

GICHIMU BERNARD MUKIRI

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Short Biography:

Dr. Bernard Mukiri Gichimu is a Lecturer at University of Embu in the Department of Agricultural Resource Management. He holds Bachelors and Masters Degrees in Horticulture from Maseno University and Doctor of Philosophy in Plant Breeding from Jomo Kenyatta University of Agriculture and Technology. Previously, he worked at Coffee Research Institute (formerly Coffee Research Foundation) in Ruiru as a Plant Breeder and the Head of Plant Breeding Section for over 5 years. Bernard has published widely in peer reviewed journals and participated in numerous academic and professional conferences. He has also managed several donor funded projects and fostered several collaborative partnerships. He is an active player in the Agriculture Sector in Kenya and is an active member of Horticultural Association of Kenya and Plant Breeders Association of Kenya. Bernard is widely travelled locally and internationally including Colombia, Costa Rica, Italy, Indonesia, India, South Africa, Ethiopia, Zimbabwe, Uganda and Tanzania. He is also a mentor to many.

Research Interests: Crop Improvement, Horticulture, Food Security and Climate Change

Publications in Journals:

- 1) Lucy K. Njeru, **Bernard M. Gichimu**, Mary C. Lopokoity and John G. Mwangi (2015). Influence of Kenyan Youth's Perception towards Agriculture and Necessary Interventions; a Review. *Asian Journal of Agricultural Extension, Economics & Sociology*; 5(1): 40-45.
- 2) Lucy K. Njeru and **Bernard M. Gichimu**, 2014. Influence of Access to Land and Finances on Kenyan Youth Participation in Agriculture; a Review. *International Journal of Development and Economic Sustainability*; 2(3): 1 – 8.
- 3) J.M. Gimase, W.M. Thagana, D.T. Kirubi, E.K. Gichuru and **B.M. Gichimu**, 2014. Genetic Characterization of Arabusta Coffee Hybrids and their Parental Genotypes using Molecular Markers. *Plant Cell Biotechnology and Molecular Biology*, 15(1&2):31-42

- 4) M.W. King'oro, D. Mushimiyamana, J.J. Cheserek and **B.M. Gichimu**, 2014. Effect of Different Watering Regimes on Agro-morphology of Selected Coffee Genotypes. *American Journal of Experimental Agriculture*; 4(9):1016-1026.
- 5) **Gichimu B.M.**, Gichuru E.K., Mamati G.E. and Nyende A.B., 2014. Biochemical Composition within *Coffea arabica* cv. Ruiru 11 and its Relationship with Cup Quality. *Journal of Food Research*; 3(3): 31-44.
- 6) **Gichimu B.M.**, Gichuru E.K., Mamati G.E. and Nyende A.B., 2014. Occurrence of *Ck-1* gene conferring resistance to Coffee Berry Disease in *Coffea arabica* cv. Ruiru 11 and its parental genotypes. *Journal of Agricultural and Crop Research*, 2(3): 51-61.
- 7) **Gichimu B.M.**, Gichuru E.K., Mamati G.E. and Nyende A.B., 2013. Variation and Association of Cup Quality Attributes and Resistance to Coffee Berry Disease in *Coffea arabica* L. Composite Cultivar, Ruiru 11. *Afr. J. Hort. Sci.* (December 2013) 7:22-35.
- 8) Ithiru J.M., Gichuru E.K., Gitonga P.N., Cheserek J.J. and **Gichimu B.M.**, 2013. Methods for early evaluation for resistance to bacterial blight of coffee. *African Journal of Agricultural Research*, 8(21): 2450-2454
- 9) **Gichimu B.M.**, Gichuru E.K., Mamati G.E. and Nyende A.B., 2013. Yield Selection within *Coffea arabica* cv. Ruiru 11. *American Journal of Experimental Agriculture*, 3(1): 76-88.
- 10) Cheserek J.J. and **Gichimu B.M.**, 2012. Drought and heat tolerance in coffee: a review. *International Research Journal of Agricultural Science and Soil Science*, 2(12): 498-501.
- 11) **Gichimu B.M.**, Gichuru E.K., Mamati G.E. and Nyende A.B., 2012. Selection within *Coffea arabica* cv. Ruiru 11 for high cup quality. *African Journal of Food Science*, 6(18): 456-464
- 12) **Gichimu B.M.**, Gichuru E.K., Mamati G.E. and Nyende A.B., 2012. Selection of Ruiru 11 Hybrid Sibs on Raw Coffee Quality. *Afr. J. Hort. Sci.*, 6:72-82
- 13) **Gichimu B.M.**, 2012. Field Screening of Selected *Coffea arabica* L. Genotypes against Coffee Leaf Rust. *Afr. J. Hort. Sci.* (June 2012) 6:82-91
- 14) Kathurima C.W., Kenji G.M., Muhoho S.M., Boulanger R., **Gichimu B.M.** and Gichuru E.K., 2012. Genetic diversity among commercial coffee varieties, advanced selections and museum collections in Kenya using molecular markers. *International Journal of Biodiversity and Conservation*, 4(2): 39-46.
- 15) D.M. Mureithi, M.O.A. Onyango, P. Jeruto and **B.M. Gichimu**, 2012. Response of French Bean (*Phaseolus vulgaris* L.) to Intra-row Spacing in Maseno Division, Kenya. *J. Applied Sci.*, 12(1): 96-100.
- 16) R.B. Mugiira, P.F. Arama, J.M. Macharia and **B.M. Gichimu**, 2011. Antibacterial Activity of Foliar Fertilizer Formulations and their Effects on Ice Nucleation Activity of *Pseudomonas syringae* Pv. garcae Van Hall, the Causal Agent of Bacterial Blight of Coffee. *Int. J. Agric. Res.*, 6(7): 550-561
- 17) A.G. Wagura, J.W. Kimenju and **B.M. Gichimu**, 2011. Comparative Antibacterial Effects of Raw Extracts and Essential Oils of *Ocimum gratissimum* L. against *Ralstonia solanacearum* (Smith) *Int. J. Plant Pathol.* 2(3): 144-152
- 18) A.G. Wagura, S.O. Wagai, L.Manguro and **B.M. Gichimu**, 2011. Effects of Selected Plants' Extracts on *In Vitro* Growth of *Ralstonia solanacearum* (Smith), the Causal Agent of Bacterial Wilt of Irish Potatoes. *Plant Pathol. J.* 20(2): 66-72.
- 19) Onyango B.O., Palapala V.A., Arama P.F., Wagai S.O. and **Gichimu B.M.**, 2011. Morphological characterization of Kenyan native wood ear mushrooms [*Auricularia*

