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EDUCATIONAL BACKGROUND:

Ph.D. 1980 Plant Pathology, University of Wisconsin, Madison, WI. USA
M.S. 1976 Botany (Mycology), University of Dar es Salaam, Botany Department, Tanzania.
B.S. 1974 Biology Major (Botany and Zoology) and Education as a minor. University of Dar es Salaam, Tanzania

EMPLOYMENT HISTORY

2006-Current: Research Professor, Tennessee State University, School of Agriculture and Consumer Science, Nursery Research Center, McMinnville, TN. USA
2002 - 2006 Associate Research Professor, Tennessee State University, School of Agriculture and Consumer Science, Nursery Research Center, McMinnville, TN. USA
1995 - 2002 Research Plant Pathologist, Nursery Research Center, McMinnville, TN. USA
1992 - 1994 Senior Scientist (Legume Pathologist), Germplasm Program. International Center of Agricultural Research in Dry Areas (ICARDA), Aleppo, Syria.
1989 - 1992. Visiting Scientist, Dept. of Plant Pathology, University of Nebraska, Lincoln, NE USA
1988 - 1991 Associate Professor, Dept. of Botany, University of Dar es Salaam, Tanzania.
1984 - 1989 Senior Lecturer, Dept. of Botany, University of Dar es Salaam, Tanzania.
1980 - 1984 Lecturer, Dept. of Botany, University of Dar es Salaam, Tanzania.

Research Projects and Grantsmanship

Mmbaga. M. T., S. Ochieng and Sauv . 2010-2013. Development of Biological based IPM for flowering dogwood production (*Cornus florida*) USDA/CSREEF NIFA. \$299,981
Mmbaga. M. T., and J.B. Oliver. 2010-2013. Alternatives to conventional pesticides in disease and pest management in nursery production system. USDA/CSREEF NIFA. \$199,997
Mmbaga. M. T., Sauv , R. and Zhou, S. 2004-2009. Evaluation of Phytophthora diseases and Sudden Oak death syndrome. USDA/CSREES Capacity Building Grants \$294,978.
Sauv , R. Zhou, S. and Mmbaga, M.T. 2004-2009. Identification of heat response mechanism and genes in plants with different levels of tolerance to high temperature. USDA/CSREES Capacity Building Grants \$299,870.
Mmbaga. M. T. 2003-2008. Integrated Disease Management for Powdery mildew on *Cornus* spp. USDA/CSREES Capacity Building Grants \$299,986.
Mmbaga, M. T. 2002-2007. Host resistance and pathogenic variability in powdery mildew of dogwood. USDA/CSREES Capacity Building Grants \$139,000.

- Sauvé, R. Zhou, S. and Mmbaga, M.T. 2002 Genetic transformation of geranium, tomato and potato with antimicrobial genes for resistance to Ralstonia. NRI \$100,000.
- Sauvé, R. and Mmbaga, M.T. 2002 (Equipment Grant). A gel-Documentation System for use in functional genetic studies of nursery crops under abiotic and biotic stresses. NRI (Plant response to environment). \$18,213.
- Mmbaga, M. T. 2002A sub-contract from Georgia Institute of Technology Jim Demmers 2003. Emergency Management of Agricultural Bio-terrorism: A Training Curriculum (Crop section of the project) (\$52,691): A training Curriculum Technical Support Working Group (TSWG) BAA: DAAD05-02-T-0215)
- Mmbaga, M. T. 2002-2004. Biorational Products for Powdery Mildew and Insect Pest management in Nursery crops. United States Environmental Protection Agency. \$100,000.
- Mmbaga M. T. and Reed, S. 2001. Host resistance to powdery mildew of dogwood. Tennessee Nursery and Landscape Association (TNLA). \$1,500.
- Mmbaga M. T. and Hongyan Sheng 2000. Biodegradable compound for powdery mildew disease management in dogwood. Tennessee Nursery and Landscape Association (TNLA). \$2,000.
- Mmbaga, M. T. 1999. Host resistance and biorational products for powdery mildew disease management in dogwood. Horticultural Research Institute (HRI). \$10,000
- Mmbaga M.T 1998. Integrated disease management of powdery mildew in dogwood (*Cornus* spp.). USDA/CREES Capacity Building Grants (1998-2001) \$270, 000
- Mmbaga, M. T. 2002 (Collaborator) A project on Social Acceptability of Agricultural Biotechnology: The case of genetically modified crops. IFAS. \$100,000
- Mmbaga, M.T. 1994. (Project Coordinator), Integrated Disease Management in cereal and legume based cropping systems of the West Asia and North Africa region. The Der Bundesminister fur Wirtschaftliche Zusammenarbeit (BMZ) in Germany. \$ 1.9 million for the International Center of Agricultural Research in Dry Areas (ICARDA).
- Mmbaga, M.T 1981-1988 (in Tanzania): Bean diseases and their control in Tanzania. The International Foundation for Science, Stockholm, Sweden. Awarded a total \$ 60,000.

