

# CURRICULUM VITAE

## PROF. JAMES WANJOHI MUTHOMI

### 1. Personal Details

**1.1 Date of Birth:** 6<sup>th</sup> July 1965

**1.2 Marital status:** Married

**1.3 Current Position:** Associate Professor

**1.4 Address:** Department of Plant Science and Crop Protection, Faculty of Agriculture, College of Agriculture and Veterinary Sciences, University of Nairobi.

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### 2. Professional Qualifications

Degree	Time	Thesis title	University
PhD in Crop Protection	1997 - 2001	Comparative studies on virulence, genetic variability and mycotoxin production among isolates of <i>Fusarium</i> species infecting wheat	University of Nairobi/ University of Bonn
MSc in Plant Pathology	1990 - 1993	Isolation and screening for antibiotics from soil actinomycetes and their control of <i>Fusarium</i> wilt of carnation	University of Nairobi
BSc Agriculture	1987 - 1990	N/A	University of Nairobi

### 3. Employment Record

Employer	Time	Position	Responsibilities
Department of Plant Science and Crop Protection, University of Nairobi	From December 2013	Associate Professor	Teaching undergraduate and postgraduate degree programmes, development of academic programmes, leadership in crop protection research, thesis supervision, examination of MSc and PhD theses, leadership of Faculty and Departmental Committees, coordination of postgraduate training at Department
Department of Plant Science and Crop Protection, University of Nairobi	July 2008 – December 2013	Senior Lecturer	Teaching undergraduate and postgraduate degree programmes, crop protection research, thesis supervision, examination of MSc and PhD theses, leadership of Faculty and Departmental Committees, coordination of postgraduate training at Department
Department of Crop Protection, University of Nairobi	2002 - 2008	Lecturer	Teaching undergraduate and postgraduate degree programmes, crop protection research, thesis supervision, examination of MSc, participation in Faculty and Departmental Committees,
Department of Crop Protection, University	1995 - 2002	Assistant Research	Teaching and supervision of undergraduate students

of Nairobi		Fellow	
Department of Crop Science, University of Nairobi	1993 - 1995	Assistant Research Fellow	Attached to Kibwezi Irrigation Project of the Dry Land Field Station as a resident plant pathologist – in-charge of pest and disease management in vegetable production; assisting in management of irrigation project
Ministry of Agriculture, Livestock Development and Marketing	1993	Agricultural Officer II	Crop Protection Officer, Kitui District – subject matter specialist in-charge of crop protection activities, reporting to District Agricultural officer.

## 4. Academic Publications

Authored and co-authored 57 scientific publications (18 as first author) in refereed international journals. In addition, 57 conference proceeding papers have been presented in international scientific conferences.

### 4.1 Scientific Publications in Refereed Journals

1. Julius P Sserumaga, Dan Makumbi, Lee Simyung, Kiarie Njoroge, James Wanjohi Muthomi, George N. Chemining'wa, Godfrey Asea, Moses Waswa and Daniel K. Bomet. 2015. Incidence and severity of potentially toxigenic *Aspergillus flavus* in maize (*Zea mays* L.) from different major maize growing regions of Uganda. *African Journal of Agricultural Research* Vol. 10 (11): 1244-1250.
2. Muthomi<sup>1</sup>, J. W., Mugambi, I. K., Ojiem, J., Chemining'wa, G. N. and Nderitu, J. H. 2014. Effect of incorporating lablab biomass in soils on root rot disease complex and yield of beans intercropped with maize. *International Journal of AgriScience* Vol. 4(12): 515-524.
3. Julius P Sserumaga, Dan Makumbi, Hyeonso Ji, Kiarie Njoroge, James Wanjohi Muthomi, George N Chemining'wa, Lee Si-myung, Godfrey Asea Hakbum Kim. 2014. Molecular characterization of tropical maize inbred lines using microsatellite DNA markers. *Maydica* 59: 267-274.
4. Bigirimana, Joseph, Kiarie Njoroge and James W. Muthomi. 2014. Characterization of resutance to coffee rust and coffee berry disease. LAP Lambert Academic Publishing, OmniScriptum GmbH & Co. KG, Saarbrücken, Germany
5. Martin Njogu, Esther Muindi, **James Muthomi**, Richard Nyankanga and Peter Muchiri 2014. Studies on the effects of stinging nettle extract, phosphoric acid and conventional fungicide combinations on the management of potato late blight and tuber yield in the Highlands of Kenya. *Direct Research Journal of Agriculture and Food Science (DRJAFS)* Vol.2 (8), pp. 119-127.
6. Martin Njogu, Esther Muindi, **James Muthomi**, Richard Nyankanga and Peter Muchiri 2014. *Phytophthora infestans* responses to stinging nettle nextract, phosphoric acid and

- fungicides combination, in Kenya. Direct Research Journal of Agriculture and Food Science (DRJAFS) Vol.2 (9), pp. 128-134.
7. R.K. Birithia, S. Subramanian, **J.W. Muthomi** and R.D. Narla. 2014. Resistance to Iris yellow spot virus and onion thrips among onion varieties grown in Kenya. International Journal of Tropical Insect Science 34(2): 73–79,
  8. Bernard Ouma, **James Muthomi**, John Nderitu and Faith Toroitich. 2014. Management of thrips in French bean by integrating biological and synthetic pesticides in conventional spray regimes. Journal of Renewable Agriculture, 2(2): 27-37
  9. Kubiriba Jerome, **Muthomi James**, Ndungo Vigheri, Kwach Johnson, Erima Rockefeller, Rwomushana Ivan, Tushemereirwe Wilberforce and Opio Fina. 2014. Strategies for rehabilitation of banana fields infested with *Xanthomonas campestris pv. musacrearum*. Journal of Crop Protection, 3 (1): 21-29
  10. Muriungi, S J, Mutitu, EW and **Muthomi JW**. 2014. Efficacy of cultural methods in the control of *Rhizoctonia solani* strains causing tomato damping off in Kenya. Accepted: African Journal of Food, Agriculture, Nutrition and Development (AJFAND) 14(2): 8776-8790.
  11. L.W. Karanja, P.M. Wachira, **J.W. Muthomi**, N.A. Phiri, C.K. Mutegi, H.S. Nzioki, A .K. Gikaru, F. Kanampiu and J.M.Wagacha. 2013. Use of geographical information system to determine incidence of *Aspergillus* section *flavi* in different soils in Kaiti, Kenya. Accepted: East African Agricultural and Forestry Journal 78
  12. Bigirimana, J, Kiarie Njoroge, **J.W. Muthomi**, D.J. Walyaro, N.A. Phiri, E.K., Gichuru and D. Gahakwa. 2013. Resistance of Arabica coffee genotypes (*Coffea arabica* L.) to Coffee berry disease and Coffee leaf rust in Rwanda. Accepted: International Journal of Farming and Allied Sciences (IJFAS)
  13. F. K. Tom, **J. W. Muthomi**, F. M. Olubayo, and G. N. Chemining'wa. 2013. Resistance of locally grown maize genotypes to infestation by maize weevil (*Sitophilus zeamais* Motsch.). East African Agricultural and Forestry Journal 78 (4): 257-265.
  14. S.W. Wahome, P.M. Kimani, **J.W. Muthomi**, and R.D. Narla. 2013. Quality and yield of snap bean lines locally developed in Kenya. International Journal of Agronomy and Agricultural Research (IJAAR), 3(7): 1-10.
  15. **J. W. Muthomi**, R. W. Weru, G. N. Chemining'wa and E. W. Mutitu. 2013. Tolerance of maize varieties to infection by *Aspergillus flavus* and aflatoxin accumulation. East African Agricultural and Forestry Journal 78 (1): 113-118

