



UNIVERSITY OF EMBU

STAFF WEBSITE PROFILE

Name: Phyllis Wambui Muturi

Title/Qualification: Dr.

Position: Senior Lecturer/Deputy Dean of Students

Department: Water & Agricultural Research Management

School: Agriculture

Area of Specialization: Plant Breeding & Biotechnology

Contact Address: P.O. BOX 6-60100 Embu

E-Mail: muturi.phyllis@embuni.ac.ke/mutuphy@yahoo.com

Google Scholar Account Link

<https://scholar.google.com.tw/citations?hl=en&user=M9jURGIAAAAJ>

Short Biography

Dr. Muturi holds a PhD in Plant Breeding and Biotechnology, MSc. in Crop Protection and BSc. Agriculture. She won scholarships for postgraduate training (MSc and PhD) from the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM). She has contributed to food security through and promotion of nutritious indigenous climate smart legumes and cereals. Dr. Muturi has been a Young Affiliate with The World Academy of Sciences (2020-2025). She's been a member of National Technical committees for example Biotechnology Technical Committee (2020-2022). In 2018, she was awarded a fellowship at Biosciences eastern and



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central Africa (BecA) to study Bambara groundnut. In 2021, she was awarded Early Career Fellowship with Organization for Women in Science for Developing World (OWSD) to study sustainable management of Fall Armyworm. In 2019, Dr. Muturi was awarded a visiting scholarship at Swedish University of Agricultural Sciences, Uppsala Department of Ecology. In 2015, she was awarded a visiting scholarship by Dupont Pioneer and hosted by Iowa State University, Department of Agronomy. She has shown academic leadership by leading research projects seeking to improve food security. She has supervised PhD, MSc and BSc. students in areas of food security. She has more than six years of teaching/research experience. She is the Students' Academic Advisor for Plant Breeding/Biotechnology/Crop Protection programs at the University of Embu. In 2012, she was recognized by the African Women in Agricultural Research and Development Programme (AWARD) to be among the 70 impressively talented and motivated young women researchers in Africa and she was awarded a two year fellowship. Dr. Muturi was a Carnegie Fellow in 2013. Dr. Muturi has worked with rural communities and has presented research findings in conference and published her work in international peer reviewed journals. She is a mentor and participates in community development projects/programmes.

Research Interests

Agricultural Biotechnology, Crop Improvement, Crop Protection, Participatory Approaches, Dryland Agriculture, Indigenous Knowledge, Indigenous Crops and Sustainable Seed Systems.

Publications in Journals (selected for the last 10 years):

1. Mwithiga, G., Maina, S., Gitari, J., **Muturi, P.**, 2022. Rosemary (*Rosmarinus officinalis* L.) growth rate, oil yield and oil quality under differing soil amendments, *HELIYON*, <https://doi.org/10.1016/j.heliyon.2022.e09277>.
2. Njue M, **Muturi P**, Nyaga J, Jonsson M. 2021. Influence of drought on interactions between *Rhopalosiphum padi* and ground dwelling predators –A mesocosm study. *J Appl Entomol.* 2021;00:1–5. <https://doi.org/10.1111/jen.12904>
3. **Muturi, P.W.**, Mgonja M. and Rubaihayo P., 2021. Genetics of dual resistance to African stem borer, *Busseola fusca* and spotted stem borer, *Chilo partellus* in sorghum. *Int J Trop Insect Sci.* <https://doi.org/10.1007/s42690-020-00411-5>
4. **Phyllis Muturi**, Mary Mgonja, Patrick Rubaihayo and James Mwololo, 2021. QTL Mapping of Traits Associated with Dual Resistance to the African stem borer (*Busseola fusca*) and Spotted Stem Borer (*Chilo partellus*) in Sorghum (*Sorghum bicolor*). *International Journal of Genomics.* DOI <https://doi.org/101155/2021/7016712>
5. Lydia G. Mugao, Bernard M. Gichimu, **Phyllis W. Muturi** and Simon T. Mukono 2020. Characterization of the Volatile Components of Essential Oils of Selected Plants in Kenya. *Hindawi - Biochemistry Research International*, Volume 2020, Article ID 8861798, <https://doi.org/10.1155/2020/8861798>
6. Lydia G. Mugao, **Phyllis W. Muturi**, Bernard M. Gichimu and Ezekiel K. Njoroge, 2020. In Vitro Control of *Phytophthora infestans* and *Alternaria solani* Using Crude



