



Jeninah Karungi (Tumutegyereize)  
**Associate Professor / Crop Scientist**

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Department of Agricultural Production, School of Agricultural Sciences, Makerere University, P.O. Box 7062, Kampala, Uganda

### Qualifications

- **Ph.D.**, Agriculture (Crop Entomology), February, 2007; Makerere University, Uganda; Sandwich arrangement with the Swedish University of Agricultural Sciences, Sweden,
- **MSc.**, Crop Science, July 1999; Makerere University, Uganda,
- Post graduate **Diploma** in Research Methods for Agronomists, Wye College, University of London (Now part of the Imperial College of London) (October, 1997).
- **B.Sc.**, Agriculture, January 1997; Makerere University, Uganda.

### Biography

Jeninah Karungi is an Associate Professor in the College of Agricultural and Environmental Sciences, Makerere University (Uganda). She has a BSc. Agriculture (1997), MSc. Crop Science (1999) and a PhD in Agriculture (Crop Entomology, 2007). She is an alumna of Makerere University, Imperial College of London (former Wye College), and Swedish University of Agricultural Sciences (SLU). Her research experience spans 21 years with particular emphasis on pest management in agro-ecosystems. She has experience as a Principal Investigator/Coordinator and research team member to 7 and 14 international research projects, respectively. This has been through cooperation with development partners including Swedish International Development Agency (Sida), and Austrian development Cooperation (APPEAR); Volkswagen Foundation, EU (LEAP-Agri), Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) and Federal Office for Agriculture and Food (BLE) of Germany and United States Agency for International Development (USAID). Her research outputs include 55 refereed scientific journal articles; 6 refereed Conference Proceedings articles and 2 book chapters. As an educator, the tally of graduate students under her supervision that have successfully completed is 27 all of which are pursuing vibrant science careers; 10 more are in the process at different levels in their studies. She is an Editor/reviewer of research articles/theses at local, regional and international levels. She is a recipient of the prestigious

International Integrated Pest Management Excellence award (2009); Young Affiliate Fellow, Academy of Sciences of the Developing World (TWAS, 2010), and Fellow, Uganda National Academy of Sciences (2014).

**Other Activities  
Teaching**

Chief Editor – Makerere university journal of agricultural and environmental sciences (MUJAES)

**Courses taught at Graduate level:**

- 1) Crop Pest Physiology and Ecology, and
- 2) Pesticide Application and Toxicity)

**Courses taught at Undergraduate level:**

- 1) Integrated Pest Management Systems,
- 2) Crop Science for Engineers, and
- 3) Introduction to Entomology and Nematology.

**Research**

Jeninah has led and conducted research in diverse areas of agricultural and environmental sciences, notably - integrated pest management; waste management and agricultural production; agroecology; biodiversity and agricultural productivity; sustainable agricultural intensification; seed quality; water-energy-food security nexus; agriculture and nutrition education; germplasm sourcing and evaluation; and policy support. Crops of interest include coffee, hot pepper, passion fruit, tomato, beans, brassica, rice, pineapple, banana, maize, and cassava

**Research groups  
and Centres**

APPEAR-CPUg group (research partnership with Technische Universität Wien; Makerere university; Mbarara university of science and technology; and Uganda red cross society)

<https://www.tuwien.at/index.php?eID=dumpFile&t=f&f=117953&token=740f15e583819d33f654f2360a2916e8f5c409ff>

**Community  
based work**

Accredited Scientist to the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) to conduct efficacy assessments for pesticides under consideration for registration in Uganda.

**Awards or  
special  
recognitions  
received**

- International Integrated Pest Management Excellence award (2009);
- Young Affiliate Fellow, Academy of Sciences of the Developing World (TWAS, 2010), and
- Fellow, Uganda National Academy of Sciences (2014).