- auricula* (L. ex Hook.) Underw.] and the effect of supplemented millet and sorghum grains in spawn production. *Agric. Biol. J. N. Am.*, 2011, 2(3).
- 20) Onyango B.O., Palapala V.A., Arama P.F., Wagai S.O. and **Gichimu B.M.**, 2011. Suitability of Selected Supplemented Substrates for Cultivation of Kenyan Native Wood Ear Mushrooms (*Auricularia auricula*). *American Journal of Food Technology*. Vol. 6:395-403
 - 21) **Gichimu B.M.** and Omondi C.O., 2010. Morphological Characterization of Five Newly Developed Lines of Arabica Coffee as Compared to Commercial Cultivars in Kenya. *International Journal of Plant Breeding and Genetics*, 4(4): 238-246, 2010.
 - 22) **Gichimu B.M.** and Omondi C.O., 2010. Early Assessment of Growth and Yield Characters of Five Newly Developed Lines of Arabica Coffee in Two Environments and Spacings in Kenya. *African Journal of Horticultural Science (AJHS)*, Vol.3:98-111.
 - 23) D.M. Musyimi, G.W. Netondo , B.Owuor and **Gichimu B.M.**, 2010. Growth and Nutrient Uptake among Three Wetland Plant Species Occurring in Lake Victoria Basin in Kenya. *Agriculture and Biology Journal of North America*, 1(3): 250-264.
 - 24) **Gichimu, B.M.**, B.O. Owuor and M.M. Dida, 2010. Yield of Three Commercial Watermelon Cultivars in Kenya as Compared to a Local Landrace. *African Journal of Horticultural Science (AJHS)*, Vol. 3:24-33.
 - 25) **Gichimu B.M.** and Omondi C.O., 2010. Early Performance of Five Newly Developed Lines of Arabica Coffee under Varying Environment and Spacing in Kenya. *Agriculture and Biology Journal of North America*. 1(1): 32-39.
 - 26) Kathurima C.W., **Gichimu B.M.**, Kenji G.M., Muhoho S.M. and Boulanger R., 2009. Evaluation of Beverage Quality and Green Bean Physical Characteristics of Selected *Coffea arabica* Genotypes in Kenya. *African Journal of Food Science Vol 3.(11) pp. 365- 371*.
 - 27) **Gichimu B.M.**, Barack O. Owuor and Mathews M. Dida, 2009. Comparing the yield components of three most popular commercial watermelon cultivars in kenya with one newly introduced cultivar and one landrace. *Journal of Plant Breeding and Crop Science. Vol.1(4).pp.065-071*.
 - 28) **Gichimu B.M.**, Barack O. Owuor, Gideon N. Mwai and Mathews M. Dida, 2009. Morphological Characterization of Some Wild and Cultivated Watermelon (*Citrullus sp.*) Accessions in Kenya. *Journal of Agricultural and Biological Science. Vol. 4, No. 2*.
 - 29) **Gichimu, B.M.**, B.O. Owuor and M.M. Dida, 2008. Agronomic Performance of Three Most Popular Commercial Watermelon Cultivars in Kenya as Compared to One Newly Introduced Cultivar and One Local Landrace grown on dystic nitisols under sub-humid tropical conditions. *Journal of Agricultural and Biological Sciences. Vol. 3 No. 5&6*.
 - 30) **Gichimu, B.M.**, B.O. Owuor and M.M. Dida, 2008. Assessment of Three Most Popular and One Newly Introduced Commercial Watermelon Cultivars in Kenya alongside One Local Landrace for Their Response to Naturally Occurring Diseases, Pests and Non-pathogenic Disorders in Sub-Humid Tropical Conditions. *Journal of Agricultural and Biological Sciences. Vol. 3 No. 5&6*.

