



**Prof. Agnes W. Kihurani,  
Associate Professor  
School of Agriculture and Biotechnology  
Head, Department of Agricultural Sciences Karatina  
University.**

## **BRIEF ACADEMIC PROFILE**

Studied Agriculture at undergraduate level, later specializing in plant pathology at Masters and

PhD levels, University of Nairobi. Started professional career at the Kenya Agricultural Research Institute (KARI), currently Kenya Agricultural and Livestock Research Organization (KARLO), stationed at the National Agricultural Research Laboratories (NARL). This was an opportunity to develop practical skill, knowledge and competences in plant disease diagnosis, on-farm and onstation agricultural research and working with farmers and industry players in different aspects of plant health.

As a young professional, became part of a team pioneering sweet potato (*Ipomoea batatas*) research and development in Kenya in early 1990s. This important food security crop was previously neglected by scientists and government policies in East Africa. Today, sweet potato holds an important crop position in the farming and food systems of Kenya and the East African region as a security, food and cash crop. Another important outcome of the work was documentations of various diseases that are responsible for postharvest losses during the transportation, storage and marketing of the edible storage roots.

In the year 2006, left KARLO and joined Jomo Kenyatta University of Agriculture and Technology (JKUAT) as a senior lecturer in the department of Horticulture. This career move was guided by the desire to share the acquired wealth of knowledge and experience with the future agricultural professionals. During this term at JKUAT, successfully supervised several masters and doctorate students and mentored many undergraduate students, among other academic achievements.

After a successful 9-year term at JKUAT, joined Karatina University as associate Professor in the School of Agriculture and Biotechnology, department of Crop Science, later renamed Agricultural Sciences Department. Besides administrative responsibilities as the Head of the Department, continued to teach agricultural courses, supervise postgraduate students and mentor students at different levels of learning, and other young agricultural professionals. Academic leadership achievements include serving as external examiner, authoring/co-authoring scientific articles in journals, books, bulletins and workshop proceedings. Excellent

leadership and communication skills are attributable to appointment to various leadership positions including, Head, academic department (agricultural sciences, Karatina University), Attachment Coordinator and Time table Coordinator (JKUAT), Head, plant pathology section (NARL, KARI) among other leadership responsibilities.

## PUBLICATIONS

### THESES

- i. **Kihurani, A.W. 2004.** Factors associated with postharvest deterioration of sweetpotato storage roots in Kenya. Ph.D thesis, University of Nairobi
- ii. **Kihurani, A.W. 1992.** Differentiation of isolates of *Uromyces appendiculatus* (Per.ex per) Unger var. *appendiculatus* and evaluation of bean cultivars for resistance to bean rust in Kenya. M.Sc thesis, University of Nairobi.