16. Mureithi, B. K., **Muthomi, J. W.**, Chemining'wa, G. N. and Mutitu, E. W. 2013. Identification of predisposing factors to aflatoxin contamination of maize value chain in eastern Kenya. *East African Agricultural and Forestry Journal* 78(4): 217-226.
17. Bigirimana, J, Kiarie Njoroge, **J.W. Muthomi**, D. Gahakwa, N.A. Phiri, E.K., Gichuru and D.J. Walyaro. 2013. Genetic Diversity among Disease Resistant Coffee Varieties and Cultivars in Rwanda Based On RAPD and SSR Markers. *Journal of Renewable Agriculture* 1(6): 106-112.
18. Birithia, R., S. Subramanian, H. R. Pappu, **J. Muthomi** and R. D. Narla. 2013. Analysis of *Iris yellow spot virus* (IYSV, genus *Tospovirus*) replication in vector and non-vector thrips species. *Plant Pathology* 62 (6): 1407-1414. DOI: 10.1111/ppa.12057
19. Kitonyo, OM, Chemining'wa GN, **Muthomi JW**. 2013. Productivity of farmer-preferred maize varieties intercropped with beans in semi-arid Kenya . *International Journal of Agronomy and Agricultural Research (IJAAR)*. 3(1):6-16.
20. Birithia, R., Subramanian, S., Villinger, J., **Muthomi, J.**, Narla, R.D. and Pappu, H.R. 2012. First report of tomato yellow ring virus (Tospovirus, Bunyaviridae) Infecting tomatoes in Kenya. *Plant Disease* 96, 1384.
21. Chemining'wa George N., Ngeno J., **Muthomi J.W** and Shibairo S.I. 2012. Effectiveness of indigenous pea rhizobia (*Rhizobium leguminosarum* bv. *viciae*) in cultivated soils of central Kenya. *Journal of Applied Biosciences* 57: 4177-4185
22. R. Nyankanga, 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.
23. Ngeno Jonah, Chemining'wa George N., **Muthomi James W.** and Shibairo Solomon I. 2012. Effect of Rhizobium inoculation and nitrogen fertilizer application on growth, nodulation and yield of two garden pea genotypes. *Journal of Animal & plant Sciences* 15: 2147-2156.
24. Scholastica Leah Musyimi, **James Wanjohi Muthomi**, Rama Devi Narla, John Maina Wagacha. 2012. Efficacy of Biological Control and Cultivar Resistance on Fusarium Head Blight and T-2 Toxin Contamination in Wheat. *American Journal of Plant Sciences*, 3: 599-607
25. Gachu S.M., **Muthomi J.W.**, Narla R.D., Nderitu J.H., Olubayo F.M.,Wagacha J.M. 2012. Management of thrips (*Thrips tabaci*) in bulb onion by use of vegetable intercrops. *International Journal of AgriScience* 2(5): 393-402.

26. **James W. Muthomi**, Scholastica L. Musyimi, John M. Wagacha, Rama D. Narla. 2012. Occurrence of *Fusarium* species and associated T2-toxin in Kenyan wheat. *Agricultural Sciences* 3(1): 24-34.
27. **Muthomi J. W.**, Mureithi B. K., Chemining'wa G. N., Gathumbi J. K., Mutit E. W. 2012. *Aspergillus* species and Aflatoxin B<sub>1</sub> in soil, maize grain and flour samples from semi-arid and humid regions of Kenya. *International Journal of AgriScience* Vol. 2(1): 22-34.
28. **Muthomi JW**, Kinyungu TN, Nderitu JH and Olubayo FM. 2011. Incidence of aphid-transmitted viruses in farmer-produced seed potato tubers in Kenya. *African Journal of Horticultural Science* 5:18-25.
29. Chemining'wa GN, Theuri SWM and **Muthomi JW**. 2011. Abundance of indigenous rhizobia nodulating cowpea and common bean in central Kenyan soils. *African Journal of Horticultural Science* 5: 92-97.
30. **Muthomi, J. W.**, K. K. Muimui and P. M. Kimani. 2011. Inheritance of resistance to angular leaf spot in yellow beans. *African Crop Science Journal* 19( 4): 267 – 275.
31. Mumui, K. K., P. M. Kimani and **J. W. Muthomi**. 2011. Resistance and inheritance of common bacterial blight in yellow bean. *African Crop Science Journal* 19 ( 4): 277 – 287.
32. Wahome, S. W., P. M. Kimani, **J. W. Muthomi**, R. D. Narla and R. Buruchara. 2011. Multiple disease resistance in snap bean genotypes in Kenya. *African Crop Science Journal* 19 ( 4): 289 – 302
33. Birithia, R., Subramanian, S., Pappu, H. R., Sseruwagi, P., **Muthomi, J. W.** and Narla, R. D. 2011. First Report of Iris yellow spot virus Infecting Onion in Kenya and Uganda. *Plant Disease* 95 (9): 1195
34. Narla, R. D., **J. W. Muthomi**, S. M. Gachu, J. H. Nderitu and F. M. Olubayo. 2011. Effect of Intercropping Bulb Onion and Vegetables on Purple Blotch and Downy Mildew. *Journal of Biological Sciences* 11(1): 52-57.
35. **J. W. Muthomi**, T. N. Kinyungu, J. H. Nderitu and F. M. Olubayo. 2010. Spatial arrangement of maize as border crop to manage aphids and aphid-transmitted viruses in potato. *East Africa Agricultural and Forestry Journal* 76: 21-29.
36. Wagacha, J. M., Steiner, U, Dehne, H-W., Zuehlke, S., Spiteller, M., **Muthomi, J. W.**, and Oerke, E-C. 2010. Diversity in Mycotoxins and Fungal Species Infecting Wheat in Nakuru District, Kenya. *Journal of Phytopathology* 158:527–535
37. **Muthomi, J. W.**, Njenga, L. N., Gathumbi, J. K. and Chemining'wa, G. N. 2009. The occurrence of aflatoxins in maize and distribution of mycotoxin-producing fungi in eastern Kenya. *Plant Pathology Journal* 8 (3): 113-119.

38. **Muthomi, J. W.**, Nyaga, J. N., Olubayo, F. M., Nderitu, J. H., Kabira, J. N., Kiretai, S. M., Aura, J. A. and Wakahiu, M. 2009. Incidence of aphid-transmitted viruses in farmer-based seed potato production in Kenya. *Asian Journal of Plant Sciences* 8(2): 166-171.
39. Muindi, E. M., **Muthomi, J. W.**, Nderitu, J. H., Olubayo, F. M., Kabira, J. N., Chemining'wa, G. N., Kiretai, S. M. and Aura, J. A. 2009. Use of cereal border crops in management of aphid-transmitted viral diseases during seed potato production. *African Journal of Horticultural Science*, 2: 69-78.
40. Otieno, P. E., **Muthomi, J. W.**, Chemining'wa, G. N. and Nderitu, J. H. 2009. Effect of rhizobia inoculation, farm yard manure and nitrogen fertilizer on nodulation and yield of food grain legumes. *Journal of Biological Sciences* 9 (4): 326-332.
41. **Muthomi, J. W.**, Ndung'u, J. K., Gathumbi, J. K., Mutitu, E. W. and Wagacha, J. M. 2008. The occurrence of *Fusarium* species and mycotoxins in Kenyan wheat. *Crop Protection* 27(8): 1215-1219.
42. **Muthomi, J. W.**, G. M. Riungu, J. K. Ndung'u, R. D. Narla, J. K. Gathumbi and J. M. Wagacha. 2008. Head blight of wheat in Kenya and contamination of grain with mycotoxin producing *Fusarium* species. *Journal of Plant Sciences* 3 (1): 52-60.
43. **Muthomi J. W.**, P. E. Otieno, G. N. Chemining'wa, J. H. Nderitu, and J. M. Wagacha. 2008. Effect of chemical spray on insect pests and yield quality of food grain legumes. *Journal of Entomology*, 5(3): 156-163.
44. Wagacha J. M. and **J. W. Muthomi**. 2008. Mycotoxin problem in Africa: Current status, implications to food safety and health and possible management strategies. *International Journal of Food Microbiology* 124: 1-12.
45. Riungu G. M., **J. W. Muthomi**, R. D. Narla, J. M. Wagacha, and J. K. Gathumbi. 2008. Management of *Fusarium* head blight of wheat and deoxynivalenol accumulation using antagonistic microorganisms. *Plant Pathology Journal* 7 (1): 13-19.
46. Mutitu, E. W, Wagacha, J. M, **Muthomi, J. W**, and Mwaura, F. B. 2008. Control of bean rust on snap beans (*Phaseolus vulgaris* l.) using antibiotic metabolites produced by *Bacillus* and *Streptomyces* species. *Botswana Journal of Agriculture and Applied Sciences* 4 (1): 62-69.
47. Chemining'wa, G. N., **J. W. Muthomi** and S. W. M. Theuri. 2007. Effect of Rhizobia inoculation and starter-N on nodulation, shoot biomass and yield of grain legumes. *Asian Journal of Plant Sciences*, 6(7):1113-1118.
48. Wagacha, J. M., **Muthomi, J. W.**, Mutitu, E. W. and Mwaura, F. B. 2007. Control of Bean Rust using Antibiotics Produced by *Bacillus* and *Streptomyces* species - Translocation and

