

Name: Joseph P Onyango Gweyi

Position: Senior Lecturer

Department: Agricultural Science and Technology

Email: josephonyango2002@yahoo.co.uk; gweyi.joseph@ku.ac.ke



Membership in Professional Societies

1. Member of Kenya DAAD scholars association
2. Member of East African Soil Science Society
3. Horticultural Association of Kenya (Vice Treasurer)
4. Member of African Crop Science Society

Education

-PhD (Agric.sci.)-University of Hohenheim, Stuttgart, Germany; Institute of plant nutrition. 2002-2006: "Utilization of rock phosphate by tomato (*Lycopersicon esculentum* Mill.) as affected by nitrogen forms and soil types: Mechanisms, prospects and limitations" and graduated with *magna cum laude*.

- Msc (Agronomy)-University of Nairobi, Kenya Department of Crop Science.1993-1999. "Physiological basis of yield differences in bean (*Phaseolus vulgaris* L.) Cultivars".

-BSc (Agric)-Upper second class honours-University of Nairobi, Kenya. College of Agriculture and Veterinary sciences, 1988-1991.

-KACE; 3 principals and 2 subsidiaries- Mangu High School, Thika – From 1986 to 1987

-KCE; Division 1.Cherangani High School, Kitale- From 1982 to 1985

- CPE, 34 points-Sinyerereri P school, Kitale- From 1975-1981.

Research focus

Plant Nutritionist-Horticulturalist with a strong focus on plant abiotic stresses (e.g. limiting nutrients, extreme soil pH and toxic mineral elements) and their effects on yield and food security. The other interest include; effects of limiting soil water status on the severity of nutrient stresses on crops, with special reference on non-nutritive fertigation to horticultural crops and wastewater re-use in Urban and Peri-Urban centres.

Recent Projects and consultancies

1. Utilization of rock phosphate by tomato (*Lycopersicon esculentum* Mill.) as affected by nitrogen forms and soil types: Mechanisms, prospects and limitations;- DAAD – **2500** Euros -2003 -2004

2. Effects of Changing Soil Health on Conservation, Utilization and Nutritional Qualities of promoting Indigenous African Vegetables in Alfisols of Western Kenya;- .MMUST URF **384,000** Ksh - 2009/2010 - **(Principal Investigator)**

3. Triple Super Phosphate and Scum and Scum as Phosphorus Sources and Effects on Improvement of Soil Fertility in Sugarcane Growing Zone. A case of Mumias and Busia District: MMUST URF; Ksh **260,000 (Collaborator)**
4. Genetic Diversity of Bambara ground nut (*Vigna subterranean* L) verde in Kenya based on RAPDSQA and ISSR; ksh **103,000 (Collaborator)**
5. Characterization of virus-free Sweet Potato (*Ipomea batata*) Landraces Using Morphological and SSR Markers in East Kamagak, Homa Bay County-NCST **200,000ksh -2012-2013-Supervisor**
6. Evaluation of Mitigation and Response Strategies to Drought-Related Disasters for Sustainable Food Security in Makueni County NCST **1,200,000ksh - 2012-2014 - Supervisor**
7. African Nightshade distribution in Kenyan agroecologies in response to phosphorus and water status: Phenolics and related antioxidants profiling-RUFORUM **60,000 USD - 2012-2014 - Principal Investigator**
8. Increasing the efficiency in value chain of Passion production in contrasting Kenya agroecologies; - -KAPAP **-2012-2015 (Collaborator)**
9. Project Proposal “Global Food Security” –GlobE to be funded by the Federal Ministry of Education and Research of Germany was successful and I am a collaborator and in addition train one PhD students on Sandwich; Kenya and Germany on Heavy metals in wastewater and soil fertility dynamics in Urban and Peri-Urban Agriculture – **52,202 Euros; 2014-2016 (Collaborator, PI in Kenya)**
10. Influence of Osmo and Hydropriming on Seed quality in Soybean Cultivars under Different Environmental Conditions and Mother Plant Nutrient Profiles – NACOSTI; ksh **699,000 ksh – 2013-2015 (Supervisor)**.
11. Influence of one and two node cuttings on **vegetatively** propagated infilling tea plants –NACOSTI –**ksh150, 000 2013-214 (Supervisor)**
12. 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 (P1)**
13. 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**

Conference Presentations and publications

1. Chirchir J. G, Mwangi M, Nyamongo D, and Gweyi-Onyango P. J. (2016). Influence of Priming, Dressing and Agroecologies on Storage of Selected Soybean Genotypes. “Research and Networking: Laying the Foundation for the Sustainable Development Goals” Hombuldt “Kollege” 2016. Naivasha, Kenya, April 6th – 8th , 2016, pg 74
2. Mwirigi P, Mwangi M and **Gweyi-Onyango J P** (2015). Canopy growth of sweet yellow passion fruit in response to different levels of planting fertilizer under greenhouse management. “Strengthening the experimental research environment-Field Experimentation” The 15th workshop on sustainable horticultural production in the tropics. The workshop held at Kenya Agricultural Research and Livestock Organization

(KALRO), Kandara center & Horticultural research institute (HRI), Muranga county 1st-4th December, pp 21