Research Dissertations:

- 1) **Gichimu B.M.**, 2013. Selection for Resistance to Coffee Berry Disease, High Yields and Good Quality within *Coffea arabica* L. Cultivar, Ruiru 11

- 2) **Gichimu B.M., 2008.** Genetic Variation and Agronomic Performance of Some Wild and Cultivated Watermelon Accessions in Kenya. MSc. Thesis, Maseno University, Kenya.
- 3) **Gichimu B.M., 2006.** Effects of hot pepper (*Capsicum frutescens*) extracts on aphids infestation on cowpea (*Vigna unguiculata*). BSc. Thesis, Maseno University, Kenya.

Presentation of Papers in Academic and Professional Conferences/Workshops:

- 1) **Gichimu B.M., 2014.** Coffee Growing in Kenya; Climate Change Challenges and their Mitigation. Presented in the 1st DeKUT International Conference on Science, Technology and Innovation, Nyeri – Kenya, 4th to 7th November, 2014.
- 2) **Gichimu B.M., 2014.** Coffee Sustainability in Kenya: Role Played by Improved Varieties. Presented in the 25th International Conference on Coffee Science, Armenia – Colombia, 8th to 13th September, 2014.
- 3) **Gichimu B.M., Gichuru E.K., Mamati G.E. and Nyende A.B., 2014.** Combining CBD Resistance with High Yields and Good Cup Quality: Success case in Ruiru 11 Cultivar. Presented in the 25th International Conference on Coffee Science, Armenia – Colombia, 8th to 13th September, 2014.
- 4) **Omondi C.O. and Gichimu B.M., 2014.** Coffee Variety Development and Expansion of Growing Areas to New Frontiers. Presented during Kenya Coffee @50 Forum (National Coffee Stakeholders Conference), Ruiru, Kenya. 7th - 8th February 2014.
- 5) **Gichimu B.M., 2014.** Coffee Sustainability in Kenya: Role Played by Improved Varieties. Presented in the 25th International Conference on Coffee Science, Armenia – Colombia, 8th to 13th September, 2014.
- 6) **Gichimu B.M., Gichuru E.K., Mamati G.E. and Nyende A.B., 2014.** Combining CBD Resistance with High Yields and Good Cup Quality: Success case in Ruiru 11 Cultivar. Presented in the 25th International Conference on Coffee Science, Armenia – Colombia, 8th to 13th September, 2014.
- 7) **Gichimu B.M., 2013.** Arabica Coffee Breeding; Challenges Posed by Climate Change. Presented in the 10th African Fine Coffee Conference in Kampala Uganda on 16th February 2013. Available online: <http://www.eafca.org/wvc/resources/presentations.htm>
- 8) **Gichimu B.M., 2013.** Coffee Breeding in Kenya; Achievements, Gaps and Priorities. Presented in the 3rd African Coffee Sustainability Forum in Kampala Uganda on 13th February 2013 organized by 4C Association. http://www.4c-coffeeassociation.org/uploads/media/4Cs_Presentation_Gichimu.pdf
- 9) **Gichimu B.M., Gichuru E.K., Mamati G.E. and Nyende A.B., 2012.** Variation and Associations of Cup Quality traits and CBD Resistance in *Coffea arabica* cv Ruiru 11. Presented in the *12th Workshop on Sustainable Horticultural Production in the Tropics*, Held at Jaramogi Oginga Odinga University of Science and Technology between 4th and 7th December 2012.
- 10) **Gichimu B.M., 2012.** Coffee Breeding in Kenya; Achievements, Challenges and Current Focus. Proceedings of 24th International Conference on Coffee Science, San Jose – Costa Rica, 11th to 17th November, 2012.
- 11) **Gichimu B.M., 2012.** Coffee Breeding Lines in Kenya. Presented in a Conference on "Technologies and best practices for optimal utilization of by-products in the coffee value chain: how to increase sustainability in the coffee supply chain in East African