### PAPERS IN REFEREED JOURNALS

- iii. Munganyinka, E, E. M. Ateka, **A. W. Kihurani**, M. C. Kanyange, F. Tairo, P. Sseruwagie and J. Ndunguru. 2017. Cassava brown streak disease in Rwanda: The associated viruses and disease phenotypes. Plant Pathology. John Wiley & Sons Ltd. British Society for Plant Pathology (BSPP). Doi: 10.1111/ppa.12789. Pgs. 1-11.
- iv. Gatambia, E. K., **Agnes. W. Kihurani**, Fredah K Rimberia. and Monica M. Waiganjo. 2016. Evaluation of growth rate and phenotypic traits of meristem - cultured papaya plants. Journal of Experimental Agriculture International. 14 (4): 1-8.
- v. Gatambia, E. K., **Agnes. W. Kihurani**, Fredah K Rimberia. and Monica M. Waiganjo. 2016. In vitro meristem culture for rapid regeneration of papaya plantlets in liquid media. Annual research & Review in Biology 9 (1): 1-7.
- vi. Dennis Maina Gatahi, Harrison Njuma Wanyika, Agnes Mumo Kavoo, **Agnes Wanjiru Kihurani** and Elijah Miinda Ateka. 2016. Enhancement of bacterial wilt resistance and rhizosphere health in tomato using bionanocomposites. International Journal of Horticultural Science and Technology Vol. 3, No. 2; December 2016, pp 129-144 Print ISSN: 2322-1461 Online ISSN: DOI: Web Page: [https:// ijhst.ut.ac.ir](https://ijhst.ut.ac.ir), Email: [ijhst@ut.ac.ir](mailto:ijhst@ut.ac.ir).
- vii. Gatahi, D., Wanyika, H., **Kihurani, A.** and Gatebe, E. 2016. Effect of biological Control Antagonists adsorbed on Chitosan Immobilized Silica Nanocomposite on *Ralstonia solanacearum* and Growth of Tomato Seedlings. Advances in Research 6(3): 1-23, 2016, Article no. AIR.22742. ISSN: 2348- 0394, NLM ID: 101666096. SCIENCEDOMAIN international. [www. Science domain.org](http://www.Science domain.org).
- viii. Gatahi, D. M., Wanyika, H.N, **Kihurani, A.W** and Adhiambo O. D. 2016. Synthesis of Nylon-ferrous Oxide Chitosan Immobilised Silica Nanoprobe for Detection of *Ralstonia solanacearum*. Journal of Agriculture and Ecology Research International. 7(4): 1-17, 2016; Article no.JAERI.23845. ISSN: 2394-1073. SCIENCEDOMAIN international. [www. Science domain.org](http://www. Science domain.org).

- ix. Gatahi, D. M., Wanyika, H.N, **Kihurani, A.W** and Gatebe, E. G. 2016. Synthesis of Chitosan Immobilized Silica Nanocomposite adsorbed with biocontrol antagonists for the control of bacterial wilt disease. *Journal of Kenya Chemical Society* Vol. 9 Issue 1: 111-134. Kenya Chemical Society. [www. Kenchemsoc.org](http://www.kenchemsoc.org).
- x. Mwangi, H. W., **Kihurani, A. W.**, Wesonga, J. M., Ariga, E.S. and Kanampiu, F. 2015. Effect of Lablab purpureus L. cover crop and imidazolinone resistant (IR) maize on weeds in drought prone areas, Kenya. *Crop Protection* 72: 36-40. [www.elsevier.com/locate/eja](http://www.elsevier.com/locate/eja).
- xi. Mwangi, H. W., **Kihurani, A. W.**, Wesonga, J. M., Ariga, E.S. and Kanampiu, F. 2015. Factors influencing adoption of cover crops for weed management in Machakos and Makueni counties of Kenya. *Europ.J.Agronomy* 69: 1-9. [www.elsevier.com/locate/cropro](http://www.elsevier.com/locate/cropro).
- xii. Mumo, N. N., Rimberia, F. K., Mamati, G. E. and **Kihurani, A. W.** 2014. In vitro grafting of selected Kenyan papaya (*Carica papaya* L.) lines in Kenya. *Annual Research & Review in Biology* 4 (14): 2337-2346.
- xiii. Wachira, P. M., Kimenju, J. W., Kiarie, J. W., **Kihurani, A. W.**, Mwaniki, S. W. and Gathaara, V. N. 2013. Incidence of Pests and Diseases Affecting Banana in a Commercial Banana Production Setting in Kenya. *International Journal of Research in Agriculture and Food Sciences*. Vol. 1, No.1:23-29. <http://www.ijsk.org/ijrafs.html>.
- xiv. Wachira, P. M., Kimenju, J. W., Kiarie, J. W., **Kihurani, A. W.** and Mwaniki, S. W. 2013. Occurrence and Diversity of Nematode Destroying Fungi in Banana Production Zones in Maragua, Kenya. *Journal of Agricultural Science*; Vol. 5, No. 1: 180-186.
- xv. Mumo, N. N., Rimberia, F. K., Mamati, G. E. and **Kihurani, A. W.** 2013. In vitro regeneration of selected Kenyan papaya (*Carica papaya* L.) lines through shoot tip culture. *African Journal of Biotechnology*. Vol. 12(49), pp. 6826- 6832.
- xvi. Kaluli, J.W., Ng'ang'a, K. Home, P.G., Gathenya, J.M., Muriuki, A. W. and **Kihurani, A.W.** 2012. Effect of rain water harvesting and drip irrigation on crop performance in an arid and semi-arid environment. *Journal of Agricultural Science and Technology (JAGST)* Vol. 14 (2): 17-29.
- xvii. Abang, M. M., **Kihurani, A. W.** and Srinivasan, R. 2012. Managing diseases and pests of Indigenous vegetables for good agricultural practices (GAP) compliance in sub-Saharan Africa. *Scripta Horticulturae* Number 15: 191-232.
- xviii. Mounde, L.G., Ateka, E. M and **Kihurani A.W.** and Wasilwa, L. 2012. Morphological characterization and identification of Phytophthora species causing citrus gummosis in Kenya. *African Journal of Food, Agriculture nutrition, and Development (JFAND)* Volume 12 No. 7: 7072-7087.
- xix. Muriithi, C.W., Mugai E. N., **Kihurani A.W.**, Nafuma, L. S. and Amboga, S. 2010. Management of rice blast using silicon sourced from rice by-products and chemical sources. *E. Afr. agric For. J.* 76(2). 75-80.
- xx. Mounde, L.G., Ateka, E. M and **Kihurani A.W.**, Wasilwa, L. and Thurairanira, E.G. 2009.