3. Odhiambo P O, Musila W, Nawiri M and Gweyi-Onyango J P (2015). Water stress effect on antioxidant activity and phenolic content of African nightshades in Kiambu county, Kenya. "Strengthening the experimental research environment-Field Experimentation" The 15th workshop on sustainable horticultural production in the tropics. The workshop held at Kenya Agricultural Research and Livestock Organization (KALRO), Kandara center & Horticultural research institute (HRI), Muranga county 1st-4th December, pp 23

4. Ogembo J O, Nawiri P, Musila W and **Gweyi-Onyango J P** (2015). Effect of phosphorus deficiency on phenolics and antioxidants of two African nightshade varieties in Kenya. "Strengthening the experimental research environment-Field Experimentation" The 15th workshop on sustainable horticultural production in the tropics. The workshop held at Kenya Agricultural Research and Livestock Organization (KALRO), Kandara center & Horticultural research institute (HRI), Muranga county 1st-4th December, pp 31

5. Mathege C, Thuita M, **Gweyi-Onyango J P** and Cargele M (2015). Rhizobial inoculation responses in Soybean (*Glycine max*) as affected influenced by soil nitrogen and carbon levels. "Strengthening the experimental research environment-Field Experimentation" The 15th workshop on sustainable horticultural production in the tropics. The workshop held at Kenya Agricultural Research and Livestock Organization (KALRO), Kandara center & Horticultural research institute (HRI), Muranga county 1st-4th December, pp 31-32

6. Chimoita E L, Mugivane FI, Onyango CM, Kimenju JW and **Gweyi-Onyango J P** (2015). Extension approaches influencing uptake of improved sorghum crop in Embu County, Kenya. "Strengthening the experimental research environment-Field Experimentation" The 15th workshop on sustainable horticultural production in the tropics. The workshop held at Kenya Agricultural Research and Livestock Organization (KALRO), Kandara center & Horticultural research institute (HRI), Muranga county 1st-4th December, pp 44.

7. Wafula N, Korir NK, Ojulung H, Siambi M and **Gweyi-Onyango J P** (2015). Effects of phosphorus rates on nitrogen and yield responses of finger millet varieties in Makueni county, Kenya. "Strengthening the experimental research environment-Field Experimentation" The 15th workshop on sustainable horticultural production in the tropics. The workshop held at Kenya Agricultural Research and Livestock Organization (KALRO), Kandara center & Horticultural research institute (HRI), Muranga county 1st-4th December, pp 45.

8. Kimutai W, Mathu S, Thuta M, Masso C and **Gweyi-Onyango J P** (2015). Effect of selected Bradyrhizobia on growth, biological nitrogen fixation and yield of cowpea in soils from Kilifi and Embu counties of Kenya. "Strengthening the experimental research environment-Field Experimentation" The 15th workshop on sustainable horticultural production in the tropics. The workshop held at Kenya Agricultural Research and Livestock Organization (KALRO), Kandara center & Horticultural research institute (HRI), Muranga county 1st-4th December, pp 46.

9. **Joseph Gweyi-Onyango**, Pauline Nawiri, Winfred Musila, Paul Omolo, Joseph Ogembo and Peter Odhiambo (2015). Water and Phosphorus effects on Distribution of Nightshade Species in Siaya County, Kenya. International Conference on Economically

Viable and Sustainable Agricultural Systems for Food Security in Africa. African Society of Agronomy, Crop, Soil and Environmental Science. Abuja, Nigeria, 2-3November 2015. pgs 5-12.

10. Ulrich Eckhardt, Julius Beer, Holger Bessler, Godfrey Nambafu, Enos Onyuka, Samuel Mwonga, Darius O Andika, **Joseph P Gweyi-Onyango**, Christof Engels (2015). Iron Concentrations in Roots and Edible Organs of African Indigenous Vegetable species. International conference on research on food security, natural resource management and rural development. Tropentag 16th -18th September. Humboldt-Universität zu Berlin. Pgs 601

11. Enos Onyuka, Wilhem Van Hausen, Godfrey Nambafu, Holger Bessler, Darius O Andika, **Joseph P Gweyi-Onyango**, Samuel Mwonga, Christian Ulrichs, Christof Engels (2015). Cadmium Uptake and Distribution to Edible Organs in African Indigenous Vegetables. International conference on research on food security, natural resource management and rural development. Tropentag 16th -18th September, Humboldt-Universität zu Berlin. Pgs 602

12. Godfrey Nambafu, Anna Adam, Enos Onyuka, Samuel Mwonga, Darius O Andika, **Joseph P Gweyi-Onyango**, Christof Engels (2015). Essential and Toxic Minerals in Leafy Vegetables from Open Air and Supermarkets in Nairobi. International conference on research on food security, natural resource management and rural development. Tropentag 16th -18th September, Humboldt-Universität zu Berlin. Pgs 611

13. Rosepiah Munene, Jacqueline C Kipkorir-Mwendah, Nicholas Korir Kibet **Joseph P Gweyi-Onyango** (2014). Effects of Nitrogen Forms on Growth, Yield and Quality of Amaranths Accessions in Nairobi and Kiambu Counties. 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. pages 43-44.

