P.S. Ojiambo, R.O. Nyankanga, C.W. Honeycutt, and W.W. Kirk. 2009. Recent developments in managing tuber blight of potato (*Solanumtuberosum*) caused by *Phytophthorainfestans*. *Canadian Journal of Plant Pathology* 31:280-289.
28. Muchiri, F.N., R. D. Narla, O.M. Olanya, R.O. Nyankanga, and E. S. Ariga. 2009. Efficacy of fungicide mixtures for management of *Phytophthorainfestans* (US-1) on potato. *Phytoprotection*90:19-29
29. Nyankanga R. O., H. C. Wien, O. M. Olanya. 2008. Effects of Mulch and Potato Hilling on Development of Foliar Blight (*Phytophthorainfestans*) and the Control of Tuber Blight

Infection. Potato Research 51:101–111.

30. Menza M.K, S. I. Shibairo, R.O. Nyankanga, P. Demo, J. N. Kabira, and P. Gildemacher. 2008. Effects of pit, dark and cold pre-storage treatments and their duration on dormancy breaking and sprouting of seed potato tubers (*Solanum tuberosum* L.)
31. Nyankanga R. O., O. M. Olanya, H. C. Wien, R. El-Bedewy, J. Karinga, P.S. Ojiambo. 2008. Development of Tuber Blight (*Phytophthora infestans*) on Potato Cultivars Based on In Vitro Assays and Field Evaluations. HortScience 43(5):1501–1508. 2008.
32. Nyankanga, R.O., H.C Wien, M.O. Olanya and P.S. Ojiambo. 2007. Relationship between late blight (*Phytophthora infestans*) of potato on tuber and foliage, as affected by the disease severity on foliage, cultivar resistance and atmospheric and soil variables. Canadian Journal of Plant Pathology 29:372-387.
33. Shibairo S.I, P. Demo, J.N. Kabira, P. Gildemacher, E. Gachango, M. Menza, R.O. Nyankanga, G.N. Chemining'wa and R.D. Narla. 2006. The effects of gibberellic acid (GA3) on sprouting and quality of potato seed tubers in diffused light and pit storage conditions. Journal of Biological Sciences, 6 (4): 723-733.
34. Olanya, O.M., P.S. Ojiambo, and R.O. Nyankanga. 2006. Dynamics of development of late blight [*Phytophthora infestans*] in potato, and comparative resistance of cultivars in the highland tropics. Canadian Journal of Plant Pathology, 28: 84–94.
35. Nyankanga, R.O., H.C Wien, M.O. Olanya and P.S. Ojiambo. 2004. Farmers' cultural practices and management of potato late blight in Kenya highlands: Implications for development of integrated disease management. International Journal of Pest Management, 50(2) 135-144.
36. Wien, H.C., S.C. Stapleton, D.N. Maynard, C. McClurg, R.O. Nyankanga, and D. Riggs. 2002. Regulation of female flower development in pumpkin (*Cucurbita* spp) by temperature and light. Cucurbitaceae 307-315.
37. Wien H.C., A.D. Turner, and R.O. Nyankanga. 1996. Low light stress influences lower abscission and yield of bell pepper cultivars (Abstr.) HortScience, 586.
- 38. Book Chapters:**
39. Gateri M .W., R. Nyankanga, J. Ambuko and A. W. Muriuki. 2019. Optimizing Nitrogen Application in Onion (*Allium cepa* L.): Influence of Rate and Time of Topdressing on Growth, Yield and Quality. In : Ferreira A.O., editor. New Perspectives in International Plant and Soil Research Vol. 1
40. Olanya, O.M., R. Nyankanga., P. Ojiambo, B. Lemaga, R. Kakuhenzire, D. Fontem. 2012. Optimization of late blight and bacterial wilt management in potato production systems in the highland tropics of Africa. In: He, Z., Larkin, R.P., Honeycutt, C.W., editors. Sustainable Potato Production: Global Case Studies. Amsterdam, The Netherlands: Springer. p. 509-531.