PUBLICATIONS AND PRESENTATIONS (shown below)

- Refereed journal Articles.....47
- Conference Proceedings52
- Extension Publications.....8
- Technical reports.....19
- Research abstracts.....59
- Meeting Presentations132

Selected Publications

- Windham ,M. T. Reed, S. M.; **Mmbaga M. T.**, Windham A.S. · Li ,Y. ⁵ and Rinehart, T. A..2011. Evaluation of Powdery Mildew Resistance in *Hydrangea macrophylla* J. Environ. Hort..29: (*in Press*)

- Shi, A., Kantartzi, S., **Mmbaga M.T.** and Chen, P. 2010. PCR-RFLP is a useful tool to distinguish two powdery mildew pathogens of flowering dogwood (*Cornus florida*) *Agric. Biol. J. N. Am.*, 2010, 1: 208-212
- Shi, A., Kantartzi, S., **Mmbaga M.T.** and Chen, P. 2010. Development of ISSR PCR markers for diversity study in dogwood (*Cornus spp.*) *Agric. Biol. J. N. Am.*, 1: 189-194
- **Mmbaga, M.T.** Li, Y. and Kim, M-S. 2010. First Report of *Myrothecium roridum* causing leaf spot in garden hydrangea. *Plant Dis.* Vol. 94: (In Press)
- Li, Yonghao; **Mmbaga, Margaret**; Windham, Alan; Windham, Mark, Trigiano, Robert 2009. Powdery mildew of dogwoods: Current status and future prospects. *Plant Disease Journal.* Vol. 93: 1084-1092
- **Mmbaga, M.T.**, and Sauvé R.J. 2009. Epiphytic microbial communities on foliage of fungicide treated and non-treated flowering dogwoods *Biological Control Journal.* Reference (2009).doi10.1016/j.biocontrol.2009.01.003.
- **Mmbaga M.T.** 2008. Downy Mildew in Lilac. *International J of Arboriculture and Urban Forestry* 34: 296-299.
- Ainong Shi, Stella Kantartzi, **Margaret Mmbaga** and Pengyin Chen. 2008. Isolation of resistance gene analogues from flowering dogwood (*Cornus florida* L.). *J. Phytopathology* 156:742–746.
- Shi, Ainong Stella Kantartzi, **Margaret Mmbaga**, and Pengyin Chen. 2008. Differentiation of two pathogens of powdery mildew disease in flowering dogwood by PCR-mediated method based on ITS sequences. *J. Phytopathology* (doi: 10.1111/j.1439-0434.2008.01480.x).
- Uwe Braun, Ainong Shi, Margaret **Mmbaga**, Susumu Takamatsu, Rangsi Divarangkoon & Pengyin Chen, 2008. *Erysiphe abbreviata* on cherry bark oak—morphology, phylogeny and taxonomy. *Mycologia* 99: 655-663.
- Shi, A., S. K. Kantartzi, M. T. **Mmbaga**, P. Chen, F. Mrema and E. Nnodu. 2008. PCR-based markers for detection of *Colletotrichum acutatum* and *C. gloeosporioides* in flowering dogwood (*Cornus florida*). *Australian Plant Pathology* 37: 65-68.
- Li, Y., Windham, M., Trigiano, R., Windham, A., Reed, S.M., **Mmbaga, M.**, Spiers, J.M., Rinehart, T.A. 2007. Resistance to Powdery Mildew in Hydrangea. *Hortscience.* pp. 919-1022.
- **Mmbaga, M. T.**, Mrema F.A. and R.J. Sauvé. 2007. Identification of microorganisms for biological control of powdery mildew in *Cornus florida*. *Biological Control Journal* Reference(2008): doi:10.1016/j.biolcontrol.2007.10.018
- **Mmbaga, M. T.** and J.B. Oliver 2007. Effect of Biopesticides on foliar diseases and Japanese Beetle (*Popillia japonica*) adults in roses (*Rosa spp.*), oakleaf hydrangea (*Hydrangea quercifolia*) and Cape myrtle (*Lagerstroemia indica*). *Arboriculture and Urban Forestry Journal* 33(3) : 1-10
- **Mmbaga, M.T.** and Sauvé, R. 2007. Analysis of Powdery Mildew-resistant dogwood accessions using AFLP. *HortScience Journal* 42(1) : 28-30
- **Mmbaga, M. T.**, Avila, F. J., Howard, E. F., and Myles, L. A. 2006. Accumulation of a protein associated with powdery mildew resistant flowering dogwood (*Cornus florida*). (*Journal of Environmental Horticulture*: 24(2): 115-118
- Shi, A., and **Mmbaga, M.T.** 2006. The identification of *Erysiphe australiana* as the powdery mildew pathogen of crape myrtle (*Lagerstroemia indica*) in mid Tennessee. *Plant Disease Journal* 90:1098-1101
- **Mmbaga, M. T.** and Nnodu, E. C. 2006. Biology and Control of Bacterial Blight in *Cornus mas*. *Hortscience Journal*: 41:721-724
- **Mmbaga^M.** T., Sauvé, R. J. Zhou, S. and Nnodu, E. 2005. Multiple disease resistance to