14. Joas Tugizimana, Kennedy Mwetu and **Joseph Gweyi-Onyango** (2014). Influence of land slope on soil physico-chemical properties and bean yield in Birembo Catchment, Nyamasheke District-Rwanda. 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 56-57

15. 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.

16. Onyango, RA, W.M. THAGANA, **J.O.GWEYI**, L.KARANJA (2014). Assessment of Sweet Potato Propagules for Infection by Various Viruses in East Kamagak Location-Homabay County. 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 141-142.

17. Odhiambo Peter Okello, Joseph Gweyi Onyango, Mildred Nawiri and Winfred Musila (2014). Water Stress Effect on Distribution and Antioxidants Concentration of African

Nightshades In Kisii and Siaya Counties of Kenya. BRIDGING THE GAP BETWEEN SOCIETY, SCIENCE AND INDUSTRY” – Conference held at Kenyatta University, Nairobi, Kenya- 1st to 5th December 2014- pg 155-156.

18. Ogembo Oyaro J., P. Nawiri, W. Musila and **Joseph P. Gweyi-Onyango** (2014). Effects of Phosphorus Deficiency on Secondary Metabolites and African Nightshade Distribution in Kisii, Siaya and Kakamega Counties, Kenya. BRIDGING THE GAP BETWEEN SOCIETY, SCIENCE AND INDUSTRY” – Conference held at Kenyatta University, Nairobi, Kenya- 1st to 5th December 2014- pg 145.

19. Grace Jepleting Chirchir, Joseph Gweyi Onyango, Maina Mwangi, Desterio Ondieki Nyamongo (2014). Assessment of Soybean Agronomic Systems, Seed Handling and Quality in Eastern Kenya. . BRIDGING THE GAP BETWEEN SOCIETY, SCIENCE AND INDUSTRY” – Conference held at Kenyatta University, Nairobi, Kenya- 1st to 5th December 2014- pg 160.

20. Gweyi-Onyango J P, Musila MM, Nawiri M P and Omolo P O (2014). African nightshade distribution in response to phosphorus and water status in three Kenyan agroecologies: Phenolics and related antioxidant profiling. Ruforum Biennial conference” July 19th to 25th –Maputo, Mozambique (on 24th at Maputo hall).

21. Ogembo-Oyaro J, Nawiri P, Musila W and **Gweyi-Onyango J P** (2014). Effects of phosphorus deficiency on secondary metabolites and African nightshade distributions in Kisii, Kisumu and Kakamega counties, Kenya. Ruforum Biennial conference” July 19th to 25th –Maputo, Mozambique- poster No. 72

22. Okello P O, Nawiri M, Musila W and **Gweyi-Onyango J P** (2014). Water stress effect on growth parameters and distribution of African nightshade in Kisii and Siaya counties of Kenya. Ruforum Biennial conference” July 19th to 25th –Maputo, Mozambique- poster No. 76

23. Mwangi SM, **Gweyi-Onyango JP** and Kibet Korir NK (2013). Influence of one and two node cuttings on performance of infilling tea seedlings. “Concepts to promoting Young Academics- Soft Skills” 13th Workshop on Sustainable Horticultural production in the Tropics. Meru University of Science and Technology (MUST), Meru, Kenya, 3rd to 6th December 2013, Pg 44.

24. Chimoita EL and **Gweyi-Onyango JP** (2013). The role of community in mitigation of climate change through conservation in Kenya. “Concepts to promoting Young Academics- Soft Skills” 13th Workshop on Sustainable Horticultural production in the Tropics. Meru University of Science and Technology (MUST), Meru, Kenya, 3rd to 6th December 2013, Pg 56-57.

25. Gweyi-Onyango J P, Neumann G and Roemheld V (2013). Adaptive responses of tomato to limiting phosphorus status. “Sowing innovations for sustainable food and nutrition in Africa” 11th African crop Science Society Conference. Imperial Botanical Beach Hotel, Entebbe-Uganda. 13th -17th October 2013, pg 5

26. Anyang R T, Thagana W and **Gweyi-Onyango J P** (2013). Effect of genotype, plant spacing and weeding regimes on weed density and yields of upland rice in Uganda. . “Sowing innovations for sustainable food and nutrition in Africa” 11th African crop Science Society Conference. Imperial Botanical Beach Hotel, Entebbe-Uganda. 13th - 17th October 2013, pg 224

27. First international symposium on Ornamentals in Africa. Morendat Training and Conference Center, Naivasha-Kenya. 9th-13th September 2013.