- Persistence in Snap Beans. *Journal of Applied Sciences and Environmental Management* 11 (2) 165 – 168.
49. **Muthomi, J. W.**, P. E. Otieno, G. N. Chemining'wa, J. H. Nderitu and J. M. Wagacha. 2007. Effect of legume root rot pathogens and fungicide seed treatment on nodulation and biomass accumulation. *Journal of Biological Sciences* 7: 1163-1170.
50. **Muthomi, J. W.**, Ndung'u, J. K., Chemining'wa, G. N. and Wagacha, J. M. 2007. Reaction of some Kenyan wheat cultivars to head blight after inoculation with *Fusarium graminearum*. *Asian Journal of Plant Sciences* 6 (4): 585-591.
51. Chemining'wa, G. N., **J. W. Muthomi**, J. G. Mureithi and C. K. Gachene. 2007. Response of green manure legumes to Rhizobia inoculation and starter-N fertilizer application. *Botswana Journal of Agriculture and Applied Sciences* 3 (2): 164-169.
52. Wagacha, J. M, and **Muthomi, J. W.** 2007. *Fusarium culmorum*: Infection process, mechanisms of mycotoxin production and their role in pathogenesis in wheat. *Crop Protection* 26: 877-885.
53. Oerke, E. C, Meier, A., Lienemann, G., and **Muthomi, J.** 2002. Incidence and control of *Fusarium* species causing head blight in the Rhineland, Germany. Pages 32-44 in: Wissenschaftlichen Fachtagung: *Fusarium*-befall and Mykotoxinbelastung von Getreide Schadverdichtungen in Ackerböden, 2001. Landwirtschaftliche Fakultät der Rheinischen Friedrich-Wilhelms-Universität Bonn, Germany.
54. **Muthomi, J. W.**, E.-C. Oerke, E. W. Mutitu, A. Schade-Schütze and H.-W. Dehne. 2002. Variation among *Fusarium* species and isolates infecting wheat ears based on aggressiveness, mycotoxin production and RAPD-PCR analysis. *Journal of Plant Disease and Protection*, 109 (5): 462 - 477.
55. **Muthomi, J. W.**, E.-C. Oerke, H.-W. Dehne and E. W. Mutitu. 2002. Susceptibility of Kenyan wheat varieties to head blight, fungal invasion and deoxynivalenol accumulation inoculated with *Fusarium graminearum*. *Journal of Phytopathology* 150: 30 – 36.
56. **Muthomi, J. W.**, Anja Schütze, H.-W. Dehne, E. W. Mutitu and E.-C. Oerke. 2000. Characterisation of *Fusarium culmorum* isolates by mycotoxin production and aggressiveness to winter wheat. *Journal of Plant Disease and Protection*, 107 (2): 113 - 123.
57. Mutitu, E. W. and **J. W. Muthomi**. 1994. Control of carnation *Fusarium* wilt using antibiotic culture filtrates from *Streptomyces* spp. *African Crop Science Journal*, 2 (1): 111-116.

#### 4.2. Papers presented in conferences, seminars and workshops

1. **Muthomi, J. W.** 2014. Aflatoxin Research in Kenya. Australia Awards – Africa Fellowships Short Course in Post-harvest Management of Maize, Rice and Legumes. Royal Palm Room, Southern Sun Mayfair, Parklands Rd, Parklands, Nairobi, 10<sup>th</sup> to 14<sup>th</sup> November 2014.
2. G. O. Wafula, **J. W. Muthomi**, J. H. Nderitu and G. N. Chemining'wa. 2014. Efficacy of potassium salts of fatty acids in the management of thrips and whiteflies on snap beans. 14<sup>th</sup> Workshop on Sustainable Horticultural Production in the Tropics. 1<sup>st</sup> to 5<sup>th</sup> December 2014, Kenyatta University, Nairobi.
3. G. O. Wafula, **J. W. Muthomi**, J. H. Nderitu and G. N. Chemining'wa. 2014. Management of snap bean pests by integrating seed dressing, foliar sprays and intercropping with maize. 14<sup>th</sup> Workshop on Sustainable Horticultural Production in the Tropics. 1<sup>st</sup> to 5<sup>th</sup> December 2014, Kenyatta University, Nairobi.
4. Ouma, B. O., **Muthomi, J. W.**, Nderitu, J. H. and Toroitich, F. 2014. Pest management practices and compliance to market standards among French bean farmers. 14<sup>th</sup> Workshop on Sustainable Horticultural Production in the Tropics. 1<sup>st</sup> to 5<sup>th</sup> December 2014, Kenyatta University, Nairobi.
5. Kivisi, A. K. and **Muthomi, J. W.** 2014. Levels of seed and soil borne inoculum in Nandi south and bean root rot management by seed dressing. McKnight Foundation - Collaborative Crop Research Program (CCRP) Sixth Meeting of East & Horn Africa Community of Practice (E/HAf CoP 4). 5 – 9<sup>th</sup> May, 2014, KCB Leadership Centre, Karen - Nairobi, Kenya.
6. **Muthomi, J. W.**, Wanja Njoroge, Kimenju, J. W. 2013. Efficacy of botanical and biological fungicides in management of fusarium wilt and root knot nematode in tomato. 13th Workshop On Sustainable Horticultural Production in the Tropics. Meru University of Science & Technology, 3rd-6th December, 2013.
7. J. N. Onduso, **J. W. Muthomi** and E. W. Mutitu. 2013. Occurrence of bacterial wilt of tomato in Kenya and its management by use of resistant rootstock. 13th Workshop On Sustainable Horticultural Production in the Tropics. Meru University Of Science & Technology, 3rd-6th December, 2013.
8. Bernard Ouma, John H. Nderitu and **James Muthomi**. 2013. Pest management practices and compliance to market standards among French bean farmers in Mwea and Embu. 13th Workshop on Sustainable Horticultural Production in the Tropics. Meru University Of Science & Technology, 3rd-6th December, 2013.
9. G. O. Wafula, **J. W. Muthomi**, J. H. Nderitu and G. N. Chemining'wa. 2013. Management snap bean pests by integrating seed dressing, foliar sprays and intercropping with maize. 13th Workshop On Sustainable Horticultural Production in the Tropics. Meru University Of Science & Technology, 3rd-6th December, 2013.
10. Mugambi, I. K., **Muthomi, J. W.**, Ojiem, J., Chemining'wa, G. N. and Nderitu, J. H. 2013. Effect of Incorporating Lablab Residues On Bean Root Rot and Chafer Grub Incidence. McKnight Foundation - Collaborative Crop Research Program (CCRP) Fifth Meeting of East & Horn Africa Community of Practice (E/HAf CoP 4). 7<sup>th</sup> to 11<sup>th</sup> May 2013, ILRI Campus, Addis Ababa, Ethiopia.
11. Karanja L. W., Wachira P. M., **Muthomi J. W.**, Phiri N. A., Mutegi C. K., Nzioki H.S., Gikaru A. K., Kanampiu F. and Wagacha J. M. 2012. Use of

- geographical information system to determine incidence of *Aspergillus section flavi* in different soils in Kaiti, Kenya. 13<sup>th</sup> KARI Biennial Scientific Conference, KARI Headquarters, 22nd to 26th October 2012.
12. Tom F. K., **Muthomi J. W.**, Olubayo F. M. and Chemining'wa G. N. 2012. Susceptibility of locally grown maize varieties to infestation by maize weevil (*Sitophilus zeamais* Motsch.). 13<sup>th</sup> KARI Biennial Scientific Conference, KARI Headquarters, 22nd to 26th October 2012.
  13. Mureithi B. K., **Muthomi J. W.**, Chemining'wa G. N. and Mutitu E. W. 2012. Identification of predisposing factors to aflatoxin contamination of maize value chain in eastern Kenya. 13<sup>th</sup> KARI Biennial Scientific Conference, KARI Headquarters, 22nd to 26th October 2012.
  14. Weru R. W., **Muthomi J. W.**, Chemining'wa G. N. and Mutitu E. W. 2012. Resistance of maize varieties to infection by *Aspergillus flavus* and aflatoxin accumulation . 13<sup>th</sup> KARI Biennial Scientific Conference, KARI Headquarters, 22nd to 26th October 2012.
  15. Kwach J. K., Onyango M. A., **Muthomi J. W.**, and Nderitu J. H. 2012. Baseline survey for status of Banana *Xanthomonas* Wilt in Kenya. 13<sup>th</sup> KARI Biennial Scientific Conference, KARI Headquarters, 22nd to 26th October 2012.
  16. Subramanian, S., H.R. Pappu, R. Birithia, O. Shem, **J. Muthomi**, P. Sseruwagi, R.D. Narla. 2012. Diversity and distribution of Iris yellow spot virus infecting onion in Eastern Africa. 4th Conference of the International Working Group on Legume and Vegetable Viruses (IWGLVV), May 17-20, 2011 - Antequera, Málaga, Spain
  17. Birithia, R. L., Subramanian, S., **Muthomi, J.**, and Narla, R. D. 2010. Distribution of the tospovirus Iris Yellow Spot Virus infecting onions in Kenya. Tenth Horticultural Association of Kenya (HAK) Workshop on Sustainable Horticultural Production in the Tropics: Analysis of Production Chains of Ornamentals for the Local Market and For Export. 8th - 11th December 2010, Jomo Kenyatta University of Agriculture and Technology (JKUAT).
  18. **Muthomi, J. W.**, Mureithi, B. K., Chemining'wa, G. N., Gathumbi, J. K and Mutitu, E. W. 2010. *Aspergillus* and aflatoxin b<sub>1</sub> contamination of maize and maize products from eastern and north-rift regions of Kenya. 12<sup>th</sup> KARI Biennial Scientific Conference, 8-12<sup>th</sup> November 2010, KARI Headquarters, Nairobi, Kenya. <http://www.kari.org/biennialconference/conference12/docs/>

