

PWANI UNIVERSITY

STAFF PROFILE FORM



Dr. James Kyalo Mwololo

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DEPARTMENT	BIOLOGICAL SCIENCES	
SCHOOL	PURE AND APPLIED SCIENCES	
DESIGNATION	LECTURER	
Academic Qualifications		
PhD: Makerere University, Uganda: Plant Breeding and Biotechnology- 2013 Msc: Agronomy-University of Nairobi-2008 Bsc: Agriculture (First Class Honours)-University of Nairobi-2005		
Research		
Current research has been on “Genetic studies in tropical maize for resistance to the maize weevil and larger grain borer”. The objectives of this study are to (i) assess resistance in tropical maize to the maize weevil and larger grain borer; (ii) determine genetic relationships in tropical maize germplasm in relation to postharvest insect pests using phenotypic data and molecular markers; and (iii) map quantitative trait loci (QTL) associated with postharvest insect pest resistance in tropical maize. In summary the research entailed looking into nexploitation od molecular markers in breeding for resistance.The research was funded my the Regional Universities FORUM for capacity building in Agriculture (RUFORUM) and partly co-funded by the International Maize and Wheat Improvement Center (CIMMYT) from 2010-2012. Additional funding was awarded by RUFORUM in 2013 for dissemination of the key outputs to the stakeholders in the Agricultural and Research sector.		
Publications in peer reviewed Journals		
<ul style="list-style-type: none">• J.K. Mwololo, S. Mugo, T. Tadele. and S.W. Munyiri 2013: Evaluation of traits of resistance to the maize weevil. International Journal of Agriculture and Crop Sciences, Vol 6: 926-933.• S.W Munyiri, S.N Mugo, M. Otim, T .Tefera, Y. Beyene, J.K. Mwololo and P. Okori. 2013: Responses of tropical maize landraces to damage by <i>Chilo partellus</i> stem borer. African Journal of Biotechnology, Vol 12:1229-1235.• S.W Munyiri, S.N Mugo, M. Otim, T .Tefera, Y. Beyene, J.K. Mwololo and P. Okori. 2013: Responses of tropical maize landraces to damage by <i>Chilo partellus</i> stem borer. African Journal of Biotechnology, Vol 12:1229-1235.• J.K. Mwololo, S. Mugo, P. Okori, T. Tadele, M.Otim. and S.W. Munyiri 2012: Sources of Resistance to the Maize Weevil <i>Sitophilus zeamais</i>. Journal of Agricultural Science, Vol 4: 206-215.• J.K. Mwololo, S. Mugo, P. Okori, T. Tadele, Y.Beyene, M.Otim. and S.W. Munyiri 2012: Phenotypic and Genotypic Variation in Tropical Maize Inbred Lines for Resistance to the Maize Weevil and Larger Grain Borer. International Journal of Agricultural Science and Research, Vol 2: 41-52.• J.K. Mwololo, S. Mugo, P. Okori., S.W. Munyiri, T. Tadele, M.Otim. and Y. Beyene 2012: Resistance of Tropical Maize Genotypes to the Larger Grain Borer. Journal of Pest Science, Vol 85: 267-275.		