28. Chimoita EL and **Gweyi-Onyango J P** (2012). Assessing knowledge versus adoption rate through farmer field school participation on tea productivity in East of Rift Valley, Kenya. Sustainable Horticultural production in the Tropics “How should we teach in Horticulture courses?” From frontal teaching to problem-based learning. Bondo University College (BUC), Bondo Kenya. 4th-7th December 2012, pg 27.
29. Onyango RA, Thagana WM, karanja L and **Gweyi-Onyango J P** (2012). Characterization of sweet potato [*Ipomea batatas* (L)] landrace using morphological and DNA markers in East Kamagak location of Rachuonyo district. Sustainable Horticultural production in the Tropics “How should we teach in Horticulture courses?” From frontal teaching to problem-based learning. Bondo University College (BUC), Bondo Kenya. 4th-7th December 2012, pg 35.
30. **Gweyi-Onyango, J. P**; Musila M M; Nawiri M and Omolo P O (2012). African Nightshade distribution in Kenya agroecologies in response to phosphorus and water status: phenolics and related antioxidant profiling. Third Regional Universities Forum for Capacity Building in Agriculture Biennial Conference- Partnerships & Networking for Strengthening Agricultural Innovation and Higher Education in Africa; Imperial Resort Beach Hotel and Imperial Botanical Beach Hotel, Entebbe, Uganda: 24-28 September, 2012;
31. Ogembo J and **Gweyi-Onyango J P** (2012). Influence of monomeric aluminium on morphological characteristic and shelf life of selected amaranth species. Sustainable Horticultural production in the Tropics “How should we teach in Horticulture courses?” From frontal teaching to problem-based learning. Bondo University College (BUC), Bondo Kenya. 4th-7th December 2012, pg 36.
32. **Gweyi-Onyango J P** (2012). Role of Pre-Harvest Mineral Nutrition on Postharvest Handling and Quality of Selected Amaranth spp. International Workshop on Maintenance of the Quality within the value added chain with special focus on postharvest treatment, GaFooN pg 5; 16-22 September 2012, Yogyakarta, Indonesia.
33. Osei-Kwarteng M, **Gweyi-Onyango J P** and Mahunu G K (2012) Commodity Systems Assessment Methodology (CSAM) and Postharvest losses in Amaranthus: the case of Tamale, Northern Region of Ghana. International Workshop on Maintenance of the Quality within the value added chain with special focus on postharvest treatment, GaFooN pg 11; 16-22 September 2012; Yogyakarta, Indonesia.
34. Elizabeth Kabura Nyaga, Anthony Gikandi Muriithi and **Joseph Patrick Gweyi-Onyango**. A Mechanism to Discover Hidden Markets and to Improve Information Flow Towards Food Producers: A Case of Kiambu District, Kenya. "Resilience of agricultural systems against crises" Tropentag, September 19 - 21, 2012 in Göttingen. www.tropentag.de/abstract.php?code=cRuzJLs3
35. Chimoita E L and **Gweyi-Onyango J P**. (2011). The effects of good agricultural practices in increasing green leaf production per tea bush: Ngere tea factory small holding farms. 11th workshop on Sustainable Horticultural production in the Tropics. Pwani University College. Kenya. 7th – 10th December 2011.
36. **Joseph P Gweyi-Onyango** and Hartmut Stuetzel (2011): Nitrate does not alleviate aluminium toxicity in two commercial aluminium amaranth (*Amaranthus hybridus*) genotypes. 10th African Conference held in Maputo Mozambique; October 10th -13th. 2011: Pp 71.

37. Makau Festo, Saggafu and **Gweyi Onyango J P** (2010). A Rapid Hydroponics Characterization of One Monocotyledonous and Three Dicotyledonous Crops for Aluminium Tolerance. *In*. Sustainable Horticultural production in Tropics, Value Chains of Flowers for Local markets, export and processing pg 40- ICAD 30th November-3rd Dec 2010.
38. **Gweyi-Onyango J P**, V Römheld, G Neumann (2009). Effects of N Form Supply on Growth and Morphogenesis of Tomato (*Lycopersicon Esculentum* Mill.) var Moneymaker. International Conference on Plant Abiotic Stress Tolerance, Vienna, Austria; 8-11 February 2009; pp125.
39. **Gweyi-Onyango J P**, Akwee P, Onyango C, Agevi H and Pakia A (2009). Differential Genotypic Yield Responses of Cowpea (*Vigna anguiculata*) to suboptimal Phosphorus Supply in Acid Alfisols of Western Kenya. *In*. Sustainable Horticultural production in Tropics, Value Chains of Vegetables for Local markets, export and processing P22; Arusha, Tanzania -2nd -5th December 2009.
40. **Gweyi-Onyango J P**, Neumann G and Roemheld V (2008). Effects of Different Forms of Nitrogen on Relative Growth Rate and Growth Components of Tomato (*Lycopersicon esculentum* Mill.). Value chain of fruits for local market, export and processing. 8th International workshop on Sustainable Horticultural Production in the Tropics, Kakamega, Kenya 8th-11th 2008; pp 17.
41. Ekwee P.E and **Gweyi-Onyango J P** (2008). Environmental and Socio-Economic Aspects on Utilization of Wild Fruits in Arid and Semi-Arid of Kenya. Value chain of fruits for local market, export and processing. *8th International workshop on Sustainable Horticultural Production in the Tropics, Kakamega, Kenya 8th-11th 2008*; pp 13.
42. **Gweyi-Onyango J P**, G Neumann and V Roemheld (2006). Rock-Phosphate Alleviates Detrimental Effects of Aluminium in Tomato (*Lycopersicon esculentum* L) Production in Acid Soils. "Prosperity and Poverty in a Globalized World-Challenges for Agricultural Research. Tropentag. Universitaet Bonn, Bonn, Germany- 11th -13th October 2006. www.tropentag.de/2006/abstracts/links/neumann_mUd2hxyd.pdf
43. **Gweyi-Onyango J P**, V Römheld, G Neumann. Differential expression of adaptations for acquisition of sparingly soluble P sources in two genotypes of tomato. "Plant Nutrition Meets Plant Breeding" – First Joint conference of The German Society for Plant Nutrition – DGP (Annual Meeting) and The Research Centre Biotechnology & Plant Breeding – Universitaet Hohenheim; FSP (21st Colloquium), University of Hohenheim, Stuttgart, Germany. September 26-28, 2006.
44. Mulwa, R., E.-A. Nuppenau and J. P. **Gweyi-Onyango** (2006). Incorporating Environmental Bads in Total Factor Productivity Estimation. A Paper presented in 1st Halle Efficiency and Productivity Analysis Workshop (HEPAW), Halle, Germany, June, 2006.
45. **Gweyi-Onyango, J. P**; Römheld, V.; Neumann, G (2006). Rock phosphate alleviates detrimental effects of aluminium in tomato production on acid soils. Proceedings of 3rd International Symposium on Phosphorus Dynamics in the Soil-Plant Continuum, Uberlandia, Minas Gerais, Brazil, May14-19 2006; pp165-166, (eds). Vera M. C. Alves et al. Sete Lagoas: Embrapa Milho e Sorgo.