CONFERENCEPROCEEDINGS

1. Chepkemoi J. R.N Onwonga, **R.ONyakanga**. Soil Organic Carbon stocks, soil nitrogen stocks and carbon nitrogen ratio as influenced by vegetation cover types and topographical zone in wooded grasslands in Kenya. RUFORUM conference Nairobi, Kenya 22 – 26th October 2018 (peer reviewed)
2. Kamatenesi J, **Nyankanga R**. Kilalo D, Asiimwe T. Potential of combining sticky traps and orchard fertilization in managing viruses associated with passion fruit woodiness disease in Rwanda RUFORUM conference Nairobi, Kenya 22 – 26th October 2018 (Peer reviewed).
3. Muiruri J, J. Ambuko, W. Owino and **R.Nyankanga**. Quality attributes of mango fruits harvested at different maturity. 30th International Horticultural Congress, Istanbul, Turkey, 12-16th August, 2018 (Peer reviewed)
4. James J. Odanga, Samira Mohamed, Sevgan Subramanian1, Florence Olubayo, SizahMwalusepo, **Richard Nyankanga**, Tino Johansson, Sunday Ekesi. Distribution of common blossom thrips (*FrankliniellaschultzeiTrybom*) and weather variables in small-scale avocado orchards in Taita Hills and Mount Kilimanjaro. CHIESA Final Project meeting International Livestock Research Institute (ILRI) Campus, 8th December, 2017 Addis Ababa, Ethiopia Pg 17
5. Ambuko J., J.Muiruri,**R. Nyankanga** and W.O. Owino. Effect of maturity at harvest on postharvest quality attributes of mango fruit. VI Postharvest Unlimited Conference, Madrid, Spain, October 17-20, 2017.
6. Muiruri J., J. Ambuko, **R. Nyankanga** and W.O. Owino. Determination of Maturity Indices of three Mango Varieties produced in Embu County of Kenya. Presented at 1st All Africa Postharvest Congress and Exhibition, 28th to 31st March, 2017. Safari Park Hotel, Nairobi, Kenya Pg 35-38 (peer reviewed)
7. Muiruri J., J. Ambuko, **R. Nyankanga** and W. O. Owino. Effect of Harvest Maturity on the Quality Attributes of Solar-Dried Mango Products of Selected Mango Varieties. Presented at 1st All Africa Postharvest Congress and Exhibition, 28th to 31st March, 2017. Safari Park Hotel, Nairobi, Kenya pg 39-41 (Peer reviewed)
8. Muiruri J., J. Ambuko, **R. Nyankanga** and W. O. Owino. Maturity Indices of Van Dyke, Kent and Tommy Atkins Mango Varieties produced at a medium altitude agro-ecological zone in Kenya. ISHS- All Africa Horticultural Congress, IITA, Ibadan Nigeria. 7th – 12th August 2016. Book of Abstracts Pg. 50
9. Muiruri J., J. Ambuko, **R. Nyankanga** and W. O. Owino. Maturity Indices of Van Dyke, Kent and Tommy Atkins Mango Varieties produced in Embu County of Kenya. Horticultural Association of Kenya Annual Workshop, KALRO Kandara Central, Muranga1st – 4th December 2015.
10. Ojwang D.J., **R.O. Nyankanga**, O.M. Olanya and D.O. Ukuku. Cultivar characteristics, preference and sensory evaluation of vegetable pigeon pea (*Cajanuscajan*).International Association of Food Protection (IAFP) Annual Meeting, St. Louis, MO., July 31-Aug. 4, 2016
11. Love J. H., **R.O. Nyankanga**. Grain amaranth (*Amaranthushypochondriacus*).2012. 4th Global conference on Climate Smart Agriculture