19. **J. W. Muthomi**, T. N. Kinyungu, J. H. Nderitu, F. M. Olubayo and J. N. Kabira. 2010. Effect of maize border crop placement distance on aphid population and aphid-transmitted virus diseases in potato. 12<sup>th</sup> KARI Biennial Scientific Conference, 8-12<sup>th</sup> November 2010, KARI Headquarters, Nairobi, Kenya. <http://www.kari.org/biennialconference/conference12/docs/>
20. Chege F., Day R., Rotteveel T., Sakala A., **Muthomi J.**, Otieno W., Kimani E., Ntoyai R., M'ella J.G., Jones J., Olubayo F. and Mohamed, R. 2010. A new partnership in phytosanitary capacity development for protecting agriculture and supporting trade in Africa: The Centre of Phytosanitary Excellence (COPE). 12<sup>th</sup> KARI Biennial Scientific Conference, 8-12<sup>th</sup> November 2010, KARI Headquarters, Nairobi, Kenya. <http://www.kari.org/biennialconference/conference12/docs/>
21. **Muthomi, J. W.**, Njenga, L. N., Gathumbi, J. K. and Chemining'wa, G. N. 2008. Mycotoxin-producing fungi and aflatoxin incidence in maize from Machakos, Kenya. 11th KARI Biennial Scientific Conference, 10–14th November 2008, Nairobi, Kenya.
22. Muindi, E. M., **Muthomi, J. W.**, Nderitu, J. H., Olubayo, F. M., Kabira, J. N., Cheminin'wa, G. N., Kiretai, S. M. and Aura, J. A. 2008. Management of potato viruses in seed potato production using border crops. 11th KARI Biennial Scientific Conference, 10–14th November 2008, Nairobi, Kenya.
23. **Muthomi, J. W.**, Nyaga, J. N., Olubayo, F. M., Nderitu, J. H., Kabira, J. N., Kiretai, S. M., Aura, J. A. and Wakahiu, M. 2008. Incidence of aphids and aphid-transmitted viruses in farmer-based seed potato production. 13<sup>th</sup> KARI Biennial Scientific Conference, KARI Headquarters, 22nd to 26th October 2012..
24. Wahome, S.W., P. M. Kimani, **J. W. Muthomi** and R. D. Narla. 2011. Quality and yield of snap bean lines developed for multiple disease resistance. aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.
25. Muriithi, B. K., **Muthomi, J. W.**, Chemining'wa, G. N., and Mutitu, E. W. 2011. Predisposing factors to aflatoxin contamination of maize in Estern Kenya. aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.
26. Chemining'wa, G. N. Wahome, P. K., and **Muthomi, J. W.** 2011. Soil fertility status and nodulation of selected legumes in farmer' fields in south-eastern Kenya. aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.

27. Weru, R. W., **J. W. Muthomi**, G. N. Chemining'wa and E. W. Mutitu. 2011. Tolerance of maize varieties to infection by *Aspergillus* and aflatoxin accumulation. aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.
28. Wagacha, J. M., U. Steiner, H.-W. Dehne, **J. W. Muthomi** and E.-C. Oerke. 2011. Variation in susceptibility of wheat parts to major *Fusarium* head blight pathogens. aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.
29. **Muthomi, J. W.**, S. M. Gachu, R. D. Narla, J. H. Nderitu and F. M. Olubayo. Management of thrips in bulb onions using vegetable intercrops. aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.
30. **Muthomi, J. W.** Muindi, E. M., Nderitu, J. H., Olubayo, F. M., Kabira, J. N. and Chemining'wa, G. N. 2011. Integrated management of aphid-transmitted viruses in potato (*Solanum tuberosum* L.). aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.
31. Kitonyo, O. M., G. N. Chemining'wa, and **J. W. Muthomi**. 2011. Performance of farmer-preferred maize varieties intercropped with beans in semi-arid Kenya. aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.
32. Tom, F. K., F. M. Olubayo, **J. W. Muthomi** and G. N. Chemining'wa. 2011. Susceptibility of locally grown maize varieties to maize weevil (*Sitophilus zeamais* Motsch.). aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.
33. Kimani, E., J. Kigamwa, F. Chege and **J. Muthomi**. 2011. Bridging phytosanitary capacity through the Centre of Phytosanitary Excellence (COPE). aGRO 2011 Inaugural Biennial Conference, Faculty of Agriculture, University of Nairobi, 26<sup>th</sup> – 28<sup>th</sup> September 2011, Nairobi, Kenya.
34. **Muthomi, J. W.**, G. M. Riungu, J. K. Ndung'u, R. D. Narla and J. K. Gathumbi. 2008. *Fusarium* head blight in Kenya and possible management strategies. 10<sup>th</sup> International *Fusarium* Workshop and the *Fusarium* Genomics Workshop, 30th August-2nd September 2008, Alghero (Sardinia), Italy.
35. **Muthomi, J. W.**, Nderitu, J. H., Olubayo, F. M., Muindi, E. M, Kabira, J. N., Kiretai, S. M. and Aura, J. A. 2008. Management of aphid-transmitted virus diseases in seed potato

- production by use of border crops and insecticides. 8<sup>th</sup> Horticultural Association of Kenya (HAK) workshop, Masinde Muliro University of Science and Technology, 8<sup>th</sup>-11<sup>th</sup> December 2008, Kakamega, Kenya.
36. **Muthomi, J. W.**, Nyaga, J. N., Olubayo, F. M., Nderitu, J. H., Kabira, J. N., Kiretai, S. M., Aura, J. A. and Wakahiu, M. 2008. Incidence of aphids and aphid-transmitted viruses in farmer-based seed potato production. 11th KARI Biennial Scientific Conference, 10–14<sup>th</sup> November 2008, Nairobi, Kenya.
37. Muindi, E. M., **Muthomi, J. W.**, Nderitu, J. H., Olubayo, F. M., Kabira, J. N., Cheminin'wa, G. N., Kiretai, S. M. and Aura, J. A. 2008. Management of potato viruses in seed potato production using border crops. 11th KARI Biennial Scientific Conference, 10–14<sup>th</sup> November 2008, Nairobi, Kenya.
38. **Muthomi, J. W.**, Njenga, L. N., Gathumbi, J. K. and Chemining'wa, G. N. 2008. Mycotoxin-producing fungi and aflatoxin incidence in maize from Machakos, Kenya. 11th KARI Biennial Scientific Conference, 10–14<sup>th</sup> November 2008, Nairobi, Kenya.
39. **Muthomi, J. W.**, Otieno, P. E., Chemining'wa, G. N. and Nderitu, J. H. 2007. Effect of chemical pesticide spray on insect pests, foliar fungal diseases and yield of food grain legumes. African Crop Science Conference Proceedings 8: 981-986.
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43. **Muthomi, J. W.**, G. N. Riungu and J. M. Wagacha. 2007. Management of *Fusarium* head blight of wheat using antagonistic microorganisms. Tropentag 2007, October 9-11, Witzenhausen, Germany; Book of abstracts pp516. (Summary paper accessible at <http://www.tropentag.de/2007/abstracts/full/448.pdf>).
44. **Muthomi, J. W.**, J. K. Ndung'u, J. and K. Gathumbi. 2006. Occurrence of wheat head blight-causing *Fusarium* species and associated trichothecene mycotoxins in Kenyan wheat. 10<sup>th</sup> KARI Biennial Scientific Conference, 13-17 November 2006, Nairobi, Kenya.