Recent publications

1. Grace J. Chirchir, Maina Mwangi, Desterio O. Nyamongo, **Joseph P. Gweyi-Onyango** (2016). Soybean farm-saved seed viability and vigor as Influenced by agroecological conditions of Meru South Sub-county, Kenya. *Journal of Applied Biosciences*. 101: 9634-1942. ISSN 1997–5902
2. Rosally A Onyango, Wilson M Thagana, Laura Karanja and **Joseph Onyango-Gweyi** (2016). Assessment of Sweet Potato propagules for Re-infection by various viruses in East Kamagak Location-Homa Bay County- Kenya. *American Journal of Experimental Agriculture*. 11(1):1-9. ISSN:2231-0606. Doi:10.9734/AJAEA/2016/21868
3. Onyango Rosally, Thagana Wilson, **Gweyi Joseph** and Karanja Laura (2015). Yield and Nutritive Attributes Are Not Considered by Farmers in Choice of Sweet Potato Varieties Grown in East Kamagak Location –Homabay County-Kenya. *The international Journal of Technoledge* 3(9):69-73 (ISSN 2321-919X)
4. Evans L. Chimoita, Gatahi D. Maina, Dennis O. Olila, Joseph P.Gweyi Onyango (2015). The Role of Farmer Field Schools Approach in Improving Tea Production among Smallholding in Kenya. *Universal Journal of Agricultural Research* 3(1): 4-10. DOI: 10.13189/ujar.2015.030102.
5. Chimoita E L, Embeywa HE and **Gweyi-Onyango J P** (2014). Secondary School Teachers' Understanding of Energy Flow in Ecosystems: Carbon Sink and Sequestration perspectives. *Journal of Human Ecology*. 48(3): 461-467
6. Filbert L. Ahmat; Jayne N. Mugwe; Stephen K. Kimani, and **Joseph P. Gweyi-Onyango** (2014). Maize response to *Tithonia diversifolia* and rock phosphate application under two maize cropping systems in Kenya. *Journal of Applied Biosciences* 79:6983 – 6991. ISSN 1997–5902
7. Chimoita Evans, Babu Mary, **Gweyi-onyango Joseph**, Machacha Kennedy; Omufwoko J (2014). Secondary School Students' Understanding of Energy Flow in Ecosystems. *Asian Academic Research Journal of Social Science and Humanities*. 1(28) 231-244. ISSN 2278-859X
8. Waswa F, **Gweyi-Onyango J P**, Mucharo M (2012). Contract sugarcane farming and farmers' incomes in the Lake Victoria basin, Kenya. *Journal of Applied Biosciences*. 52:3685-3695. ISSN 1997-5902
9. **Joseph P Gweyi-Onyango** and Mildred Osei-Kwarteng (2011). Safe Vegetable Production with Wastewater in Developing Countries: Demystifying Negative notions: *African Journal of Horticultural . Sci*. 5:70-83
10. **Gweyi-Onyango J P**, Tesfamariam T and Günter N (2011). Contrasting Responses to Phosphorus status by *Arachis pintoii* (Krapov and W.C Gregory): A Lesson for Selecting Vegetables for Cultivation in Kenyan Ecozones. *Asian Journal of Agricultural Research*. 5(1): 45-55. Doi:10.3923/ajar.2011.
11. **Joseph P Gweyi-Onyango**, Peter Akwee, Christine Onyango and Tesfamaria Tsehaye (2011). Genotypic responses of Cowpea (*Vigna anguiculata*) to Sub-Optical Phosphorus Supply in Alfisols of Western Kenya: A Comparative Analysis of Legumes. *Journal of Agricultural Sciences*. Vol 1(2): 1-8.
12. Makau Mulei, Sagaffu S Masito and **Joseph P Gweyi-Onyango** (2011). A Rapid Hydroponic Screening of Field and Horticultural and Crops for Aluminium Tolerance. *African Journal of Horticultural Sciences*. 4:48-59.