Occurrence and distribution of citrus Gummosis (*Phytophthora* spp.) in Kenya. *Afr. J. Hort. Sci.* (2009) 2: 56-68.

xxi. **Kihurani, A.W.**, Narla, R.D., Shibairo, S.; Imungi, J.K., and Carey, E. 2008. Effect of soil pH on postharvest pathological deterioration of sweet potato storage roots. *Afr. J. Hort. Sci.* (2008) 1:1-8.

xxii. Oirschot van, Q. E. A. Rees, D., Aked, J. and **Kihurani, A.** 2006. Sweetpotato cultivars differ in efficiency of wound healing. *Postharvest Biology and Technology* 42 (2006) 65-74. [www.elsevier.com/locate/postharvbio](http://www.elsevier.com/locate/postharvbio).

xxiii. **Kihurani, A. W.**, Skoglund, L. G. and Gatumbi, R. W. 1993. Occurrence of sweetpotato chlorotic leaf distortion caused by *Fusarium lateritium* in Kenya. *Plant Disease*. Vol. 7:12601261.

xxiv. Skoglund L. G., R. W. Gatumbi and **A. W. Kihurani**. 1994. Non-viral foliar pathogens and disorders of sweet potato in Kenya. *International Journal of Pest Mgt.* Vol. 39(4) 452-458.

#### PEER REVIEWED BULLETINS/BOOKS AND BOOK CHAPTERS

xxv. **Kihurani, A. W** and P. Kaushal. 2016. (Book Chapter). Storage Techniques and Commercialization Aspects. in: *Tropical Roots and Tubers: Production, Processing and Technology*. (eds. Sharma, H. S., Njintang N. Y., Singhal, S. R. and Kaushal, P.). Wiley & Sons.UK. pp. 253-280.

xxvi. **Kihurani, A. W.** 2011. Postharvest Pathological Deterioration of Sweetpotato: Preharvest and postharvest factors influencing spoilage of harvested Roots. Lambert Academic Publishers. ISBN: 978-3-8465-0971-5.

xxvii. **Kihurani, A. W.** 2007. Sweetpotato: A food security solution. Christian Agricultural and Related Professional Association (CARPA) Technical Guide No. 3. ISBN 9966-7064-5-3. 20p.