## Publications

1. Mugisa I, Karungi J, Musana P, Odama R, Alajo A, Chelangat DM, Anyanga MO, Oloka BM, Gonçalves dos Santos I, Talwana H, Ochwo-Ssemakula M, Edema R, Gibson P, Ssali R, Campos H, Olukolu BA, da Silva Pereira G, Yencho C and Yada B (2022) Combining ability and heritability analysis of sweetpotato weevil resistance, root yield, and dry matter content in sweetpotato. *Front. Plant Sci.* 13:956936. <https://doi.org/10.3389/fpls.2022.956936>
2. Nyirahabimana, H.; Turinawe, A.; Lederer, J.; **Karungi, J.**; Herrnegger, M. What Influences Farmer's Adoption Lag for Soil and Water Conservation Practices? Evidence from Sio-Malaba Malakisi River Basin of Kenya and Uganda Borders. *Agronomy* 2021, 11, 1985. <https://doi.org/10.3390/agronomy11101985>.
3. Amann, A., Herrnegger, M., **Karungi, J.**, Komakech, A.J., Mwanake, H., Schneider, L., Schürz, C., Stecher, G., Turinawe, A., Zessner, M., Lederer, J. 2021. Can local nutrient-circularity and erosion control increase yields of resource-constraint smallholder farmers? A case study in Kenya and Uganda, *Journal of Cleaner Production* 318 (2021) 128510. <https://doi.org/10.1016/j.jclepro.2021.128510>.
4. Katono K, Macfadyen S, Omongo AC, Odong TL, Colvin J, **Karungi J** and Otim MH. 2021. Influence of cassava morphological traits and environmental conditions on field populations of *Bemisia tabaci*, *Insects* 2021, 12, 604. <https://doi.org/10.3390/insects12070604>
5. Katono K, Macfadyen S, Omongo AC, Odong TL, Colvin J, **Karungi J** and Otim MH. 2021. Mortality factors acting on field populations of *Bemisia tabaci* (Hemiptera: Aleyrodidae) SSA1 on cassava in Uganda, *Eur. J. Entomol.* 118: 148-158. <https://doi.org/10.14411/eje.2021.016>
6. Ijala, A.R., Kyamanywa, S., Cherukut, S., Sebatta, C., Kyamanywa, S. and **Karungi, J.** 2021. Can Occurrence and Distribution of Ground Beetles (Carabidae) Be Influenced by the Coffee Farming System in the Mount Elgon Region of Uganda? *Neotrop. Entomol.* <https://doi.org/10.1007/s13744-021-00872-4>
7. Ssekkadde, P., Ribeiro, C.S.C., Ochwo-Ssemakula, M.N., Tukamuhabwa, P. and **Karungi, J.** 2021. Fruit traits associated with resistance to fruit pests of hot pepper, *Makerere University Journal of Agricultural and Environmental Sciences* Vol. 10 (1). pp. 22 – 46.
8. Ijala, A.R., Kyamanywa, S., Cherukut, C., Sebatta, C., Hilger, T. and **Karungi, J.** 2021. Host- plant and insect-pest compensations, and microclimate as drivers for intensity of *Toxoptera aurantii* (Hemiptera: Aphididae) in Arabica coffee-banana farming system of Mount Elgon region, Uganda, *African Crop Science Journal* Vol. 29(2). Available <https://www.ajol.info/index.php/acsj/article/view/207674>
9. Kityo R., J.B. Odoi, A. Ozimati, I.O. Dramadri, P. Nampala, R. Edema, **Karungi, J.**, P. Gibson And P.R. Rubaihayo. 2021. New sources and stability of resistance to aphids in cowpea germplasm across locations in Uganda, *African Crop Science Journal* Vol. 29(2). Available <https://www.ajol.info/index.php/acsj/article/view/207659>
10. Sebatta, C., Mugisha, J., Bagamba, F., Nuppenau, E.A., Domptail, S.E., Ijala, A. and **Karungi, J.** 2020. Efficiency and possibilities for Arabica coffee-banana management systems switching in the Mt. Elgon landscape of Uganda. *African Crop Science Journal*, Vol. 28, No. 3, pp. 421 – 439. Available