- 13. Gweyi-Onyango J P**, Günter N and V Römheld (2010). Differential benefits of rock phosphate (RP) by tomato (*Lycopersicon esculentum* Mill.) plant as affected by nitrogen forms and soil types. *African Journal of Food Agriculture Nutrition and Development*, 4(10): 2460-2477.
- 14.** Akwee P.E, Palapala V A and **Gweyi-Onyango J P** (2010). A Comparative study of plant species composition grassland in Saiwa Swamp National part and Kakamega Forest, Kenya. *Journal of Biodiversity*: 1(2):77-83.
- 15. Gweyi-Onyango J P**, Neumann G and Roemheld V (2009). Effects of Different Forms of Nitrogen on Relative Growth Rate and Growth Components of Tomato (*Lycopersicon esculentum* Mill.). *African Journal of Horticultural Science* (2):43-55.
- 16.** Römheld V., Jiménez-Becker S., Neumann G., **Gweyi-Onyango J. P.**, Puelschen L., Spreer W Bangerth F. (2008). Non-nutritional fertigation effects as a challenge for improved production and quality in horticulture. Special publication in *the Proceedings of the international Symposium on Fertigation -Beijing 20-24 Sept. 2005*. *Imas (ed) – International Potash Institute pp. 103-115* (www.ipipotash/udocs/8_Roemheld_et_al_NonNutritional_Fertilizer_P103-115.pdf)
- 17. Gweyi-Onyango J.P, G.** Neumann, V. Römheld (2006). Role of nitrogen forms in solubilization and Utilization of rock phosphate by Tomato (*Lycopersicon esculentum* L.) plants (2006). *African Crop Science Journal*: 7(3) 1029-1032.
- 18. Gweyi-Onyango, J. P;** Römheld, V.; Neumann, G (2006). Rock phosphate alleviates detrimental effects of aluminium in tomato production on acid soils. Proceedings of 3rd International Symposium on Phosphorus Dynamics in the Soil-Plant Continuum, Uberlandia, Minas Gerais, Brazil, May14-19 2006; pp165-166, (eds). Vera M. C. Alves et al. Sete Lagoas: Embrapa Milho e Sorgo.
- 19. Gweyi, Onyango J P** (2006) - Utilization of rock phosphate by tomato (*Lycopersicon esculentum* Mill.) as affected by nitrogen forms and soil types: Mechanisms, prospects and limitations. Verlag Grauer. Beuren (Publishers). Stuttgart. 2006. ISBN 3-86186-516-5
- 20.** N. Claasen, N. Castaneda-Ortiz, G.Neumann, J.P **Gweyi-Onyango** and I.M. Rao (2005). Root exudation of Organic acids and/or acid phosphatase cannot explain phosphorus mobilization by Arachis Pintoi. 460-461. In. Li C.J; Zang, FS; Dobermann,A; Lambers, H; Li XL, Maschner, P; McGrath, S; Oenema O; peng, S B; Rengel Z; Shen QR; Welch R, von Wiren N; Yan XL; Zhu YG (eds). Plant nutrition for food security, human health and environmental protection. Tsingua University Press.

Supervision of postgraduate students

Completed and graduated

- 1.** M/s. Phelistus Watitwa; Topic “An Investigation of Student Related Factors that Affect Performance in Biology Practicals in Teso District-Kenya – **MSc- graduated in 2010**
- 2** Mr. Evans Ligare Chimoita; Topic “Secondary School Students’ Understanding of energy flow in ecosystems: A case of Lugari district” -**MSc: Graduated in 2011**

3. Rosa Onyango; “Characterization of virus-free Sweet Potato (*Ipomea batata*) Landraces Using Morphological and SSR Markers in East Kamagak, Homa Bay County” – MSc- **graduated in 2014**
4. Mr Simon Mwangi Mwai “Influence of One and Two Node Cuttings on Vegetatively Propagated Infilling Tea Plants” **Graduated in December 2014.**
5. Mr. Anyang Robert Tabot “Effects of Varietal Differences, Plant Spacing and Weeding Regimes on Weed Density and Yields of Upland Rice in Uganda” MSc – **graduated in July 2015**
6. Ahmat Filbert Leone “Use of Rock phosphate and *Tithonia diversifolia* in Maize-bean intercrop for improved Maize Yield in Contrasting Agroecologies in Kenyan:– **PhD-graduated- in July 2015**
7. Mr Odhiambo Peter Okello “Water Stress Effect on African Nightshades Distribution and their Antioxidant Production in Kisii and Siaya counties, Kenya” **MSc-graduated in July 2015**
8. Chirchir Grace “Influence of Osmo and Hydropriming on Seed quality in Soybean Cultivars under Different Environmental Conditions and Mother Plant Nutrient Profiles”- PhD-ongoing. **PhD- Graduated in December 2015.**
9. Mr Joel Ogembo Oyaro “Effects of Phosphorus Deficiency on Secondary Metabolites and African Nightshade Distribution in Kisii and Siaya counties, Kenyan” **MSc-graduated in December**
10. Mr. Joas Tugizimana “Effect of Soil and Water Conservation Techniques on Soil Productivity and Bean Yield in Nyamasheke District –Rwanda” **MSc- graduated in December 2015**