- powdery mildew, bacterial blight, and *Alternaria* blight in lilac (*Syringa* spp.). *Arboriculture Journal* 31(1):1-9
- Zhou, S., Sauve R. J. **Mmbaga**, M. T. 2004. Adaptation of *Pachysandra terminalis* Sieb. & Zucc. to Freezing Temperatures by the Accumulation of mRNA and Cold-Induced Proteins *HortScience Journal* I40 (3): 1-2.
 - Zhou, S., Sauvé R. J. **Mmbaga**, M. T. and Frenkel, C. 2004. Cold-Induced Antioxidant Enzymes Changes in *Leucanthemum maximum* 'Silver Princess' *HortScience Journal* 40: 325-328
 - **Mmbaga**, M.T., Klopfenstein, N. Kim, M., Shi, A. and **Mmbaga**, N.C 2004. PCR-based DNA analysis of powdery mildew pathogens of dogwood (*Cornus* spp.). *Forest Pathology* 34: 321-328
 - **Mmbaga**, M. T. and Suave R. J. 2004. Evaluation for multiple disease resistance in dogwood for three foliar pathogens. *International J of Arboriculture and Urban Forestry*: 30(2):101-106
 - Sauvé, R. J., **Mmbaga** M.T and S. Zhou. 2004. In vitro regeneration of the Tennessee coneflower (*Echinacea tennesseensis*). *In Vitro Cellular & Development Biology-Plant*. IVP 40:325-328
 - **Mmbaga**, M.T. and Sauvé R. 2004. Management of powdery mildew in flowering dogwood with biorational products and fungicides. *Canadian Journal of Plant Science* 84: 837-844
 - **Mmbaga M.T. 2002.** Ascocarp formation and survival and primary inoculum production in *Eysiphe* (Sect. *Microsphaera*) *pulchra* in dogwood powdery mildew. *Ann Appl. Biol.* 141: 153-161.
 - **Mmbaga, M.T.** and Sheng, H. **2002.** Evaluation of biorational products for powdery mildew disease management in *Cornus florida*. *J. Environ. Hort.* 20(2): 113-117.
 - **Mmbaga, M.T.** and Sheng, H. **2000.** The first report of Leaf blight caused by *Pseudomonas syringae* on *Cornus mas*. *Plant Disease* 84: 200
 - **Mmbaga, M. T. 2000.** Winter survival and source of primary inoculum of powdery mildew of dogwood in Tennessee. *Plant Disease* 84:574-579.
 - **Mmbaga M.T.,** J.R. Steadman and J.R. Stavely **1996.** The use of host resistance in rust disease management in common beans. *Integrated Pest management Reviews*.1: 191-200.
 - **Mmbaga, M.T.,** Steadman, J. R. and Eskridge, K.M. **1996.** Virulence patterns of *Uromyces appendiculatus* from different geographic areas and implications for finding durable resistance to rust of common bean. *Journal of Phytopathology.* 144: 533-541
 - **Mmbaga M. T.,** J.R. Steadman and J. J. Roberts **1994.** Interaction of bean leaf pubescence with rust urediniospore deposition and subsequent infection density. *Ann. Appl. Biol.* 125: 243-254.
 - Arnaud-Santana, E., **M. T. Mmbaga**, D. P. Coyne, and J. R. Steadman. **1993.** Sources of resistance to common bacterial blight and rust in elite *Phaseolus vulgaris* L. *Germplasm.* *Hortscience* 28: 644-646.
 - **Mmbaga, M. T.,** E. Anaurd-Santana, J. R. Steadman and D. Coyne. **1992.** New sources of nonspecific resistance to rust and common blight in Pompadour dry bean landrace. *Euphytica*, 61: 135-144.
 - **Mmbaga. M. T.** and J. R. Steadman **1992.** Nonspecific resistance to rust in pubescent and glabrous common bean genotypes. *Phytopathology* 82: 1283-1287.
 - **Mmbaga, M.T.** and J.R. Steadman. **1992.** Adult plant rust resistance in common beans (*Phaseolus vulgaris* L.). *Plant Disease* 76: 1128-1135.
 - Ijani, A.S.M. and **M.T. Mmbaga. 1988.** Studies on the control of root-knot nematodes (*Meloidogyne* species), on tomatoes in Tanzania, using marigold plants (*Tagetes* species), ethylene dibromide and Aldicarb. *Tropical Pest Management* 34(2): 147-149.
 - **Mmbaga, M.T.** and Stavely, .R. **1988.** Pathogenic variability in *Uromyces appendiculatus* and rust resistance in Tanzanian bean cultivars. *Plant Disease* 72: 259-262.