<https://www.ajol.info/index.php/acsj/article/view/200003>

11. Fischer, S., Hilger, T., Piepho, HP., Jordan I., **Karungi J.**, Towett E., Shepherd K. and Cadisch G. 2020. Soil and farm management effects on yield and nutrient concentrations of food crops in East Africa. *Science of the Total Environment*, Volume 716, 10 May 2020, 137078. <https://doi.org/10.1016/j.scitotenv.2020.137078>
12. Jjagwe J, Chelimo K, **Karungi J**, Komakech A J and Lederer J, 2020. Comparative Performance of Organic Fertilizers in Maize (*Zea mays* L.) Growth, Yield, and Economic Results, *Agronomy* 2020, 10, 69; <https://doi.org/10.3390/agronomy10010069>
13. Ijala A.R., Samuel Kyamanywa, Scola Cherukut, Christopher Sebatta, **Jeninah Karungi**, 2019. Parasitism of *Hypothenemus hampei* (Coleoptera: Scolytidae) in different farming systems and altitudes of Mount Elgon, Uganda, *Journal of Applied Entomology*, <https://doi.org/10.1111/jen.12689>.
14. Jjagwe J, Komakech A.J., **Karungi J.**, Amann A., Wanyama J. and Lederer J. 2019. Assessment of a Cattle Manure Vermicomposting System Using Material Flow Analysis: A Case Study from Uganda; *Sustainability* 2019, 11, 5173; <https://doi.org/10.3390/su11195173>.
15. Namara, N., **J. Karungi**, R. Edema, P. Gibson and P. Tukamuhabwa. 2019. Potential for yield loss reduction and profitability assessment of pesticide control of groundnut leaf miner among soybean genotypes, *African Crop Science Journal*, Vol. 27, No. 2, pp. 183 – 192.
16. Sebatta C, Mugisha J, Bagamba F, Nuppenau EA, Domptail SE, Kowalski B, Hoeher M, Ijala AR and **Karungi J.** 2019. Pathways to sustainable intensification of the coffee-banana agroecosystems in the Mt. Elgon region, *Cogent Food & Agriculture* (2019), 5: <https://doi.org/10.1080/23311932.2019.1611051>.
17. Sebatta, C., J. Mugisha, F. Bagamba, E. A. Nuppenau, S.E. Domptail, A. Ijala and **J. Karungi**. 2018. Barriers and opportunities for intensification of the coffee-banana agroecosystem of the Mt. Elgon in Uganda; *African Journal of Rural Development*, Vol. 3 (4):1005-1011.
18. Ibanda A. P., **Karungi J.**, Malinga G. M., Tanzito G. A., Ocan D., Badji A., Mwila N, Odong T.L., Tukamuhabwa P., and Rubaihayo P. (2018) Influence of environment on Soybean [*Glycine max* (L.) Merr.] resistance to groundnut leaf miner, *Aproaerema modicella* (Deventer) in Uganda. *Journal of Plant Breeding and Crop Science*. 10(12): 336-346. <https://doi.org/10.5897/JPBCS2018.0764>.
19. Ibanda A. P., G. M. Malinga, G. A. Tanzito, D. Ocan, A. Badji, N. Mwila, U. Msiska, T. L. Odong, **J. Karungi**, P. Tukamuhabwa, P. R. Rubaihayo. 2018. Combining ability and heritability of soybean resistance to groundnut leaf miner, *Euphytica*, 214: 192. <https://doi.org/10.1007/s10681-018-2271-7>.
20. Atukunda R., Sseruwagi P., **Karungi J.**, Kyamanywa S., Erbaugh M. and Ochwo-Ssemakula M., 2018. Farmers' knowledge of passion fruit virus diseases and their management in central Uganda, *Afr. J. Hort. Sci.* 13: 53-64.
21. **Karungi J.**, Cherukut S., Ijala AR., Tumuhairwe, JB., Bonabana-Wabbi, J., Nuppenau, EA. Hoeher M., Domptail S., and Otte A. 2018. Elevation and cropping system as drivers of microclimate and abundance of soil, macrofauna in coffee farmlands in mountainous ecologies, *Applied Soil Ecology*, Volume 132, December 2018, Pages 126-134. DOI: <https://doi.org/10.1016/j.apsoil.2018.08.003>.