Ongoing supervision

1. Mr Keneddy Alai “An analysis of public awareness campaigns and fire disaster risk reduction in Kenya: a case study of Nairobi”- **MSc-Thesis draft presented for examination**
2. Ms Lydia Kivuva Mutua “Evaluation of Mitigation and Response Strategies to Drought-Related Disasters for Sustainable Food Security in Makueni County, Kenya” **PhD-Masinde Muliro University. Draft thesis ready for submission.**
4. David Kipkurui Rono “Environmental and Socioeconomic Impact of Untreated Wastewater Use in Vegetable production Urban and Peri- Urban Agriculture in Nairobi and Nakuru Counties” **PhD-ongoing- Masinde Muliro University.**
3. Mr. Goffrey Nambafu “Enhancing traditional vegetable production through soil fertility management and heavy metals monitoring in peri-urban area of Kiambu County” **KU-in collaboration with Humboldt Universitaet Berlin- PhD-ongoing.**
5. M/s Julie Kayanda Chune “Impact Assessment of Food Aid on Household Food Production in Mwingi County” – **MSc-ongoing- Masinde Muliro University**
6. Mr. Patrick Chege ‘Effects of Biochar and Inorganic Fertilizer on French Beans (*Phaseolus Vulgaris* L) and Cowpeas (*Vigna anguiculata*) Performance in Kari Thika County’ **MSc-ongoing**

7. Mr. Lawrence Ikiba “Effects of Cytokinins and Gibberellic Acid on morphological development, quality and yield of French beans grown under different irrigation water schedules” **MSc-ongoing**
8. Mr. Munyasi Tom. Effect of Inorganic Fertilizer on Root Knot Nematode *Meloidogyne* spp. in Greenhouse Sweet Pepper (*Capsicum annuum* L.) Production in Kenya. **MSc-ongoing**
9. Mr. Wafula Nelson Wekha “Effects of phosphate rates on nitrogen uptake, growth, yields and quality of finger millets in Busia and Kakamega counties, Kenya” **MSc-Ongoing**
10. Mr. Symon Mugo Njinju “Influence of Variety and Nitrogen fertilization regimes and on growth, yield and quality of rice in Mwea irrigation scheme, Kenya” MSc- started.
- 11: Mr Moses Kimari “Morphological and GAD gene expression studies on African indigenous vegetables grown in Western Kenya” **MSc -ongoing**
12. Mr. Alfred Ochieng Odhiambo “Maternal inheritance in dry beans (*Phaseolus vulgaris*)” **MSc-Ongoing**
13. M/s Chelangat Awa “Influence of Arbuscular Mycorrhizae on Plant Phosphorous Nutrition, Rooting, and Growth of Tea Clones”. **MSc Agronomy, ongoing**
14. Ms Alice Ngetich. Influence of Intra-row Spacing and Nitrogen Rates on Growth, Yield Components, Yields and Plasticity of Grain Amaranth in Kajiado County, Kenya. **MSc-Ongoing**
15. Mr. Benson Njeru Influence of Neem Extracts and Ammonium-N Stabilization on Nitrogen Availability, Yield and Quality of Tomato (*Solanum lycopersicum*). - **MSc-Ongoing**
16. Mr. Hassan Kiprotich. Effects of Inorganic and Organomineral fertilizer on Soil properties, growth and yield of Tea (*Camellia sinensis* (L). o kuntze) clones. **MSc-Ongoing**
17. Mr. Justus Mogaka Mayaka. Effectiveness of Pre- emergence Herbicides in Control of Annual Grass and Broad leaved Weeds in Direct Sown Finger Millet (*Elusine coracana*) in Western Kenya. **MSc-Ongoing**
18. Ms. Ellijoy Mbaka. Effects of Soybean Mother Seed Supplied with Different Rates of N and N on Daughter Plant Growth, Yield and Seed Quality in Tharaka-Nithi County. **MSc-Ongoing**
19. Mr. Jackson Mirali Cirhuza. Intercropping Cassava-Legume intercrop and phosphorus sources effect on cassava production in Two Agro-ecological zones of South Kivu, DR Congo- **MSc-Ongoing**
20. Mr. Mahinda Timothy Muchiri. Effects of Leaf Harvest Initiation Time and Frequency on Grain Yield in Dual-purpose Cowpea Crop in tharaka-Nithi County. **MSc- Ongoing**
21. Fidelis Githua. Effects of Acidulated Rock Phosphate on Growth and Yield Performance of Selected Leafy Vegetables in Kiambu County, Kenya
22. Mr. Musito James Wafula. Effect of Mulching on Physiology, Growth, Quality and Yield of Tomato (*Solanum lycopersicum*) in Bungoma County. **MSc- Ongoing**