12. Muchiri P.P., **R. Nyankanga**, M.J. Hutchinson, J. Ambuko. 2011. Effects of combined foliar application of gibberellic acid and benzylaminopurine on potato tuber sprouting and subsequent yields yield. aGro 2011 inaugural conference University of Nairobi Kenya, September 26-28 2011
13. Ariga, E.S.; R. Narla., P. Amuyunzu, Kirimi Z, **R. Nyankanga** and R.W Michieka. 2011. Efficacy of nicosulfuron in the control of weeds in maize. aGRO 2011 Biennial Conference September 26-28 University of Nairobi Kenya
14. Muchiri, F.N., R.D Narla, **R.O Nyankanga**, E.S Ariga, and M. O. Olanya. Efficacy of foliar fungicides and their combinations in the management of late blight in Kenya. 7th Workshop on sustainable horticultural production in the tropics, Horticultural Association of Kenya 28th November – 1st December 2007 University of Nairobi
15. Cheminingwa, G.N., P.K Macharia and **R.O. Nyankanga**. Response of local garden pea cultivars to rhizobia inoculation, N-fertilizer application and varying soil pH. 7th Workshop on sustainable horticultural production in the tropics, Horticultural Association of Kenya 28th November – 1st December 2007 University of Nairobi
16. Kiplagat, K.W., **R.O. Nyankanga**, S.I. Shibairo, P. Demo, J.N. Kabira, P. Gildemacher. Performance of late blight R-gene free genotypes from population B3 under Kenyan conditions. 7th Workshop on sustainable horticultural production in the tropics, Horticultural Association of Kenya 28th November – 1st December 2007 University of Nairobi.
17. Menza K.M., S.I Shibairo, **R.O Nyankanga**, P.Demo, P. Gildemacher J.N. Kabira. Effect of gibberellic acid (GA3) and storage condition on sprouting of seed potato. 7th Workshop on sustainable horticultural production in the tropics, Horticultural Association of Kenya 28th November – 1st December 2007 University of Nairobi
18. **Nyankanga R.** M. Olanya, H Wien. 2007. Schematic Models for Potato Tuber Blight Infection Based on Foliar Blight Severity, Cultivar Resistance, Soil and Atmospheric Variables. Northeast Potato Technology Forum, 2007
19. **Nyankanga R.O.** H.C Wien. 2002. Influence of Soil and Weather Variables on the Interaction of Foliage Late Blight Control and Potato Tuber Infection by *PhytophthoraInfestans*, Cornell University September 5, 2002.
20. **Nyankanga R.O.** H.C Wien 1997. Increased plant density and shade affects flowering and fruiting of *Cucubita pepo*. 94th Annual Conference of the American Society for Horticultural Science, Salt Lake City, Utah USA.
21. Wien H.C., A.D Turner, and **R.O Nyankanga**. 1996. Low light stress influences lower abscission and yield of bell pepper cultivars. 93rd Annual Conference of the American Society for Horticultural Lexington, Kentucky, USA.
22. Wien, H.C., S.C. Stapleton, D.N. Maynard, C. McClurg, **R. Nyankanga** and D. Riggs. Regulation of Female Flower Development in Pumpkin (*Cucurbitaspp.*) by Temperature and Light - Cucurbitaceae 2002., Naples, Florida, USA, December 8-12, 2002.

SCHOLARSHIPS/FELLOWSHIPS/RECOGNITION

1. Certificate of Recognition, University of Nairobi, 2014
2. Chinese Government Scholarship, for Advanced Course on Quality and Safety Standards of Horticultural Crops, Nanjing Agric. University September 1st -23rd, 2006

3. Rockefeller Food Security Scholarship, PhD dissertation research, International Potato Centre (CIP) Nairobi, Kenya, 2001
4. Rockefeller African Dissertation Internship Award for PhD dissertation research, Cornell University, NY, USA, 1999
5. The Ithaca First Presbyterian Church, International Hunger Award, Ithaca, NY, 1999
6. Cornell International Institute for Food and Development (CIIFAD) award, 1998
7. Summer Institute of African Agricultural Research (SIAAR) Fellowship, by The Rockefeller Foundation tenable at University of Wisconsin, Madison, USA (1998).
8. Cornell Institute for African Development Tuition Fellowship
9. Research Assistantship, Department of Horticulture, Cornell University, USA, 1997
10. Research Assistant, Department of Horticulture, Cornell University, USA, 1994
11. Deans' list for three years B.Sc. Horticulture, Egerton University
12. Government of Kenya Undergraduate Scholarship (1987-1990) to undertake B.Sc. Horticulture at Egerton University.