- **Mmbaga, M.T. 1986.** Evaluation of some biological methods for controlling root-knot nematodes in vegetables. Tanzania Science Journal Vol. 12: 5-16.
- **Mmbaga, M.T. 1984.** Effect of different water regimes on V-A Mycorrhiza in Rice (*Oryza sativa* L.) and the response of plants to Mycorrhizal inoculations. Univ. of Dar es Salaam Science Journal Vol. 10: 71-83.
- Magingo, F.S., **Mmbaga, M.T. 1983.** Fungi associated with post harvest rotting of papaw (*Carica papaya* L.) and banana (*Musa sepientum* L.) fruits in Tanzania. University of Dar es Salaam Science Journal Vol. 9: 17-26.
- Magingo, F.S., **Mmbaga, M.T.** and K. Mtotomwema. **1983.** Antifungal activity of a crude extract of *Moringa oleifera* Lam. on fungi pathogenic on banana fruits. Univ. of Dar es Salaam Science Journal Vol. 9: 17-26.
- **Mmbaga, M.T. 1981.** Studies on V-A Mycorrhiza in rice (*Oryza sativa* L.) in seven localities in Tanzania. University of Dar es Salaam Science Journal 7:1-11.
- Santamaria L., and **Mmbaga M.T.** 2009 Pathogenicity tests for *Phytophthora* species isolated from Tennessee nurseries. Southern Nursery Association Res. Conf. Proceed. 54:39-44
- **Mmbaga, M.T.,** F.A. Mrema and R. Sauvé 2008. A survey for Phytophthora and other pathogens causing Phytophthora-like symptoms in Tennessee nurseries. Southern Nursery Association Res. Conf. Proceed. 53: 363-365.
- **Mmbaga, M.T** and Santamaria, L. 2008. Phytophthora species identified in Tennessee Nurseries. Proceed. Southern Nursery Association Res. Conf. 53: 369-373
- Nnodu Emmanuel C. and **M. T. Mmbaga.**2006. Seed-borne Diseases of Dogwood and Their Control. Southern Nursery Assn. Research conference. Proceed.Vol. 51: 231-233
- Mrema, F. A., **Mmbaga, M. T.**2006 Bacterial Agents for Biocontrol of Powdery Mildew in Dogwood. Southern Nursery Assn. Res. Conf. Proceed.VOL. 51:219-223
- Trivette, Andrew and **Mmbaga, Margaret T.** 2005. Late Season Spray Program to Delay Dogwood Powdery Mildew in Spring. Southern Nurserymen's Assn. Res. Conf. Proceed. 50:226-231
- Debbie J. Eskandarnia, Margaret T. **Mmbaga,** and Frank A. Mrema. 2005. Effect of Biorational Products on Non-Target Microorganisms on Dogwood Foliage. Southern Nursery Assn. Res. Conf. Proceed. 50:220-225
- **Mmbaga, M. T.** and Sheng H. 2002 Timing of fungicide applications in powdery mildew management in dogwood. Proceed. Southern Nurserymen's Assn. Res. Conf. 47:265-272.
- **Mmbaga, M. T.,** Kabbabeh S., and Sigh K. B. 1994. Pathogenic variability of *Ascochyta rabiei* and resistance to *Ascochyta* blight in chickpea. Proceed. 9th Congress of the Mediterranean Phytopathological Union, Turkey 1994.pg. 257-259
- **Mmbaga M. T. W.** Khedy and S. Kabbabeh 1994. *Ascochyta* blight (*Ascochyta rabiei* Pass.) Labr.of chickpea (*Cicer arietinum* L.) in Syria: Primary infection and disease spread. Proceed. 9th Congress of the Mediterranean Phytopathological Union, Turkey 1994 pg 125-127.
- **Mmbaga M.T** and Singh, K.B. 1995. Chickpea Pathology: Host resistance to *Ascochyta* blight. 1994 Annual Report of legume Program. International Center of Agricultural Research Center in Dry Areas (ICARDA) pg. 78-94.
- **Mmbaga M.T.,** W. Kaade and W. Khoury 1994. Chickpea Pathology: The spread of *ascochyta* blight from infection focus. 1993 Annual Report of legume Program. International Center of Agricultural Research Center in Dry Areas (ICARDA) pg. 70-80.