45. **Muthomi, J. W.**, P. E. Otieno and G. N. Chemining'wa. 2006. Effect of root rot pathogens and fungicide seed treatment on nodulation in food grain legumes. 10<sup>th</sup> KARI Biennial Scientific Conference, 113-17 November 2006, Nairobi, Kenya.
46. Ndung'u, J. K., **J. W. Muthomi** and G. N. Chemining'wa. 2006. Reaction of some Kenyan wheat cultivars to head blight after inoculation with *Fusarium graminearum*. 10<sup>th</sup> KARI Biennial Scientific Conference, 113-17 November 2006, Nairobi, Kenya.
47. Theuri, S. W. M., G. N. Chemining'wa and **J. W. Muthomi**. 2006. The abundance of indigenous rhizobia nodulating cowpea and common bean in central Kenyan soils. 10<sup>th</sup> KARI Biennial Scientific Conference, 113-17 November 2006, Nairobi, Kenya.
48. Chemining'wa, G. N., S. W. M Theuri and **J. W. Muthomi**. 2006. Effect of rhizobia inoculation and starter-N on the performance of grain legumes. 10<sup>th</sup> KARI Biennial Scientific Conference, 113-17 November 2006, Nairobi, Kenya.
49. **Muthomi, J.** and H. Hindorf. 2006. Occurrence of *Fusarium* head blight-causing pathogens and mycotoxins in Kenyan wheat. 9<sup>th</sup> European *Fusarium* Seminar, 19 –22 September 2006, Wageningen, The Netherlands. Book of abstracts pp145.
50. **Muthomi, J. W.**, H. Hindorf, J. K. Ndung'u and J. K. Gathumbi. 2006. Occurrence of *Fusarium* head blight-causing pathogens and mycotoxins in Kenyan wheat. Tropentag 2006 October 11-13, University of Bonn, Germany (Summary paper accessible at <http://www.tropentag.de/2006/abstracts/full/608.pdf>).
51. **Muthomi, J. W.**, J. K. Ndung'u, J. K. Gathumbi and G. N. Chemining'wa. 2005. *Fusarium* and mycotoxin contamination in freshly harvested wheat grain in Kenya. African Crop Science Conference proceedings,7: 355-358.
52. Chemining'wa, G. N., **J. W. Muthomi**, J. G. Mureithi and C. K. Gachene. 2005. Effect of rhizobia inoculation and starter-N fertilizer on nodulation and shoot biomass of leguminous cover crops. 7<sup>th</sup> Biennial Conference of the African Crop Science Society, 5<sup>th</sup> –9<sup>th</sup> December 2005, Entebbe, Uganda.
53. **Muthomi, J. W.** and E. W. Mutitu. 2003. Occurrence of mycotoxin producing *Fusarium* species and other fungi on wheat kernels harvested in selected districts of Kenya. African Crop Science Conference proceedings,6: 335-339.
54. Wagacha, J. M., E. W. Mutitu, **J. W. Muthomi** and F. B. Mwaura. 2003. Translocation and persistence of antibiotics produced by *Bacillus* and *Streptomyces* spp. African Crop Science Conference proceedings,6: 81-84.
55. Muimui, K. K., P. M. Kimani, **J. W. Muthomi** and Chirwa, R. 2003. Breeding for resistance to angular leaf spot, common bacterial blight and rust in yellow, brown and tan bean types in

southern, eastern and central Africa. 6<sup>th</sup> Biennial Conference of the African Crop Science Society, 12<sup>th</sup> – 17<sup>th</sup> October 2003, Nairobi, Kenya.

56. **Muthomi, J. W.**, Dehne, H.-W., Oerke, E.-C., Mutitu, E. W., and Hindorf, H. 2000. Characterisation of *Fusarium graminearum* and *F. Culmorum* isolates by mycotoxin production and aggressiveness to wheat. *Mycotoxin Research*: 16A (1): 50 - 53. Proceedings of 22<sup>nd</sup> Mycotoxin Workshop, 5-7 June 2000, Bonn, Germany.
57. Schade-Schütze, A., **Muthomi, J.**, Oerke, E.-C., and Dehne, H.-W. 2000. Yield reduction and mycotoxin contamination of wheat due to *Fusarium culmorum*. *Mycotoxin Research*, 16A (1): 30 - 37. Proceedings of 22<sup>nd</sup> Mycotoxin Workshop, 5-7 June 2000, Bonn, Germany.

#### 4.3 Curriculum content documents

1. Short in-service Phytosanitary Courses Training Content for Phytosanitary Systems. Centre of Phytosanitary Excellence, Kenya Plant Health Inspectorate Service
2. John H. Nderitu and James Muthomi. 2011. Curricula for Agricultural Value Chain Development for Universities and Colleges. Developed by the Gesellschaft Fuer Internationale Zusammenarbeit (Giz), Promotion of Private Sector Development in Agriculture (PSDA) and Kenyan Universities

## 5. Supervision of postgraduate students

Supervised a total of 39 MSc. and 5 Ph.D students to completion.

### 5.1 Ph.D. Students (Graduated)

	Student	Degree	Thesis title	Graduation year	University
1	Johnson Kiseru Kwach	Crop protection	Occurrence of Banana <i>Xanthomonas</i> Wilt in Kenya and Potential Approaches to Rehabilitation of Infected Orchards	2014	Nairobi
2	Birithia Rael Kayume	Crop Protection	Diversity, characterization and management of Tospoviruses in vegetable ecosystems in Kenya	2013	Nairobi
3	Susan Wanderi	Plant Breeding	Breeding for soybean rust ( <i>Phakopsora pachyrhizi</i> ) resistance in Kenya	2013	KwaZulu – Natal, South Africa
4	Samson J. Muriungi.	Plant Pathology	Molecular characterization of <i>Rhizoctonia solani</i> strains causing damping off disease on tomato in Kenya and management of the disease by non-chemical methods.	2009	Nairobi
5	John Maina Wagacha	Plant pathology	Development of <i>Fusarium</i> species differing in mycotoxin production and conidia formation on wheat	2008	Bonn, Germany

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**5.2 PhD. Students (On-going)**

	Student	Degree	Thesis title	Status	University
1	Julius Pyton Sserumaga	Plant Breeding & Biotechnology	Genetics and Molecular Analysis of <i>Aspergillus</i> ear rot (Aflatoxin) resistance in tropical maize	Research on-going	Nairobi
2	Teresa N. Kinyungu	Crop Protection	Effect of arthropod vectors and inoculation of singly or multiple viruses on maize lethal necrosis disease in maize ( <i>Zea mays L.</i> ) in Kenya	Initiation of Research	Nairobi
3	Samuel Aringo Were	Crop Protection	Occurrence of root rot fungal pathogens of common bean in western Kenya and elucidation of mechanisms in their management with biochar and vermicompost	Research on-going	Nairobi

**5.3 Masters students (Completed)**

	Student	Degree	Thesis title	Year	University
1	Jared Nyakundi Onduso	MSc Crop Protection	Occurrence of bacterial wilt of tomato and its management by use of resistant rootstocks	2014	Nairobi
2	Thomas Muthii Kariuki	MSc Crop Protection	Quality and health status of farm saved bean seed ( <i>Phaseolus vulgaris L.</i> ) and management of seed-borne diseases	2014	Nairobi
3	Ann Wanja Njoroge	MSc Crop Protection	Management of root knot nematodes and <i>Fusarium</i> wilt of tomato by pre-treatment of seedlings with biological and chemical agents	2014	Nairobi
4	Esther Kihoro	MSc Crop Protection	Management of spider mites and whiteflies in tomatoes by use of mulches	2014	Nairobi
5	Daphne Gatwiri Muchai	MSc Agricultural Resource Management	Improving the TC banana supply chain: A case of South Imenti, Meru County	2014	Nairobi
6	Wilfred Ayugi Osao	MSc Microbiology	Population of <i>Aspergillus</i> species and aflatoxin in pre- and post-harvest peanuts in Baringo, Keiyo and Meru Counties, Kenya	2014	Nairobi
7	Oliver Otieno	MSc Crop Protection	Occurrence of <i>Fusarium</i> head blight associated mycotoxins in Nakuru County and resistance of germplasm	2014	Nairobi