xxviii. **Kihurani, A.W.**, Shibairo, S.I.; Imungi, J.K., Narla, R.D. and Carey, E.E. 2003. Susceptibility of sweetpotato germplasm to rhizopus soft rot caused by *Rhizopus stolonifer* and *Rhizopus oryzae* in Kenya. *MUARIK BULLETIN*, Vol. 6. pp 30-34.

xxix. Van Oirschot, Q. E. A. Rees, D., Aked, J., **Kihurani, A.**, Lucas, C., Maina, D., Mcharo, T and Bohac, J. 2003. Curing and the physiology of wound healing. pp. 67 - 84. In: Rees, D., Van Oirschot, Q. and Kapinga, R. (Eds.). *Sweetpotato Postharvest Assessment. Experiences from East Africa*. ITDG PublishingUK: ISBN: 0 85954.

xxx. Carey, E. E., Gichuki, S.T., Maisiba, G., Tana, P.O., Lusweti, C., Ngugi, J., Maina, D.K., Malinga, J., Omari, F., Kamau, J.W., **Kihurani, A.**, Ndolo, P.J. 1999. Sweetpotato variety selection for Kenya: Food, feed and income. KARI/Agricultural Research Fund (ARF) Project. KARI/ARF/CSWP/RCUSAID/8101/1. CIP/KARI. **Kihurani, A. W.** 1996. Efficacy evaluation protocols for products used in the control of crop pathogens in Kenya. Working document. Pest control products board (PCPB). Nairobi. Kenya.

## PEER REVIEWED WORKSHOP/CONFERENCE PROCEEDINGS

xxxi. Munganyinka, E., Ndunguru, J. Ateka, E. M, **Kihurani, A. W.**, Tairo, F., Sseruwagi, F. and Kanyange, M. C. 2016. Variability of Cassava brown streak disease associated symptom phenotypes in Rwanda. World Congress on Root and Tuber Crops, Nanning, China. 18-22 January 2016.

xxxii. Gatahi, D. M., Wanyika, H., **Kihurani, A. W.**, Ateka, E. and Kavoo, A. 2015. Use of bio-nanocomposites in enhancing bacterial wilt plant resistance, tomato production and water conservation in greenhouse farming. The JKUAT Scientific, Tech and Ind. Conference. Nairobi. 12-13 Nov., 2015.

xxxiii. Gatambia, E. K.; **Kihurani, A. W.**, Wanzala, F. K. R. and Waiganjo, M.M. 2012. Establishment of a rapid in vitro system for regeneration of papaya plantlets in a liquid media. In Proc. 3rd RUFORUM Biennial Conference, Imperial Resort Beach Hotel, Entebbe, Uganda. 24-28 September 2012. (Poster Presentation).

xxxiv. Gatambia, E. K., **Kihurani A.W.**, Rimberia, F. K. and Waiganjo, M.M. 2012. Micropropagation of selected Kenyan papaya (*Carica papaya* L.) lines. In Proc. 7th JKUAT Annual Scientific Conference. AICAD, Nairobi. 15-16 Nov., 2012.

xxxv. Muriithi, C. W., Mugai, E. N and **Kihurani, A.W.** 2012. Efficacy of selected fungicides in management of rice blast diseases. In Proc. 13th KARI Biennial Scientific Conference and Exhibition of Innovations. KARI Headquarters complex, Nairobi. 22-26 October, 2012.

xxxvi. Ngubia J. N., Ateka, E. M., **Kihurani A.W.**, Amata, R. L., Ndolo, P. and Karuru, H.W.