SELECTED SHORT COURSES AND TRAINING ATTENDED

1. Training in Environmental Sustainability Self Auditing by NEMA, Central Catering Unity (CCU) University of Nairobi 11th -12th June 2015
2. Performance Enhancement and Team Building course by Empowerment Resource Technologies, College of Agriculture and Veterinary Sciences, Kabete, 5th-6th August 2013
3. Performance enhancement and team building course, by Empowerment Resource Technologies, Kibwezi Field Station, University of Nairobi, 17th-20th June 2013
4. Training workshop on the role of the University of Nairobi in the implementation of the Constitution of Kenya 2010 and the Public Service Integrity Programme (PSIP), 16th-17th September 2013.
5. Training on development of e-content for Odel/e-learning, Kenya Wildlife Training Institute, Naivasha, 5th – 11th August 2012
6. PhD Supervision Training Workshop, College of Agriculture and Veterinary Sciences, Kabete 2nd -4th March 2010.
7. Web 2.0 tools for research support and networking in Africa(content development for RUFORUM supported regional programmes), Entebbe Uganda June 22-26, 2009
8. Training on use of alternatives to Methyl bromide alternatives in the horticulture industry, KARI headquarters, Nairobi 15th 2008
9. Pedagogy training, Central Catering Unit (CCU), University of Nairobi, 4th-6th February 2008.
10. Staff training on new performance appraisal tools, Tana Kitchen Hall, College of Agriculture and Veterinary Sciences, 13th December 2007.
11. Scientific Writing Training Workshop: Proposals, Journal Publication & Communication, KCB Training Centre, Nairobi, 19th – 26th November 2006
12. Advanced Course on the Quality and Safety of Horticultural Crops, Nanjing Agricultural University, China, 1st -23rd September 2006,
13. Implementation of Pesticide Efficacy and MRL trials in Kenya, course conducted by AGRISEARCH and KALRO, KALROThika, Kenya, Feb. 6th-10th and April 26th-28th, 2006
14. Student Management Information System (SMIS) Training, Chiromo Campus, June 27th 2006.
15. Demand led Research/Bridging the GAP in the Agricultural, Science, Technology and Innovation Systems, CAB International Africa Regional Centre Nairobi Kenya, July 25th - 29th 2005
16. Summer Institute of African Agricultural Research, University of Wisconsin, Madison, USA, 14th -30th June 1998.

17. Cornell Institute for Food and Agriculture (CIIFAD) Fellow – Ecuador Jan 2th -15th, 1998

SUPERVISION OF POST-GRADUATE STUDENTS:

a) PHD STUDENTS:

1. James Odanga. Climate change induced-effect on biology and ecology of avocado insect pests along altitudinal gradient of Taita Hills and Mount Kilimanjaro, PhD Crop Protection University of Nairobi. Supervisors: Prof. Florence Olubayo, Dr. Richard O. Nyankanga and Dr. Samira Mohammed (ICIPE) (completed 2017)
2. Dan Odeny. Effect of shade on coffee physiology, yield and quality. PhD agronomy, University of Nairobi. Supervisors: Prof. George N. Chemining'wa and Prof Solomon Shibairo, Dr Richard O. Nyankanga (completed 2016)
3. Janeth Chepkemoi. Modeling dynamics of soil organic carbon stocks, soil water content and greenhouse gas fluxes in wooded grassland of Laikipia County, Kenya PhD Soil Science, University of Nairobi. Supervisors: Prof. Richard. N. Onwonga, and Dr Richard O. Nyankanga (Completed)
4. David Juma Ojwang. Adaptability, stability and post-harvest management of selected vegetable pigeonpea(*CajanusCajan Milsp*) genotypes in Eastern Region of Kenya. PhD, Horticulture, University of Nairobi. Supervisors: Dr Richard O. Nyankanga, Prof Jasper Imungi and Dr. NVPR Ganga Rao (ICRISAT)
5. Geraldin M. W. Lengai. Effect of manure leachate microflora on growth promotion and disease management in tomato under hydroponic conditions. PhD, Crop Protection, University of Nairobi. Supervisors: Prof. James W. Muthomi, Prof. Richard O. Nyankanga and Dr. Ernest R. Mbega (School of Life Sciences and Bioengineering The Nelson Mandela African Institution of Science and Technology)

b) M SC. THESES WORK COMPLETED:

1. Jovia Kamatenes. Identification and management of viruses associated with Passion fruit woodiness in Rwanda (Msc Horticulture University of Nairobi, 2019). Supervisors: Dr. Richard O. Nyankanga, Dr. Dora Kilalo and Dr. Theodore Asimwe (Rwanda Agriculture Board)
2. Muiruri Jacinta Wairimu. Evaluation of maturity indices of selected Mango varieties and effect on quality attributes. Msc Horticulture University of Nairobi 2017. Supervisors: Dr Jane Ambuko, Dr Richard O. Nyankanga and Prof Willis Owino (JKUAT)
3. Bitange Naphis Mokaya. Effects of varying rates of organic and inorganic fertilizers on the growth, yield, and nutrient use efficiency of clonal tea (*Camellia Sinensis L. [O] Kuntze*). MSc Agronomy University of Nairobi 2016. Supervisors: Prof George Cheminingwa, Dr Richard O. Nyankanga
4. Murigi Winnie Wanjiku. Management of ware potato sprouting during long term storage in the tropical conditions of Kenya. Msc Horticulture 2016, University of Nairobi.

Supervisors: Prof Solomon I. Shibairo and Dr Richard O. Nyankanga

5. Ojwang David Juma. Evaluation of medium duration Pigeonpea (*Cajanuscajan*) genotypes for green vegetable production and acceptability in Makueni County of Eastern Kenya MSC Horticulture University of Nairobi 2016. Supervisors: Dr Richard O. Nyankanga, Prof Jasper Imungi.
6. Love Josephine. Comparative response of organic and inorganic fertilizer application and their combinations on the yield and quality of Grain Amaranth MSc Horticulture University of Nairobi 2015. Supervisors: Dr Richard O. Nyankanga, Prof Richard O. Onwonga, Dr Cecelia Onyango
7. Mageto Edna Kemunto. Combining ability and heterotic grouping of early maturing maize lines MSc Plant Breeding, University of Nairobi 2015. Supervisors: Prof. KiarieNjoroge, Dr. Richard O. Nyankanga, Dr Dan Makumbi (CYMMT)
8. Kandagor David Chepkonga. Evaluation of Spatial Variability of Selected soil chemical Properties, Their Influence on Coffee Yields and Management Practices at Kabete Field Station Farm. MSc Soil Science University of Nairobi 2015. Supervisors: Prof Mbuvi, Prof GeoffreyKirochi and Dr Richard O. Nyankanga
9. Muchiri Peter. Effect of alternation of GA and Cytokininins on potato sprouting and use of true potato seed as alternative propagule. MSc Horticulture, University of Nairobi, 2010. Supervisors: Dr Richard O. Nyankanga, Prof Margaret J. Hutchinson, and Dr Jane Ambuko
10. Njogu, Martin K. Efficacy of fungicides and stinging nettle in the management of potato late blight in Kenya MSc Horticulture, University of Nairobi, 2009. Supervisors: Dr Richard O. Nyankanga, Prof James W. Mutomi.
11. Wekesa Francis Simiyu. Socio-economic analysis of production and response of Grain Amaranth (*Amaranthuscaudatus* L.) to fertilizer application an intercropping with maize or beans in Kisumu West District, Kenya Master of Science in Agricultural Resource Management University of Nairobi, 2009. Supervisors: Dr Richard O. Nyankanga, Prof Richard N. Onwonga
12. Peter Macharia: Effect of genotype, soil pH and rhizobia inoculation on root nodulation, growth and yield of garden pea (*Pisumsativum* L.). Graduated with M.Sc. Horticulture, 2009, University of Nairobi. Supervisors: Prof. George N. Chemining'wa and Dr. Richard O. Nyankanga
13. Mwalimu, Menza. Development of affordable alternative methods for sprouting seed potato tubers. MSc Horticulture 2008 University of Nairobi. Supervisors: Prof Solomon I. Shibairo, Dr Richard O. Nyankanga
14. Kiplagat, KibetWily. Evaluation of advanced R-gene free potato genotypes from

population B3 for late blight resistance, yield, cooking and processing quality, MSc Horticulture 2008 University of Nairobi. Supervisors: Dr Richard O. Nyankanga, Prof Solomon I. Shiabiro and Dr Landeo (CIP).