- Extracts and Essential Oils from Selected Plants. International Journal of Agronomy, Volume 2020 |Article ID 8845692. <https://doi.org/10.1155/2020/8845692>
7. Marline Hanny Owino, Bernard Mukiri Gichimu and **Phyllis Wambui Muturi**, 2020. Agro-morphological characterization of horned melon (*Cucumis metuliferus*) accessions from selected agro-ecological zones in Kenya. *Australian Journal of Crop Science*. AJCS 14 (09): 1487-1496. doi: 10.21475/ajcs.20.14.09.p2642
 8. **Muturi P.W.**, Mgonja M. and Rubaihayo, P. 2019. Gene action conditioning resistance traits to spotted stem borer, *Chilo partellus*, in grain sorghum. International Journal of Tropical Insect Science. DOI: <https://doi.org/10.1007/s42690-019-00020-x>
 9. **Muturi P.W.** Mgonja M. and P. Rubaihayo, 2018. Inheritance of Resistance Traits to the African Stem Borer in Grain Sorghum. *African Crop Science Journal*. doi: <https://dx.doi.org/10.4314/acsj.v27i3.5>
 10. **Muturi, P.W.** Mgonja M. and Rubaihayo P, 2014. Identification of new sorghum genotypes resistant to the African and spotted Stem borers. *International Journal of Tropical Insect Science*. doi:10.1017/S1742758414000459
 11. **Muturi PW**, Rubaihayo P, Mgonja M, Kyamanywa S, Sharma HC and Hash CT, 2012. Novel source of sorghum tolerance to the African stem borer, *Busseola fusca*. *African Journal of Plant Science Vol. 6(11), pp. 295-302. DOI: 10.5897/AJPS12.051*
 12. **Muturi P.W**, Rubaihayo P, Mgonja M, Kyamanywa S, Kibuka J and Sharma HC, 2012. New sources of resistance to spotted stem borer, *Chilo partellus* in sorghum. *Int. J. Agr. & Agri. R. Vol. 2, No. 8, p. 18-28*
 13. Mwololo J.K., Mburu M.K.W., **Muturi P.W.**, 2012. Performance of sweet potato varieties across environments in Kenya. *Int. J. Agr. & Agri. R. Vol. 2, No. 10, p. 1-11*
 14. **Muturi, P.W.**, Mwololo, J.K., Munyiri, S.W., Rubaihayo P., Munyua, J.K., Mgonja M., Manyasa E. and Kiarie N, 2010. A perspective on proteomics: Current applications, challenges and potential uses. *Agriculture and Biology Journal of North America, Vol. 1, Issue 5: 916-918*
 15. J.K. Mwololo, **P.W. Muturi**, S.W. Munyiri and J.K. Munyua, 2010. An overview of advancement in bioinformatics and its application in functional genomics. *Journal of Animal and Plant Sciences. Vol. 6, Issue 3:645-652*
 16. J.K. Mwololo, H.G Karaya, **P.W. Muturi**, S.W. Munyiri and J.K. Munyua, 2010. Utilization of proteins and nucleic acids in the study of gene function: A comparative review. *Journal of Applied Biosciences, 30: 1861-186*

Presentation of Papers at Academic and Professional Conferences (selected for the last 10 years)

1. **Muturi PW.** 2021. Utilization of herbs of economic importance. Presented to stakeholders during Herbs and Essential Oils workshop on 21st July 2021 at University of Embu.
2. Ombasa EM, **Muturi PW**, Gichimu BM, Isaboke H.N and Gitari J.N, 2021. Adoption of Bambara groundnuts in Embu County. Paper presented on 3rd June during the School of Agriculture Research Findings Dissemination Meeting. Theme: Enhancing Farm Incomes through research.



3. **Muturi P.W**, Rubaihayo P and Mgonja M, 2018. Inheritance of Resistance in Sorghum to the Spotted Stem Borer, (Swinhoe) (Lepidoptera; Crambidae). Paper presented during Organisation for Women in Science for Developing Countries, regional conference – Africa on 5th – 7th September, 2018 at *ICIPE*, Kasarani, Duduvile campus, Nairobi, Kenya. Theme: Theme: Women In Science, Engineering And Technology For Sustainable Development.
4. **Muturi P.W**, 2017. Linking Agricultural African Universities with Stakeholders to Build Resilience among Small Holder Farmers: Need for Attention, Collaboration and Support. Paper presented during ASA 60th Annual Meeting on 16-19th November, 2017, Chicago IL, USA. Theme: Creating an Ecosystem to Support Research and Researchers in Institutions of Higher Education in Africa.
5. **Muturi P.W**, 2017. Feeding the forgotten and the underprivileged: The case of sorghum. Paper presented during African Studies Review Pipeline workshop for Emerging African Scholars in November 15th 2017, Chicago IL, USA.
6. **Muturi P.W**, 2016. Enhancing Sustainable Livelihoods and Building Resilience in Semi-Arid Lands through Cultivation of Elite Sorghum. Paper presented during ASA 59th Annual Meeting in Washington, DC, December 1-3.
7. **Muturi P.W**, Rubaihayo P and Mgonja M, 2016. Inheritance of resistant traits to the African stem borer in Sorghum. Paper presented at the Presented at RUFORUM Biennial conference held in Cape town, South Africa on 5-21 Oct. 2016.
8. **Muturi PW**, Mgonja M and Rubaihayo P, 2015. Morphological traits conditioning sorghum resistance to the African stem borer, *Busseola fusca*. Paper presented at the Entomological Society of America (ESA) conference in November 15 - 18, 2015 Minneapolis, Minnesota, USA.
9. **Muturi PW**, Mgonja M and Rubaihayo P, 2013. Resistance of sorghum to indigenous stem borers. Paper presented in the 11th African Crop Science Society conference held on 14 - 17 October 2013, Entebbe, Uganda
10. **Muturi PW**, Rubaihayo P, Kyamanywa S, Mgonja M and Sharma H C, 2012. Performance of Selected Grain Sorghum Genotypes for Improved Food Security and Livelihoods. Paper presented in the 3rd RUFORUM Biennial Conference, 24-28 September, Entebbe, Uganda
11. **Muturi P W**, Rubaihayo P, Kyamanywa S and Mgonja M, 2011. Sources of resistance to *Busseola fusca* and *Chilo partellus* in sorghum for improved food security and livelihoods. Paper presented at the 10th African Crop Science Society Conference held at Maputo, Mozambique on 10-13 October
12. **Muturi, P.W**. Mburu, M.W.K. Mwololo, J.K. Ateka, E. M. Njeru, R. W and Kiarie, N, 2011. Response of Sweet potato to whitefly resistance. Paper presented in aGRO 2011 University of Nairobi held at College of Agriculture and Veterinary Sciences on 26th-28th September





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