8	Nancy Njeru	MSc Microbiology	Occurrence of <i>Fusarium</i> head blight of wheat and associated mycotoxins in Narok county	2014	Nairobi
9	Geoffrey Ongoya	MSc Crop Protection	Evaluation of the efficacy of potassium salts of fatty acids in management of whiteflies in French beans	2014	Nairobi
10	Murithi Mutuma	MSc Crop Protection	Management of aflatoxin and fumonisin mycotoxins in maize by use of near infra-red and ultra violet light grain sorting	2014	Nairobi
11	Mary Wamata Wambugu	Plant Breeding	Evaluation of maize hybrids for resistance to Diplodia ear rot ( <i>Stenocarpella maydis</i> )	2013	Nairobi
12	Lucy Wangari Karanja	Microbiology	Seasonal changes in aflatoxin prevalence and occurrence of <i>Aspergillus</i> section <i>flavi</i> in maize from Makueni, Kenya	2013	Nairobi
13	Maureen Nandwa Kuboka	Crop Protection	Effect of temperature on the efficacy of <i>Metarhizium anisopliae</i> in management of western flower thrips in French beans	2013	Nairobi
14	Samson Kihara Njoroge	Crop Protection	Occurrence of <i>Fusarium</i> species and fumonisins in maize from Makueni and Makindu districts, Kenya	2013	Nairobi
15	Bernard Otieno Ouma	Crop Protection	Thrips management practices in French bean production and efficacy of integrated pesticide application regimes in Embu East	2013	Nairobi
16	Ida Karambu Mugambi	Agricultural Resource Management	The effect of lablab residues on bean root rot disease and performance of a maize-bean intercrop	2013	Nairobi
17	Rose Wamaita Weru	Crop protection	Tolerance of maize varieties to infection by <i>Aspergillus flavus</i> and its management by use of antagonistic micro-organisms	2012	Nairobi
18	Joseph Bigirimana	Plant Breeding	Characterization of resistance to coffee leaf rust and coffee berry disease among Rwandese and associated coffee germplasm	2012	Nairobi
19	Samuel Wanjohi Wahome	Plant Breeding	Selection for multiple disease resistance and marketable pod characteristics in snap bean genotypes	2012	Nairobi
20	Florence Kalunde Tom	Crop Protection	Diversity of storage insect pests in maize and susceptibility of maize varieties to maize weevil	2011	Nairobi

			<i>(Sitophilus zeamais)</i>		
21	Onesmus Musembi Kitonyo	Agronomy	Performance of farmer-preferred maize varieties intercropped with beans in the semi-arid regions of Kenya	2010	Nairobi
22	Martin K. Njogu	Horticulture	Efficacy of phosphoric acid and stinging nettle extract in the management of late blight of potato	2010	Nairobi
23	Mureithi, Benson Kamau	Crop Protection	Effect of production practices, storage materials and moisture content on fungal and aflatoxin contamination of maize and maize products	2010	Nairobi
24	Peter Lorroki	Plant Breeding	Genetic analysis of resistance to maize streak virus (MSV) among mid-altitude maize inbred lines	2009	Nairobi
25	Kinyungu, Teresa Nyambura	Crop protection	Incidence of potato ( <i>solanum tuberosum l.</i> ) Viruses and effect of maize border crop placement on aphids and virus diseases	2009	Nairobi
26	Musyimi, Scholastica Leah	Agricultural Resource Management	Management of <i>Fusarium</i> head blight of wheat through host resistance and microbial agents	2009	Nairobi
27	Lusweti, Francisca	Agricultural Resource Management	Effects of phosphate fertilizers and seed priming on root rot and bean fly damage on beans and lablab in Nandi South district	2009	Nairobi
28	Gachu, Sarah Muthoni	Crop Protection	Management of onion ( <i>Allium cepa l.</i> ) foliar diseases ( <i>Peronospora destructor</i> and <i>Alternaria porri</i> ) and thrips ( <i>Thrips tabaci</i> ) by use of vegetable intercrops.	2009	Nairobi
29	Patrick Kinguru Wahome	Agricultural Resource Management	Importance of food grain legumes among the smallholder farmers in Machakos district	2008	Nairobi
30	Nyaga, John Ndwiga	Crop Protection	Management of aphids and aphid-transmitted viruses in seed potato production among small scale farmers in Kiambu and Nyandarua districts	2008	Nairobi
31	Muindi, Esther Mwende	Agronomy	Management of potato aphids and aphid-transmitted virus diseases by integrating border crops, insecticides and mineral oil	2008	Nairobi
32	Njenga, Lucy W	Agricultural Resource Management	Fungal contamination and aflatoxin levels in maize in greater Machakos district and evaluation of possible	2008	Nairobi

			management strategies		
33	Ng'eno. K. Jonah	Agronomy	The abundance and efficiency of garden pea nodulating rhizobia in Central Kenyan soils	2008	Nairobi
34	Jane Kahithe Ndung'u	Crop Protection	Fungal and mycotoxin contamination of wheat from Nakuru and Nyandarua districts of Kenya and pathogenicity of <i>Fusarium</i> species on wheat	2007	Nairobi
35	Patrick Evans Otieno	Agricultural Resource Management	Effect of chemical pesticides and nitrogen source on the performance of food grain legumes	2007	Nairobi
36	Riungu, Ginson Mwirigi	Crop Protection	Biological control of <i>Fusarium</i> head blight of wheat	2007	Nairobi
37	Shadrack Wang'ombe Mubea Theuri	Agricultural Resource Management	Effect of rhizobia inoculation and starter-nitrogen on nodulation, biomass and yield of grain legumes	2007	Nairobi
38	Kennedy Katazo Muimui	Plant Breeding	Inheritance and selection for resistance to angular leaf spot ( <i>Phaeoisariopsis griseola</i> (Sacc) and common bacterial blight ( <i>Xanthomonas axonopodis</i> pv <i>phaseoli</i> ) in yellow beans	2006	Nairobi
39	John Maina Wagacha	Plant Pathology	Biological control of bean rust ( <i>Uromyces appendiculatus</i> Unger.) on snap bean ( <i>Phaseolus vulgaris</i> L.) using antibiotics produced by <i>Bacillus</i> and <i>Streptomyces</i> species.	2003	Nairobi

#### 5.4 Masters students (On-going thesis Research)

	Student	Degree	Thesis title	Status	University
1	Anne Kadaari Kivisi	MSc Crop Protection	Efficacy of seed dressing in the management of bean root rot complex – A case study of Nandi South	Writing thesis	Nairobi
2	Pacifica Bosibori Ochichi	MSc Microbiology	Effect of cropping systems on the occurrence of legume diseases in western Kenya	Awaiting thesis defense	Nairobi
3	Wilfred Juma	MSc Crop Protection	Occurrence of <i>Fusarium</i> seedling blight of wheat and efficacy of celest top 312.5 FS <sup>®</sup> in its management in major wheat-growing regions of Kenya	Research in progress	Nairobi

4	Stephen Muruga Kiretai	MSc Crop Protection	Management of capsicum virus disease insect vectors by integration of reflective mulches with biological and chemical products	Research in progress	Nairobi
5	Esther W. Ndirangu	MSc Crop Protection	<i>Fusarium species</i> and related mycotoxins in aflasafe treated maize fields in lower eastern Kenya	Research in progress	Nairobi
6	Esther Sheila Philip	MSc Crop Protection	Occurrence of Sugarcane Ratoon Stunting Disease in Nyando sugar belt and its management by hot water treatment	Research in progress	Nairobi
7	Felicien Ndaruhutse	MSc Plant Breeding And Biotechnology	Generation mean and stability analyses of maize hybrids resistance to Diplodia ear rot	Research in progress	Nairobi

## 6. Work Experience and Professional Responsibilities

### 6.1 Teaching Responsibilities

Course	Level	When Taught
ACP601: Plant Pathology 1-Mycology and Bacteriology	MSc. Crop Protection	2006 to date
ACP611: Phytosanitary legislation, regulations and standards	MSc. Crop Protection	2009 to date
ART514: Crop Protection	MSc. Agricultural Resource Management	2002 - 2008
ACP603: Crop disease epidemiology and management	MSc. Crop Protection	2002 - 2008
APP1: Principles of Plant Pathology	MSc. Plant Pathology	2002
ACP101/AEX108 (ACR102): Microbiology	BSc. Agriculture, BSc. Agricultural Extension & Education and BSc. Range Management, BSc Horticulture	2002 to Date
ACP302: Plant disease epidemiology and seed health	BSc. Agriculture – Crop Protection	2006 to Date
ACP404: Breeding for resistance to diseases and pests	BSc Agriculture – Crop Protection Option	1997 – 1997 & 2007
ACP201: Principles of Crop Protection	BSc. Range Management	2006
AEB302: Crop protection and Animal Health	BSc. Agribusiness Management	2005 - 2006
ACR203: Principles of plant pathology	BSc. Agriculture	2001 - 2005
AEX211: Crop Protection 1	BSc. Agricultural Education and Extension	2005
ACR303: Principles of plant disease control	BSc. Agriculture	1995 - 1997
ACP405: Plant mycology and bacteriology	BSc. Agriculture – Crop	1995 - 1997

	Protection	
ACP411: Special Projects (Supervision of over 20 students)	BSc. Agriculture – Crop Protection	1995 to Date
ACP010: Introduction to Microbiology	Diploma in Crop Protection	2009 to Date
ACP017: Application of biotechnology in crop protection	Diploma in Crop Protection	2003 - 2009
ACP011: Bacteriology	Diploma in Crop Protection	2003 - 2004
ACP622: Special Projects (supervision of over 10 students)	Diploma in Crop Protection	2003 to Date