M SC THESIS WORK UNDERWAY:

15. Mary Wanjiku Gateri. Growth, yield, bulb quality and shelf life of onion as influenced by nitrogen topdressing and time of application. Msc Horticulture. Supervisors: Dr Richard O. Nyankanga, Dr. Jane Ambuko and Dr. Anne W. Muriuki (KALRO) (Completed)
16. Callen Nyabonyi Ongeru . Evaluation of information and communication technology utilization in quality African Indigenous vegetable production by smallholder farmers in Manga Sub-county, Nyamira County. MSc AICM. Supervisors: Dr Richard O. Nyankanga, Prof J. Mburu (Submitted)
17. Michael Angwenyi Maobe. Breeding potatoes adapted to Kenyan Agro-ecological regions Msc Plant Breeding. Supervisors: Prof Kahiungugi, Dr Richard O. Nyankanga
18. Salome Wanjiku Muhia. : Agricultural resource utilization for enhanced sustainability in flower industry MSc ARM. Supervisors: Dr Josiah M. Kinama, Dr Richard O. Nyankanga, and Dr Sabina Wangia
19. Haron Goro. Effect of integrated crop management on yield and pesticide residues in snap beans in eastern Kenya. M.Sc. Horticulture. Dr. Richard O. Nyankanga, Prof George N. Chemining'wa and Prof. P.M. Kimani
20. Hellen Omondi. Effect of mycorrhizae and integrated plant nutrition on growth, yield and quality of onion. Msc Horticulture. Supervisors: Dr Richard O. Nyankanga and Dr Jane Ambuko
21. Atika Ombachi. Effect of agro-ecological zones on postharvest quality of coriander (dhania). Msc Horticulture. Supervisors: Prof Margaret Hutchinson, Dr Richard O. Nyankanga and Dr Jane Ambuko
22. Joseph Kamau. Evaluation of growth, yield and postharvest qualities of commercial tomato varieties under open field and greenhouse production system. Msc Horticulture. Supervisors: Dr Jane Ambuko and Dr. Richard O. Nyankanga
23. Jenipher Lutomia Kombo. Effect of plant population and fertilizer application on yield, yield components and sensory attributes of spring onions. Msc Horticulture. Supervisors: Prof Solomon I. Shiabiro and Dr Richard O. Nyankanga
24. Femina Ogolla. Evaluation of growth, yield and quality attributes of butternut varieties produced under different agro-ecological zones in Western Kenya. Msc Horticulture. Supervisors: Dr Jane Ambuko and Dr Richard O. Nyankanga
25. Russell Rowland Ochieng. Evaluation of integrated plant nutrition on cauliflower (Brassica oleracea Var. Botrytis) productivity in Iringa Rural District, Tanzania. Supervisors: Prof George N. Chemining'wa, and Dr Richard O. Nyankanga

4 (ii) SELECTED UNDERGRADUATE STUDENT SUPERVISION

Supervised over 40 BSc Agriculture (Crop Science) and BSc Horticulture 2004 -2018)

1. Muchiri Robert Muiru. The effects of temperature and water treatments on the shelf life of coriander
2. Mumbi K. N. Comparative assessment of different storage methods for tomatoes (Lycopersicon esculentum)

3. Juma P. Onyango. Effect of seed treatment , type and age on chickpea germination
4. Rose Tindi: Effects of bubble wrap packaging on shelf life and quality of carrots.
5. Chemutai Sheila Rono. Effect of pre-cooling storage temperature and packaging on shelf life of snap beans
6. Kiplagat Shadrack . Effect of seed tuber size and seed pieces on the emergence, growth vigour and yield of potato
7. Chemuchuk Kipkoech Evans. Yield improvement on kales :case study on bio stimulus and nitrogenous fertilizers
8. Rael Nyabonyi Machuki. Use of egg shell as alternative to polythene sleeves in seedling growing.