23. Mr. Peter Mwirigi “Morphological Characterization, Water Stress and Nutrient Management of Yellow Passion Fruits (*Passiflora edulis* f. *flavicarpa* deg) in Mbeere District, Embu County”. **PhD-Ongoing**
24. Ms.Tabitha Kariithi “Effect of Organic and Inorganic Fertilizers on Yield and Quality of Amaranthus Species in Kiambu County”- **MSc – Ongoing**
25. Ms Rosepiah Munene. Effects of Nitrogen Forms on growth, Yield and Quality of Amaranths Accessions in Nairobi, Kiambu and Kirinyaga Counties- **MSc- Ongoing**
26. Ms Winnie Kimutai. Assessing the Effect of Cowpea Genotype to Inoculation with Selected Native Rhizobia in Kilifi and Embu Counties, Kenya- **MSc- Ongoing**
27. Ms Catherine Mathenge. Investigating Rhizobial Inoculation in Soybean (*Glycine max*) as Influenced by Soil Nitrogen and Carbon Levels in Varying Soil Textures. **MSc-Ongoing**
28. Mr. Chimoita Evans-“Factors influencing Production of Sorghum in Embu, Kenya”- **PhD –UON- Ongoing.**
29. Mr Sammy K Kagito “Physiological and Morphological Basis of Yield Responses of Upland Rice Varieties (*Oryza sativa*) to Low Nitrogen in Mwea, Kirinyaga County”. **MSc- Ongoing**
30. Mr. Etabo Edung Mathew “Effects of Irrigation and Fertilizer on Yield of Nerica Rice in Turkana County” **MSc- Ongoing**
31. Mr. Achola Andrew. “Effect of Synthetic Cytokinin on Germination and Tillering of Selected Sugarcane Varieties in Kabras Area, Kakamega County” **MSc-ongoing. MSc-KU, Ongoing**
32. M/s Hellen L A Dawo. “Evaluation of Micropropagation and Single Bud Setts for Production of Sugarcane Seed Cane under Varying Nutrition in Kisumu County” **MSc-ongoing. MSc- KU, Ongoing**
33. Mr. Geoffrey Ogonya Wafula. “Effect of Integrating Selected Plant Essential Oils, Soil Improvers and Bio-Stimulants on Management of Soil-Borne Pathogens and Insect Pests of Tomato” **PhD, KU-Ongoing.**
34. M/s Judy Mwenda Wambua. “Waste Water Utilization and its Effect on Growth and Quality Aspects of Kale and African Indigenous Vegetables and their Distribution in Kitui County, Kenya” **PhD, KU-Ongoing.**
35. Mr Michael Meso Muganda. “Assessing the Phenology and Distribution of *Melia Volkensii* for Enhanced Seed Production at the Kenyan Coast” **MSc, KU-Ongoing**

External examination.

Moderation of exams as External Examiner, School of School of Agriculture and Natural Resources (2015-2018), Moi University.

Student examination:

- 1.** Mr. Juma Robinson Jalang'o; "Response of Tissue Cultured Bananas inoculated with Arbuscular Mycorrhizal Fungi" MSc, Jomo Kenyatta University of Agriculture and Technology, Department of Horticulture.(2011).
- 2.** M/S Sibusisiwe Caroline Kamanga "Effect of Organic and Inorganic Fertilizer Application on Soil Properties, Striga Density and Maize Yield" MSc, University of Nairobi, Department of Land Resource Management and Technology (2013).
- 3.** Mr Haggai Onyango Ndukhu "influence of organic amendment and legume integration on soil chemical properties and crop performance in central kenya" PhD, University of Nairobi, Department of Land Resource Management and Technology (2015).
- 4.** Ms Genga Quintar Acholar "organic based soil fertility management strategies for production of marketable quality kales in kiambu county, kenya" MSc, University of Nairobi, Department of Land Resource Management and Technology.(2013)
- 5.** M/s Florence Wakiuru Muchiri "role of health and safety measures in disaster risk reduction strategy in selected kenya horticultural research institutions- PhD Masinde Muliro University of Science and Technology (2015)
- 6.** Ms Stella Tino "gender and agricultural production in post conflict greater Gulu district, Uganda" PhD, Masinde Muliro University of Science and Technology (2015)
- 7.** MS Mary Stella Wabwoba "Household vulnerability to food insecurity in Bungoma County, Kenya" PhD, Masinde Muliro University of Science and Technology (2015)
- 8.** Ms. Noel Anyuka Templer "Enhancing Phosphorus Release From Minjingu Rock Phosphate using Legume-Maize Cropping Systems for Improved Maize Yields and Soil Properties in Kabete, Kiambu County"(2014) MSc University of Nairobi
- 9.** Mr. Maloba Etabale "Application of Ethephon and Potassium Nitrate to Induce Off-season Flowering and Fruit Production in Mango Fruits" (2016) MSc-University of Nairobi.
- 10.** Mr. Asiema Onesmus Ayuya "Adoption of On-farm Water Soil Erosion Control Structures in Vihiga County Kenya" (2016) MSc-Masinde Muliro University of Science and Technology.