countries" held at Trieste, Italy from 11th to 14th June 2012 organized by ICS-UNIDO in cooperation with the Ernesto Illy Foundation and illycaffè.

- 12) **Gichimu B.M.**, 2012. Batian Coffee. Presented during the March 2012 Coffee Research Foundation monthly seminar held at Coffee Research Station Lecture Theatre
- 13) **Gichimu B.M.**, Gichuru E.K., Mamati G.E. and Nyende A.B., 2011. Discrimination of Ruiru 11 Hybrid Sibs based on Raw Coffee Quality. Presented in the 11th Workshop on Sustainable Horticultural Production in the Tropics, Held at Pwani University College between 7th and 10th December 2011.
- 14) Phiri N.A., **Gichimu B.M.**, Gatarayiha C., Kutwayo D., Prakash N., Musoli P., Agwanda C., Kimani M., Musebe R. and Oduor G., 2011. Increasing the resilience of coffee production to Coffee Leaf Rust and other Diseases in India and four other African countries. Presented on 23rd March 2011 at ICRAF Complex, Gigiri, Nairobi.
- 15) Kimemia J.K., **Gichimu B.M.** and Kathurima C.W., 2011. Highlights of Batian. A new tall statured and disease resistant Arabica coffee variety with excellent quality. In Kamau et al (Eds), African Fine Coffees Review, Issue No.7. East African Fine Coffees Association. URL: <http://blog.eafca.org/highlights-of-batian/>
- 16) **Gichimu B.M.** and Phiri N.A., 2010. Response of Newly Developed and Introduced Arabica Coffee Genotypes to *Colletotrichum kahawae*, the Coffee Berry Disease Pathogen, in Kenya. Proceedings of 12th Biennial KARI Scientific Conference, KARI Headquarters Complex, Kaptagat Road, Loresho, Nairobi, 8th – 12th November, 2010.
- 17) S.P. Nayani, Mishra M.K., Dandamudi P., Bhat S.S., Thimmasetty H.B., Subramani D., Reddy S.N., Revanna S.P., Bhat A.M., Murthy M., Harish D.M., Varzea V.M.P., Silva M., Jayarama, Phiri N.A., **Gichimu B.M.**, 2010. Evaluation of Coffee Varieties Derived From Diverse Genetic Sources of Resistance for Prospective Exploitation - An International Cooperative Effort. Proceedings of 23rd International Conference on Coffee Science, Bali – Indonesia, 3rd - 8th October, 2010. URL: <http://www.asic-cafe.org/htm/eng/sectioneng.php?code=BIO&number=23>
- 18) **Gichimu B.M.**, Omondi C.O. and Gichuru E.K., 2010. Early Agronomic Performance of Some New and Existing Arabica Coffee Varieties in Kenya. Proceedings of 23rd International Conference on Coffee Science, Bali – Indonesia, 3rd - 8th October, 2010. URL: http://www.asic-cafe.org/pdf/abstract/PA616_GICHIMU_2010.pdf
- 19) **Gichimu, B.M.** and M.O.A. Onyango, 2007. Non-Chemical Weed Control Practices in Production of Commercial Watermelon (*Citrullus lanatas*) In: *Isutsa et al. (Eds.). 2007. Proceedings of the Seventh HAK Workshop on Sustainable Horticultural Production in the Tropics, held from 28th November to 1st December 2007 at the University of Nairobi, Upper Kabete Campus, Kenya.*
- 20) **Gichimu, B.M.** and M.F.O. Ndong'a, 2006. Effects of hot pepper (*Capsicum frutescens*) extracts on aphids infestation on cowpea (*Vigna unguiculata*). In: *Isutsa et al. (Eds.). 2006. Proceedings of the Fifth HAK Workshop on Sustainable Horticultural Production in the Tropics, held from 23rd to 26th November 2005 at the Agricultural Resources Centre of Egerton University, Njoro, Kenya. pp. 36-43.* Available online at: <http://www.gem.uni-hannover.de/index.php?id=aktuell0>