THESIS EXAMINATION

1. PerisKariuki. Use and Conservation of Wild Medicinal Food Plants in Loita, Narok County, Kenya (PhD Drylands)
2. Haggai OnyangoNdukhu. Influence of organic amendments and legume integration on soil chemical properties and performance (PhD Soil Science)
3. Gerald Kyalo. Exploring improved nutrient options for increased rainfed lowland rice production in Eastern and Northern Uganda (PhD Agronomy)
4. Kilalo Dora. Molecular detection of viruses associated with passion fruit, monitoring and management of aphid vectors in Kenya (PhD Crop Protection)
5. Charles Lungaho. Characterization and slow growth in vitro conservation of potato (PhD Agronomy)
6. Uwituze Chantal. Effect of Mulch Type and Mineral Fertilizer Rates on Soil Nutrient Content Growth and Yield of Cabbage in the volcanic Highlands of Rwanda (Msc Soil Science, Egerton University)
7. TunyaBeldinaAlona. Use of Minjingu phosphate rock and legumes on sorghum (Msc Soil Science, Egerton University)
8. NgatiaWanjiru. Adapting Spraying Regimes to Two Late Blight (Phytophthorainfestans) Resistant Potato Varieties and Testing for MetalaxylyReistance in Phytophthorainfestans(MSc Horticulture, JKUAT)
9. John Robert Ouko. Efficacy of Hexanal as a postharvest preservative of papaya fruit (Msc Horticulture)
10. MutisoMusau. Effect of micro dosing and in situ moisture conservation techniques on yield and resource use efficiency of pearl millet in Makueni (Msc Agronomy)
11. Hilary OmondiOtieno. Nutrient management options for enhancing productivity of maize and beans under conservation and conventional tillage systems (Msc Agronomy)
12. Stanley Kirakou, Evaluation of the quality attributes of selected local cowpeas accessions and their response of postharvest treatment (Msc Horticulture)
13. Ann Munene. Genetic characterization and nutritional analysis of Eastern and Southern Africa Cleome Gynandra (Spider plant) accessions (Msc Plant Breeding)
14. Barnabas Mdenye. Effect of variety and storage methods of cassava planting materials on establishment and early growth vigour (Msc Seed Science and Technology)
15. HabinezaMpunga. Evaluation of Promiscuous Soybean Varieties for Agronomic and Seed Quality Traits in Maize/Soybean Intercropping Systems in Kenya (Msc Agronomy)

16. Bean Emily Elizabeth. Effect of plant spacing and shoot tip and flower removal on growth and yield of spider plant in Kenya (M.Sc Agronomy)
17. Eric Nyagari. Effect of intercropping arrangements and fertilizer application on growth and yield of African Nightshade in Kisii County, Kenya (Msc Agronomy)
18. BornventureMumia. Quality status of farm saved seed potato and effect of methods of storage on seed quality and crop performance (M.Sc Seed Science and Technology)
19. Orwa Hezekiah Opiyo. Smallholder Utility Based Bioresource Micronutrient Diversity Mapping at Lake Basin Sites for Enhanced Nutraceutical Implied Security (MscEnvironmental Studies)
20. Daniel Ojowi. Integrated weed management in carrot (Msc Crop Protection)
21. Munyao Jonathan Ngila. Early warning systems and water harvesting technologies as coping mechanisms against climate change in Enkaroni-Kajiado District Kenya (Msc Agronomy)
22. Caroline Chemutai. Effects of nutrient management harvesting method and water Stress on Growth, Yield and Nutritional Quality of Solanumnigrum and Vignaunguiculata L. Walp (M.Sc Agronomy)
23. Koech Anne Cheron. Evaluation of Integrated Pest Management (IPM) components for the management of potato tuber moth on Potato (M.Sc Crop Protection)
24. Tom Florence. Diversity of storage insect pests in maize and susceptibility of maize varieties to maize weevil (Msc Crop Protection)
25. John Wakaba Gakunga. Combining ability of stem borer resistance maize inbred lines for mid-altitude ecology of Kenya (Msc Plant Breeding)
26. Elizabeth WangechiGathogo. Growth and yield performance of cabbage varieties under different fertilizer application regimes in Manyatta Sub-County, Embu County (Msc Agronomy)
27. Daniel Kiboi. Potential of combining tillage practices, trap crops and sticky traps for the management of the pea leafminer in Sugar Snaps (Msc Crop Protection)
28. Hasheela. Evaluation of boarder crops and varietal resistance for management of diamondback moth on cabbage (Msc Crop Protection)
29. ItaNyaga. Assessing effectiveness of conventional and minimum tillage practices on weed management in maize (MSc Crop Protection)
30. Obanyi, S.N. The effect of potassium fertilization of Kale (Brassicaaoleraceaevaracephala). (M.Sc. Agronomy).
31. Kivaya, D.M. The effect of spacing on the yield and quality of seed tubers and ware potatoes (M.Sc. Horticulture).
32. Gachango, E.N. Effects of storage conditions on quality and storability of seed and ware potato varieties. (M.Sc. Horticulture)
33. Kithusi. The efficacy of biopesticides on control of red spider mites (Tetranychusevansi) on tomatoes (M.Sc. Horticulture).
34. Munene W. R. Characterization by energy dispersive X-ray analysis of interspecific variation in trace micronutrient density in germplasm of selected indigenous vegetables, cereals and fruits (MSc Agronomy).
35. Muchiri N.J. Effect of pre-treatments, cold storage and water quality on the post-harvest quality of liasianthus (*Eustoma grandiflorum*) cut flowers (MSc Horticulture)
36. Otieno E. Effect of chemical pesticides and nitrogen source on the performance of food