## 6.2 Development and Review of Academic Curricula

	Curriculum	Role Played	Time
1	MSc in Seed Technology and Business management	Team Leader/ Coordinator	2011 - 2012
2	Postgraduate Diploma in Phytosanitary Measures	Team Leader/ Coordinator	2008 - 2010
3	Postgraduate Diploma in Seed Technology and Business management	Team Leader/ Coordinator	2011 - 2012
4	Diploma in Seed Technology and Business management	Team Leader/ Coordinator	2011 - 2012
5	Diploma in Phytosanitary Measures	Team Leader/ Coordinator	2008 - 2010
6	Certificate in Seed Technology and Business management	Team Leader/ Coordinator	
7	Short in-service phytosanitary systems training courses for the Centre of Phytosanitary Excellence (COPE) – an initiative between University of Nairobi and Kenya Plant Health Inspectorate Service (KEPHIS)	Coordinator for the University of Nairobi	2008 - 2010
8	Review of existing curricula i. MSc in Agricultural Resource Management, ii. MSc. in Crop in Protection, iii. MSc in Plant Pathology iv. BSc. in Agriculture v. Diploma in Crop Protection	Coordination/ development of specific course units	2008 - 2010

## 6.3 External Examination of Postgraduate theses

	University	Student	Thesis title	Degree	Year
1	University of Eldoret	Kibiro Emma Mwihaki	Management of potato blight ( <i>Phytophthora infestans</i> ) using Arbuscular Mycorrhizal fungi	PhD	2014
2	University of Eldoret	Wilkister Gesare Mogita	Occurrence and management of anthracnose pathogen ( <i>Colletotrichum lindemuthianum</i> ) in farm-saved bean seed in western Kenya	PhD	2013
3	University of Eldoret	Mwaura Hellen	Determination of antimicrobial properties and phytochemical	MSc	2013

		Muringi	composition of <i>Solanum nigrum</i> Complex (black night shade)		
4	KwaZulu-Natal, South Africa	J. M. M. Chintu	Breeding groundnut for resistance to rosette disease and its aphid vector, <i>Aphis craccivora</i> Koch in Malawi	PhD	2013
5	Chepkoilel University College	Abigael Adhiambo Owino	Evaluation of barley genotypes for net blotch and determination of pathogen diversity	MSc	2013
6	Chepkoilel University College	Janet Cheruiyot Kosgey	Ethnobotanical study and antimicrobial activity of medicinal plants found in Endo and Checherebes villages of Elgeyo-Markwet County, Kenya	MSc	2013
7	Chepkoilel University College	Jared K. Mutai	Effect of grafting on bacterial wilt disease, Yield and quality of tomato ( <i>Lycopersicon esculentum</i> Mill.) in Bureti District, Kenya	MSc	2012
8	Jomo Kenyatta University of Agriculture & Technology	Samuel Mathu Ndung'u	Genetic diversity of indigenous rhizobial strains and commercial inoculants and their potential to improve yields and nitrogen fixation in four legume species	MSc	2012
9	Egerton University	Jannet Nelima Nyukuri	Determination of Antifungal Activities of Essential Oils on Moulds Isolated from Selected areas of Western Kenya	MSc	2012
10	Kenyatta University	Njau Njeri.	Effectiveness of Macropropagation Technique in Production of healthy Banana Seedlings in Eastern and Central Regions of Kenya.	MSc	2012
11	Jomo Kenyatta University of Agriculture & Technology	Grace Wacheke Mungai	Evaluation of in vitro protocols for the elimination of banana streak virus in tissue culture produced banana plantlets	MSc	2012
12	Jomo Kenyatta University of Agriculture & Technology.	William Onsembe Nyakundi	Diversity and pesticide biodegradation potential of white rot fungi isolated from soil of selected horticultural farms in the great Rift Valley and Central Kenya	MSc	2012
13	Chepkoilel University College	Were J. Omondi	. Reactions of Advanced Sorghum Genotypes to Local Colletotrichum species and their Diversity	MSc	2011
14	Chepkoilel University College	Nicholas Kipkemboi Rop	Thesis,. Incidence of black rot of Brassica species caused by <i>Xanthomonas campestris</i> pv. <i>campestris</i> in Kenya, pathogen variability and host resistance	Ph.D	2011
15	Egerton University	Phoebe K. Mwaniki	Thesis. Characterization of <i>Fusarium</i> spp. Isolated from eggplant ( <i>Solanum</i> spp.) In arumeru district, tanzania and identification of sources of wilt	MSc	2011

			resistance.		
16	Jommo Kenyatta University of Agriculture & Technology	Philip Mwenda Miriti	Isolation and Characterization of Soil Bacteria Capable of Degrading Selected Organic Pesticides Applied in Horticultural Farms in Kenya	MSc	2011
17	Egerton University	Salim G. Ismail	Physiological races of Wheat Stem Rust in Uasin Gishu Region and their control using Tebuconazole 250g/L + Triadimenol 135g/L (Silvacur 375 g/L).	MSc	2011
18	Jommo Kenyatta University of Agriculture & Technology	Felix Bii	Characterization of <i>Fusarium</i> species on maize ( <i>Zea mays</i> ) and determination of their mycotoxins in Eastern Province of Kenya	Msc	2009
19	Kenyatta University	Joseph Juma Mafurah	Incidence of <i>Fusarium</i> species and Levels of Fumonisin B <sub>1</sub> in Sorghum and Finger Millet in Western Kenya	M.Sc	2009
20	Egerton University	Joseph Kinyoro Macharia	Yield losses of bread wheat ( <i>Triticum aestivum</i> L.) cultivars resulting from a new race of stem rust Ug99 (TTKS) ( <i>Puccinia graminis</i> Pers. f.sp. <i>tritici</i> Erics. & Henn.) in Kenya	Msc	2009
21	Egerton University	Daniel O. Pande	Studies on Virus Resistance in Transgenic Sweet Potato ( <i>Ipomoea batatas</i> (L) Lam) Expressing the Coat Protein Gene of Sweet Potato Feathery Mottle Virus	MSc	2006

#### 6.4 External Examiner – University Examinations

	University	Type of examination	Time
1	Department of Natural Science, Mount Kenya University	Agriculture (undergraduate and postgraduate)	2012 to Date
2	Department of Biological Sciences, Masinde Muliro University of Science and Technology	Microbiology and plant pathology (undergraduate and postgraduate)	2011 to Date
3	Department of Biological Sciences, Chepkoilel Campus, Moi University	Microbiology and plant pathology (undergraduate and postgraduate)	2009 - 2012

#### 6.5 Review of scientific manuscripts

	Journal/ conference	Scientific Manuscripts reviewed
1	Crop Protection, Elsevier	Fungal species isolated from peanuts in major Kenyan markets: Emphasis on <i>Aspergillus</i> section <i>Flavi</i>
2	Letters in Applied Microbiology	Characterization and antagonistic properties of <i>Streptomyces</i> strains isolated from Saharan soils, and evaluation of their ability to control seedling blight of barley caused by <i>Fusarium culmorum</i>

3	American Journal of Experimental Agriculture	Effects of Macro Fertilizers on yield and yield Components of Flue-cured Tobacco Coker 347
4	African Journal of Agricultural Research	Integrated Management of Okra Powdery Mildew caused by <i>Erysiphe cichoracearum</i>
5	JOURNAL OF ENTOMOLOGY AND NEMATOLOGY	Diversity of aphids in the Central Rift Valley of Ethiopia and their potential as a vector for <i>Ethiopian Pepper Mottle Virus</i> (EPMV)
6	African Journal of Horticultural Science	Various manuscripts
7	Horticultural Association of Kenya (HAK) annual conferences	Reviewed various manuscripts and abstracts since 2007
8	9th African Potato Association Conference	Reviewed various abstracts for the 2013 annual conference
9	13th KARI Biennial Scientific Conference	Kenya Agricultural Research Institute
10	aGRO 2011 Biennial Conference, Faculty of Agriculture, University of Nairobi	Reviewed various abstracts for the 2011 biennial conference

#### 6.6 Other Professional Assignments

	Institution	Assignment	Responsibility	Dates
1	Kenya Standing Technical Committee for Imports and Exports (KSTCIE)	Committee Member and Reviewer of import requests	Evaluation of suitability of import requests	2010 to Date
2	Mount Kenya University	Training course in Professionalism and Ethics in Research	Lead facilitator and resource person	29th April to 3 <sup>rd</sup> May 2013
3	Kenya Plant Health Inspectorate Service (KEPHIS)	Development of curriculum for short in-service phytosanitary systems training courses for the Centre of Phytosanitary Excellence	Lead facilitator and resource person	28 <sup>th</sup> November to 19 <sup>th</sup> December 2011
4	Promotion of Private Sector Development in Agriculture Programme (PSDA) and Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ).	Development of model curricula for agricultural value chain for universities and colleges	Curriculum development consultant/ Facilitator	April to July 2011
5	Mount Kenya University	Scientific Writing Training Course for University Lecturers and Researchers	Lead facilitator and resource person	26 <sup>th</sup> to 30 <sup>th</sup> April 2011