22. Agbahoungba S., Karungi J., Sadik K., Gibson, P., Edema R., Assogbadjo A.E. and Rubaihayo P.R. 2018. Microsatellites markers associated with resistance to flower bud thrips in a cowpea F2 population derived from genotypes TVU-123 and WC36, African Journal of Biotechnology, Vol. 17(25): 767-778.
23. Agbahoungba S. **Karungi J.**, Badji A., Sadik K., Gibson P. 2018. Inheritance of cowpea resistance to flower thrips in Uganda germplasm, Journal of Plant Breeding and Crop Science, Vol. 10(1): 21-32.
24. Agbahoungba, S., **Karungi, J.** Odong, T.L., Badji, A., Kumi, F., Mwila, N. and Rubaihayo, P.R. 2018. Biochemical constituents influencing the resistance of flower bud thrips in cowpea (*Vigna unguiculata* (L.) Walp) germplasm, Journal of Animal and plant sciences, 28(1): 128-137.
25. Ssepuyya, G., C.M. Tanga, I. Yekko, F. Sengendo, C.T. Ndagire, K.K.M. Fiaboe, **J. Karungi**, D. Nakimbugwe. 2018. Suitability of egg hatching conditions and commonly available food plants for rearing the long-horned grasshopper *Ruspolia differens* Serville (Orthoptera: Tettigoniidae), Journal of Insects as Food and Feed, 4 (4)-Pages: 253 – 261. <https://doi.org/10.3920/JIFF2018.0005>.
26. Lederer, J. Ogwang, F. and **Karungi, J.** 2017. Knowledge identification and creation among local stakeholders in CDM waste composting projects: A case study from Uganda. Resources, Conservation and Recycling, 122: 339–352. <https://doi.org/10.1016/J.RESCONREC.2017.03.005>
27. Agbahoungba, S., **Karungi, J.** Odong, T.L., Badji, A., Sadik, K. and Rubaihayo, P.R. 2017. Stability and extent of resistance of cowpea lines to flower bud thrips in Uganda. African Crop Science Journal, Vol. 25, No. 1, pp. 1 – 24.
28. Agbahoungba, S., **Karungi, J.**, Talwana, H., Badji, A., Kumi, F., Mwila, N., Edema, R., Gibson, P. and Rubaihayo P. 2017. Additive main effects and multiplicative interactions analysis of yield performances in cowpea genotypes under Ugandan environments, International Journal of Advanced Research 5(6):349-360.
29. Kabi, S., **Karungi, J.**, Sigsgaard, L. and Ssebuliba, J.M. 2016. *Dysmicoccus brevipes* (Cockerell) occurrence and infestation behaviour as influenced by farm type, cropping systems and soil management practices. Agriculture Ecosystems and Environment 222:23-29. <https://orcid.org/10.1016/j.agee.2016.01.040>.
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31. Mugisa, I.O., **Karungi, J.**, Akello, B., Ochwo-Ssemakula, M.K.N., Biruma, M., Okello, D.K. and Otim, G. 2015. Determinants of groundnut rosette virus disease occurrence in Uganda. Crop Protection 79: 117-123. <https://orcid.org/10.1016/j.cropro.2015.10.019>.
32. Ssekandi W., J. W. Mulumba, P. Colangelo, R. Nankya, C. Fadda, **J. Karungi**, M. Otim, P. De Santis & D. I. Jarvis. 2015. The use of common bean (*Phaseolus vulgaris*) traditional varieties and their mixtures with commercial varieties to manage bean fly (*Ophiomyia* spp.) infestations in Uganda, Journal of Pest Science, DOI: <https://orcid.org/10.1007/s10340-015-0678-7>.
33. Lederer J, **Karungi J**, and Ogwang, F. 2015. The potential of wastes to improve nutrient levels in agricultural