grain legumes (MSc ARM).

37. Nyasani J.O. Potential of using entomopathogenic nematodes in management of diamondback moth *Plutellaxylostella* on kale (MSc Crop Protection)
38. Liboywa, N. O. Effects of organic and inorganic fertilizers vegetative growth, and nutritional quality of spider plant (*Gynandropsis gynandra*) and amaranth plant (*Amaranthus lividus*) in Lugari District (MSc Horticulture)
39. Wamalwa L.N. Heritability of micronutrients and macronutrients in two solanumscabrum accessions from Kenya and Cameroon (MSc Agronomy)
40. Gathumbi M.NK. The effect of fertilizers and mulberry (*Morus alba* L.) variety on cocoon and silk quality in Kenya (MSc Horticulture)
41. Muindi Esther Mwendu. Management of potato aphid transmitted viral diseases by integrating border crops, insecticides and mineral oil (MSc ARM)
42. Mnyambo. Development of an integrated production system for African Indigenous leafy Vegetables in Taita District (MSc Crop protection)
43. Musyimi. Management of fusarium head blight of wheat through host resistance and bio-control agents (MSc ARM)
44. Ngeno. Abundance and efficiency of garden pea nodulating rhizobia in central Kenya soils (MSc Agronomy).
45. Nyambura. Effects of legume cover crops and sub-soiling on soil properties and maize growth in machakos district, Kenya (MSc Soil Science)
46. Onditi John. Sourcing for potato virus Y and Potato virus X dual resistance for breeding potatoes (*Solanum tuberosum*) in Kenya.(MSc Plant Breeding)

Synergistic Activities

Member of the Horticultural Association of Kenya (HAK)

Reviewer of Canadian Journal of Plant Science, Australian Journal of Crop Science, International Journal of Plant & Soil Science, African Journal of Horticultural Science

Member of the African Crop Science Society; Member of American Society of Horticultural Science (1994-2010)

Chair curriculum review committee Bsc Horticulture program, University of Nairobi

Member of Faculty of Agriculture Postgraduate Studies Committee

Collaborators & Other Affiliations

(i)Collaborators

D. Nakimbugue, Makerere University, Uganda; M. Olanya USDA-ARS, Wyndmoor, PA, USA; D. Masinde, Iowa State University Ames; P. Ojiambo, North Carolina State University, USA; W.Owino, Jomo Kenya University (JUAT), Kenya; V. Ruganzu, Rwanda Agricultural Development Board, Rwanda; W. Wekesa, Flamingo Horticulture, Kenya; N. Luambano, Sugarcane Research Institute, Kibaha, Tanzania