2012. Field resistance of sweet potato genotypes to sweet potato virus disease. In Proc. 13th KARI Biennial Scientific Conference and Exhibition of Innovations. KARI Headquarters complex, Nairobi. 22-26 October, 2012. (Poster Presentation).

xxxvii. Ngubia J. N., Ateka, E. M., **Kihurani A.W.** and Amata, R. L. 2012. Transmission of sweet potato mild mottle virus. In Proc. 7th JKUAT Annual Scientific Conference. AICAD, Nairobi. 15-16 Nov., 2012.

xxxviii. Muriithi, C.W., Mugai E. N., **Kihurani A.W.**, and Kihanda, F. 2011. The effect of soil and plant material nutrition on rice blast in Mwea Irrigation Scheme of central Kenya. In Proc. 26th Soil Science Society of East Africa Conference. Jinja, Uganda. 21-24 Nov. 2011 xxxix. Mumo, N N., Rimberia, F. K., Mamati, E. G. and **Kihurani A.W.** 2012.

Micropropagation of selected Kenyan papaya (*Carica papaya* L.) lines. In Proc. 7th JKUAT Annual Scientific Conference. AICAD, Nairobi. 15-16 Nov., 2012.

xl. Mumo N. N., Rimberia, F. K., Mamati E. G., **Kihurani A.W.** 2012. Mass propagation of selected Kenyan papaya planting materials through shoot tip culture. In Proc. 3rd RUFORUM Biennial Conference, Imperial Resort Beach Hotel, Entebbe, Uganda. 24- 28 September 2012. (Poster Presentation).

xli. Kimani J. W., D. W. Kariuki, Kenji G. M , **Kihurani A. W.** 2009. Characterization of seed oil and preliminary evaluation of oxalate oxidase activity among Kenyan sunflower

varieties. In Proc. Industrial and social Economic Development. JKUAT Faculty of Science 2nd Scientific Conference – Part II. ISBN 9966-923-78-0. Vol. 2 Number 2.

xl.ii. **Kihurani, A.W.**, Narla, R.D., Shibairo, S.; Imungi, J.K., and Carey, E. 2009. Effect of storage temperature on postharvest pathological deterioration of sweet potato storage roots.

Paper presented at the Horticultural Association of Kenya Conference. 2-6 Dec 2009. Arusha, Tanzania.

xl.iii. Amata, R. L., Burgess, L. W., Summerell, B. A., **Kihurani, A. W.** 2004. Fusarium species associated with finger millet (*Eleusine coracana*) in Kenya. In: Keller, K. O. and Hall, B. (Eds.). Proceedings of the 3th Australasian Soilborne Diseases Symposium. pp 174-175. The Barossa Novotel, Rowland Flat, South Australia. 8-11 February 2004.

xl.iv. **Kihurani, A. W.** 2003. Prolonging the shelf-life of fresh sweetpotato by solar curing. In M. O. Akoroda (Ed). Root crops: The small processor and development of local food industries for market economy. pp 194 – 197. In Proc. 8th Triennial Symposium of the International Society for Tropical Root Crops-African Branch (ISTRC-AB). 12- 16 November 2001. IITA, Ibadan, Nigeria.

xl.v. **Kihurani, A.W.**, Carey, E.E. and Narla, R.D. 2000. First report of black rot disease of sweetpotato in Kenya. In Adipala, E.; Nampala, P. and Osiru, M. (Eds). In. Proc. 5th Triennial Congress of the African Potato Association (APA). Vol 5, pp 415-419. Kampala, Uganda.

xl.vi. Van Oirschot, Q. E. A. Rees, D., Aked, J. and **Kihurani, A.W.**, 2000. Cultivar variation in wound healing efficiency of sweet potato and Irish potato and the effect on shelf-life. In Proc. International Society for Tropical Root Crops (ISTRC), Japan 2000.

xl.vii. **Kihurani, A. W.** 1997. Identification of resistance in sweet potato clones to *Rhizopus* soft rot in Kenya. In: N.J.J. Mienie (Ed). In Proc: 4th. Triennial Conference of the African Potato Association (APA). Pgs. 113-115. 23-28 Feb., 1997. Pretoria, Republic of South Africa.

xl.viii. **Kihurani, A. W.**, Gichuki S. T., and Carey E. E. 1995. Evaluation of sweet potato storage roots for storability at room temperature in Kenya. In Proc. 6th Triennial Symposium of the International Society for Tropical Root Crops-African Branch (ISTRCAB). 22-28 Oct., 1995. Lilongwe, Malawi.