## 7. Research Projects

1. Capacity building in plant breeding and seed technology for improved food and nutritional security in eastern Africa . Funded by the Alliance for a Green Revolution in Africa (AGRA) education for Africa’s crop improvement (EACI). Grant USD 500,627 for 3 years (2014-2016). Objective is to enhance human capacity in plant breeding and seed technology and business management by training of 12 MSc students
2. Low-cost optical sorting to remove mycotoxins from maize in local Kenyan mills. Grant amount KES 6,156,480. Funded by US Agency for International Development Contract No.AID-623-C-12-00001 for Program titled Kenya Feed the Future Innovation Engine (KFI). August 2014 to August 2015
3. “Supporting investments in up scaling of grain legumes in western Kenya through assessing and modeling the threat of biotic stressors”. Funded by the McKnight Foundation. Collaborating institutions are International Center for Tropical Agriculture (CIAT), KARI, University of Nairobi, ARDAP (NGO), Masinde Muliro University of Science and Technology. GRANT AMOUNT US\$504,000 for three years.
4. Development of biopesticide-based IPM systems to reduce synthetic pesticide residues in vegetables for niche market access by small holder growers. Funded by the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) Grant amount US\$64,907.55 to support training of two MSc students.
5. Legume pest and disease survey project in western Kenya “Supporting investments in up scaling of grain legumes in western Kenya through assessing and modeling the threat of biotic stressors”. Funded by the McKnight Foundation. Collaborating institutions are International Center for Tropical Agriculture (CIAT), KARI, University of Nairobi, ARDAP (NGO), Masinde Muliro University of Science and Technology. September 2012 to February 2014; .
6. Continuing training of Mr. Kwach Johnson whose training was initiated under the staple crops project on “Sustainable Management of Banana *Xanthomonas* Wilt (BXW) in Banana Cropping Systems in the ECA”. Donor ASARECA. October 2012 to October 2013.
7. Integrated management of Banana *Xanthomonas* Wilt (*Xanthomonas campestris* pv. *musacearum*) in Kenya through cultural and host resistance. Funded by the National Council for Science and Technology (NCST) for PhD training of one PhD candidate. October 2011 to September 2014.
8. Collaborative research project on “Multipurpose legumes and management strategies for reinvigorating and maintaining the health and productivity of smallholder mixed farming

- systems”. Funded by the McKnight Foundation. Collaborating institutions are KARI-Kakamega, University of Nairobi, Egerton University, Cornell University, Avene (a community-based organization in western Kenya), Rural Energy Food Supply Organization (REFSO), Appropriate Rural Development Agricultural Programme (ARDAP). January 2011 to December 2014;
9. Collaborative research project on “Sustainable management of Banana Xanthomonas Wilt in Banana Cropping Systems in East and Central Africa” funded by ASARECA. Collaborating institutions are NARO (Uganda), IITA (Uganda), Bioversity international, KARI (Kenya) and Catholic University of Graben, (DR Congo) and University of Nairobi. April 2009 to May 2011.
  10. Centre of Phytosanitary Excellence – Eastern Africa (COPE): A project for development of phytosanitary curriculum. A collaborative project with KEPHIS, CAB International, and International Plant Protection Convention (IPPC). Funded by CAB International. April 2008 to May 2010.
  11. Effect of border crop distance and seed potato degeneration on potato production. Funded by Deans Committee, University of Nairobi. July 2008 to June 2009 .
  12. Development of cultural strategies for management of *Thrips tabaci*, *Alternaria porri* and *Peronospora destructor* on onions in Kenya. Funded by Deans Committee, University of Nairobi. August 2008 to July 2009 .
  13. Using improved pulse crop productivity to reinvigorate smallholder mixed farming systems in Western Kenya. Funded by the Dry Grain Pulses CRSP, Michigan State University, USA. A collaborative project involving University of Cornell, Kenya Agricultural Research Institute (KARI), Egerton University, Moi University, CIAT and University of Nairobi. April 2008 to September 2010.
  - 14.** Characterization and development of an integrated management of *Fusarium* head blight of wheat in Kenya. Funded by the International Foundation for Science (IFS). June 2008 to November 2009
  15. Mitigating Mycotoxin Hazards in Maize and Maize Products in Kenya. Funded by the Kenya Agricultural Productivity Programme (KAPP). A collaborative project involving Kenya Agricultural Research Institute (KARI), Ministry of Agriculture, Ministry of Health and Kenya Maize Development Programme and University of Nairobi. Start July 2008 to June 2010.

16. Development of an integrated management of potato aphids and aphid transmitted viruses for seed production in Kenya. Funded by the Commission for Higher Education, Kenya. November 2006 to June 2008 .
17. Performance of traditional food legumes in the maize-based cropping systems. Funded by Deans Committee, University of Nairobi. May 2005 to August 2007.
18. The occurrence of head blight of wheat in Kenya and the associated fungi. Funded by the International Foundation for Science (IFS). August 2004 to April 2007.
19. Improvement of grain legume production in dry lands using low input technologies. Funded by the African Institute for Capacity Development (AICAD).2004 to 2005.

## **8. Professional Courses and trainings attended**

1. Sanitary and phytosanitary systems and agricultural education training. 15<sup>th</sup> August to 6<sup>th</sup> December 2012 at the University of Missouri-Columbia, USA. Course funded and organized by the Foreign Agricultural Service of the United States Department of Agriculture.
2. Professionalism and Ethics in agricultural sciences. 20<sup>th</sup> August to 6<sup>th</sup> December 2012, University of Missouri-Columbia, USA.
3. Sanitary-phytosanitary and pest risk analysis training. 26<sup>th</sup> November to 1<sup>st</sup> December 2012 at the Centre for Regulatory Research LLC, USA.
4. Mycotoxins in foods. 7<sup>th</sup> September to 4<sup>th</sup> December 2012 at the University of Missouri-Columbia, USA.
5. Curriculum development. 28<sup>th</sup> September to 2<sup>nd</sup> December 2012 at the Centre for Collaboration and Development of Educational Innovations, University of Missouri-Columbia, USA
6. Training of Trainers' Workshop on Seed Enterprise Management. 24<sup>th</sup> April – 8<sup>th</sup> May 2010, The Seed Science Center, Iowa State University, USA.
7. Training course on the application of Phytosanitary measures. Centre Of Phytosanitary Excellence (COPE) and the International Plant Protection Convention. 14<sup>th</sup>-25<sup>th</sup> September 2009, Merica Hotel, Nakuru, Kenya
8. Training in Pedagogy – University of Nairobi. 4<sup>th</sup> to 6<sup>th</sup> February 2008.
9. The advanced course on the quality and safety of horticultural crops. 1 – 22 September 2006, Nanjing Agricultural University, China.
10. Proposal writing for international research projects, Part Two. Sponsored by the German Academic Exchange Service (DAAD). 26 – 30<sup>th</sup> June 2006. Silver Springs Hotel, Nairobi.

11. Proposal writing for international research projects - Part One. Sponsored by the German Academic Exchange Service (DAAD). 12<sup>th</sup> – 17<sup>th</sup> December 2005. Silver Springs Hotel, Nairobi.
12. Biosafety Training Course for Kenya's regulatory institutions. 29<sup>th</sup> November – 3<sup>rd</sup> December 2004. KEPHIS Headquarters, Karen, Nairobi
13. Rotational Advanced Studies Program – Phytochemistry and Plant Protection in International Agriculture. 20<sup>th</sup> – 26<sup>th</sup> September 1998. University of Bonn, Germany.
14. October 1997 to June 1998- High Performance Liquid Chromatographic (HPLC) mycotoxin analysis of *Fusarium* mycotoxins in grains. Institute for Plant Diseases, University of Bonn, Germany.
15. March 1998 to August 1998: Molecular characterization of *Fusarium* species by PCR-based techniques. Institute for Plant Diseases, University of Bonn, Germany.
16. October 1997 to March 1998: Identification of *Fusarium* species and mycotoxin analytical methods. Institute for Plant Diseases, University of Bonn, Germany.
17. 9<sup>th</sup> June to 25<sup>th</sup> September 1997 - Basic German language course at Goethe Institute, Bremen, Germany

## 9. Referees

1. Prof. Solomon I. Shibairo, Former Dean, Faculty of Agriculture, University of Nairobi
2. Prof. F. M. Olubayo, Department of Plant Science and Crop Protection, Faculty of Agriculture, University of Nairobi
3. Prof. Eunice W. Mutitu, Director Board of Postgraduate Studies, University of Nairobi, Kenya

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