- **J.K. Mwololo**, M.W.K. Mburu. and P.W. Muturi 2012. Performance of sweet potato varieties across environments in Kenya. *International Journal of Agronomy and Agricultural Research*, Vol 2: 1-11.
- **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* 2010, Vol 30:1861-1865 ISSN 1997-5902.
- **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.
- **J.K. Mwololo**, P. W. Muturi, M. W. K. Mburu, R. W. Njeru, N. Kiarie, J. K. Munyua, E. M. Ateka, R. W. Muinga, R. E. Kapinga and B. Lemaga: 2009. Additive main effects and multiplicative interaction analysis of genotype x environment interactions among sweetpotato genotypes. *Journal of Animal and Plant Sciences*, Vol 2, Issue 3:148-155.
- **J. K. Mwololo**, P. W. Muturi and S.W.Munyiri 2009: Overview of breeding for storage Pest resistance in maize. *Aspects of Applied Biology* No. 96 pp. 421-427. <http://www.cabdirect.org/abstract/2010>.
- **J.K. Mwololo**, P.W. Muturi, M.W.K. Mburu, R.W. Njeru, N. Kiarie, J.K. Munyua, E.M. Ateka, R.W. Muinga, R.E. Kapinga and B. Lemaga: Integration of farmers in technology development as a basis of sweetpotato productivity. *Agricultural Innovations for Sustainable Development*, Vol 3 Issue 2:112-118. <http://www.getbookee.com/mwololo/>; 2010.http://faraafrica.org/media/uploads/library/docs/fara_publications/fara_agri_innovations_book.p p 112-118.
- **J. K. Mwololo**, P. W. Muturi, M. W. K. Mburu, R. W. Njeru, N. Kiarie, J. K. Munyua, E. M. Ateka, R. W. Muinga, R. E. Kapinga and B Lemaga: 2007. Resistance of genotypes to sweetpotato virus disease in coastal Kenya. *African Crop Science Society* Vol. 8. pp. 2083-2086; <http://www.acss.ws/Upload/XML/Research/548.pdf>.
- P. W. Muturi, **J. K. Mwololo**, M. W. K. Mburu, R. W. Njeru, N. Kiarie, J. K. Munyua, E. M. Ateka, R. W. Muinga, R. E. Kapinga and B. Lemaga. 2007. Strategies for maintenance of clean sweetpotato planting materials. *African Crop Science Society* 2007. pp. 2071-2074; <http://www.acss2007.org>.

Others: Papers in Conference Proceedings/ Book of Abstracts

- **J.K. Mwololo**, P. Okori., S. Mugo, T. Tefera, M.Otim and S.W. Munyiri: Resistance to the maize weevil (*Sitophilus zeamais* Motsch) among maize inbred lines, Paper presented in the 3rd RUFORUM Biannual Conference held at Imperial Beach hotel in Entebbe, Kampala, 24-28th September 2012.
- Munyiri, S.W., Okori, P., Mugo, S. N., Otim, M. and **J.K Mwololo**: Mechanisms of resistance in tropical maize inbred lines to spotted stem borer (*Chilo partellus*), Paper presented in the 3rd RUFORUM Biannual Conference held at Imperial Beach hotel in Entebbe, Kampala, 24-28th September 2012. www.ruforum.org/system/files/Munyiri
- **J.K. Mwololo**, S. Mugo, P. Okori., S. Kassa, T. Tefera, S. Kassa, M. Otim and S.W. Munyiri: Genetic Diversity study in search for sources of resistance to the maize weevil among landraces accessions and inbred liners, Paper presented in the 10th African Crop Science Society Conference held at Maputo, in Mozambique, 10-13 October 2011.
- Munyiri, S.W., Okori, P., Mugo, S. N., Otim, M. and J.K Mwololo: Resistance to *Chilo partellus* stem borers in CIMMYT maize inbred lines, Paper presented in the 10th African Crop Science Society Conference held at Maputo, in Mozambique, 10-13 October 2011.
- **J.K. Mwololo**, S. Mugo, P. Okori., S. Kassa, T. Tefera, Y. Beyene. and S.W. Munyiri: Genetic Diversity for Resistance to Larger Grain Borer in Maize Hybrids and Open Pollinated Varieties in Kenya, Paper presented in the Regional Universities forum for capacity building in Agriculture Biennial conference held at Imperial Beach hotel in Entebbe, Kampala, 20-24 September 2010. <http://mak.ac.ug/documents/RUFORUM/Mwololo.pdf>.
- Munyiri, S.W., Okori, P., Mugo, S. N., Otim, M., Gibson, P. and **Mwololo, J.K 2010**. Genetic diversity in maize landraces for resistance to *Chilo partellus* in Kenya, Paper presented in the Regional Universities forum for capacity building in Agriculture Biennial conference held at Imperial Beach hotel in Entebbe, Kampala, 20-24 September 2010. <http://mak.ac.ug/documents/RUFORUM/Mwololo.pdf>
- **J. K. Mwololo**, P. W. Muturi, M. W. K. Mburu, R. W. Njeru, N. Kiarie, J. K. Munyua, E. M. Ateka, R. W. Muinga, R. E. Kapinga and B. Lemaga. 2007. Participatory Evaluation of sweetpotato production constraints in Kirinyaga and Kwale districts, Kenya. Paper presented in the First Biennial Meeting of the Regional Universities Forum for Capacity Building in Agriculture, 23-27 April 2007, Mangochi, Malawi.