- soils: A material flow analysis case study from Busia District, Uganda. *Agriculture Ecosystems & Environment*, DOI:10.1016/j.agee.2015.03.024. <https://orcid.org/10.1016/j.agee.2015.03.024>.
34. Mugisa, I.O., **Karungi, J.**, Akello, B., Ochwo-Ssemakula, M.K.N., Biruma, M., Okello, D.K., and Otim, G. 2015. Assessing the effect of farmers' practices on the severity of groundnut rosette virus disease in Uganda. *African journal of Agricultural Research*, 10(9): 995-1003.
  35. Awio, T. Bua, B. **Karungi, J.** 2015. Assessing the Effects of Water Management Regimes and Rice Residue on Growth and Yield of Rice in Uganda, *American Journal of Experimental Agriculture*, 7(2): 141-149. <https://orcid.org/10.9734/AJEA/2015/15631>.
  36. **Karungi, J.**, Nambi, N., Ijala, A. R., Jonsson, M., Kyamanywa, S. and Ekbom B. 2015. Relating shading levels and distance from natural vegetation with hemipteran pests and predators occurrence on coffee, *Journal of Applied Entomology*, 139 (9), 669-678 DOI: 10.1111/jen.12203.
  37. Jonsson M., Ijala, A.R., Ekbom, B., Kyamanywa, S. and **Karungi, J.** 2014. Contrasting effect of shade levels and altitude on two important coffee pests. *Journal of Pest Science*. DOI: <https://orcid.org/10.1007/s10340-014-0615-1>.
  38. Lederer, J., **Karungi, J.** and Ogwang, F. 2014. Nährstoffflüsse in Uganda: Eine Fallstudie aus dem Busia District, *Österr Wasser- und Abfallw*, 66:40-50. DOI 10.1007/s00506-013-0129-8.
  39. Kirinya, J., D.B. Taylor, S. Kyamanywa, **J. Karungi**, J.M. Erbaugh, and J. Bonabana-Wabbi. 2013. Adoption of integrated pest management (IPM) technologies in Uganda: review of economic studies. *International Journal of Advanced Research* (2013), Volume 1, Issue 6, 401-420.
  40. Ssemwogerere, C., Ochwo-Ssemakula, M.K.N., Kovach, J., Kyamanywa, S. and **Karungi, J.** 2013. Species composition and occurrence of thrips on tomato and pepper as influenced by farmers' management practices in Uganda. *Journal of Plant Protection Research*, 53(2):158:164. DOI: <https://orcid.org/10.2478/jpppr-2013-0024>.
  41. **Karungi, J.**, T. Obua, S. Kyamanywa, C.N. Mortensen and M. Erbaugh. 2013. Seedling protection and field practices for management of insect vectors and viral diseases of hot pepper (*Capsicum chinense* Jacq.) in Uganda, *International Journal of Pest Management* 59(2):103-110. <https://orcid.org/10.1080/09670874.2013.772260>.
  42. Bua, B., **Karungi, J.** and Kawube, G. 2013. Occurrence and effects of pineapple mealybug wilt disease in Central Uganda, *Journal of Agricultural Science and Technology A* 3: 410-416.
  43. Lubanga, U. K., **Karungi, J.**, Kyamanywa, S. and Ekbom, B. 2012. Assessing the potential of trap cropping in the management of different insect taxa on white cabbage. *International Journal of Tropical Insect Science*, Vol. 32(4): 218-223. <https://orcid.org/10.1017/S1742758412000306>.
  44. Gafishi Kanyamasoro, M., **Karungi, J.**, Asea, G. and Gibson, P. 2012. Determination of the heterotic groups of maize inbred lines and the inheritance of their resistance to the maize weevil. *African Crop Science Journal*, Vol. 20(1): 99 - 104.

45. **Karungi, J.**, Kyamanywa, S and Ekbom, B. 2010. Organic soil fertility amendments and tritrophic relationships on cabbage in Uganda: experiences from on-station and on-farm trials, *African Journal of Agricultural Research*, Vol. 5(21), pp. 2862 - 2867.
46. **Karungi, J.**, Lubanga, U.K., Kyamanywa, S and Ekbom, B. 2010. Oviposition preference and offspring performance of *Crocidolomia pavonana* (Lepidoptera: Pyralidae) on different host plants. *Journal of Applied Entomology*, 134: 704–713. <https://orcid.org/10.1111/j.1439-0418.2010.01518.x>
47. **Karungi, J.**, Agamile, P., Kovach, J. and S. Kyamanywa, S. 2010. Cover cropping and novel pesticide usage in the management of pests of hot pepper (*Capsicum chinense*). *International Journal of Tropical Insect Science*, Vol. 30, No. 2, pp. 84–92. <https://orcid.org/10.1017/S1742758410000160>.
48. **Karungi, J.**, Ekbom, B. and Kyamanywa, S. 2006. Effect of organic versus conventional fertilizers on insect pests, natural enemies and yield of *Phaseolus vulgaris*. *Agriculture, Ecosystems and Environment*, 115: 51-55. <https://orcid.org/10.1016/j.agee.2005.12.008>.
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54. Nampala, P., Ogenga-Latigo, M.W., Kyamanywa, S., Adipala, E., **Karungi, J.**, Oyobo, N. and Jackai, L.E.N. 1999. Integrated management of major field pests of cowpea in eastern Uganda. *African Crop Science Journal* 7 (4): 479 –486.
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