xl.ix. Gatumbi, R. W., Skoglund, L.G. and **Kihurani A. W.** 1991. Current status of sweetpotato diseases in Kenya. In Alvarez, M. N. and Asiedu, R. (Eds.). The role of root crops in regional food security and sustainable agriculture. Pages 139-141. In Proc. 4th Eastern and Southern Africa Regional Workshop on Root and Tuber Crops. Mansa, Zambia. 29 October – 2 Nov. 1990.

l. **Kihurani A. W.**, Gatumbi, R. W., and Skoglund, L.G. 1991. Storage diseases of sweet potato (*Ipomoea batata* L.) in Kenya. In Ofori F. and Hahn, S.K. (Eds). Tropical Root Crops in a developing Economy pg 517. Proceedings of the ninth symposium of the International Society for Tropical Root Crops (ISTRC) 20-26 October 1991, Accra, Ghana.1991.

## ARTICLES PRESENTED IN OTHER PROFESSIONAL MEETINGS

- li. **Kihurani, A.W.**, 2005. Preservation of Microorganisms at the National Agricultural Research Laboratories (NARL). In proc. National Stakeholders Workshop on establishment of a Kenyan Biological Resource Centre, KARI-NARL, Kabete, 25-26 January, 2005. National Council for Science and Technology. 47 p.
- lii. **Kihurani, A.W.**, Narla, R.D, Shibairo, S.I.; Imungi, J.K., and Carey, E.E. 2004. Postharvest Fungi of sweetpotatoes in Kenya. In Proc. 9Th Triennial Symposium of the International Society for the Tropical Root Crops – Africa Branch (ISTRC-AB). 31 October to 5 November 2004. Mombasa, Kenya .
- liii. **Kihurani, A. W.** 1997. Losses of sweet potato due to storage diseases in Kenya. IDRC/PRAPACE small grants project on sweetpotato and potato on-farm trials. ILRI Nairobi, Kenya.
- liv. **Kihurani, A. W.** 1996. Losses of sweetpotato roots during storage in Kenya. In: Proc. First Biennial Crop Protection Conference. NARL, Nairobi, Kenya. 27- 28 March 1996.
- lv. **Kihurani, A. W.** 1995. Sweet potato roots: Losses in storage due to *Diplodia theobromae* in Kenya. In: Proc. 3rd. African Mycology Congress. 7-10 March, 1995. Harare, Zimbabwe.
- lvi. **Kihurani A. W.**, Gatumbi, R. W. and Skoglund, L.G. 1991. Storage diseases of sweet potato in Kenya. In: Proc. 9th Symposium of the ISTRC. 20-26 Oct., 1991. Accra, Ghana.
- lvii. Gatumbi, R. W., **Kihurani A. W.**, and Skoglund, L.G. 1991. Severity of *Phomopsis Ipomoea batatas* (Punith) of Sweetpotato in Kenya. Current research for the improvement of potato and sweetpotato in Kenya. 7-8 November, 1991. ILRAD. Nairobi, Kenya.
- lviii. **Kihurani, A. W.**, D. M. Mukunya and R. A Buruchara. 1989. Evaluation of bean cultivars for resistance to rust. In: Proc. 1st. Conference of the Plant Pathology Society of Kenya. 23-24 Nov., 1989. Agricultural Information Centre, Nairobi.

## RESEARCH ACTIVITIES

- i. Distribution, characterization and biocontrol of *Fusarium wilt* of snow pea in Kenya.
- ii. Heavy metals and pathogen content on substrate, water and produce along urban agriculture gradient of Nairobi county.
- iii. Evaluation of factors affecting adoption of organic farming in Kagochi, Nyeri County.
- iv. Evaluation of adoption and effect of agroforestry in the small scale farming system in Magutu ward, Mathira east sub-county, Nyeri county.
- v.