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PROFESSIONAL RECORD

Education

- 2002 PhD in Plant Pathology: Iowa State University, USA
Dissertation title: Ecology and epidemiology of *Colletotrichum acutatum* on symptomless strawberry leaves
- 1997 MS in Environmental Science: University of Nottingham, UK
Thesis title: Use of spectroradiometry in assessing effects of the strobilurin fungicide, kresoxim-methyl, on wheat leaf greenness
- 1996 BS in Agricultural Science: Technical University of Lisbon, Portugal
Thesis title: *Cylindrocarpon destructans* (Zins.) Scholten: study of morphological and cultural characteristics and pathogenicity tests

Professional Experience

- 2012-present Associate Professor, Department of Plant Pathology and Microbiology, Iowa State University
Research program on ecology and epidemiology of soybean fungal pathogens with particular emphasis on sudden death syndrome (*Fusarium virguliforme*), the soybean Fusarium root rot complex and Asian soybean rust (*Phakopsora pachyrhizi*).
- 2006-2012 Assistant Professor, Department of Plant Pathology and Microbiology, Iowa State University
- 2002-2005 Postdoctoral Research Associate, Department of Plant Pathology, North Carolina State University
- 1998-2002 Graduate Research Assistant, Department of Plant Pathology, Iowa State University
- 2001-2002 Graduate Teaching Assistant, Department of Plant Pathology, Iowa State University

Membership in Professional Organizations

- Agronomy Society of America (2011-present)
- American Phytopathological Society (1998-present)
- NCERA-212 Soybean Disease Committee (2007-present)

Editorial Board Member/Associate Editor

2011-present Associate editor for Portuguese language translations for the American Phytopathological Society Education Center

RESEARCH SCHOLARSHIP AND ACTIVITIES

Publications

Refereed Publications

1. Diaz-Arias, M. M., Munkvold, G. and **Leandro**, L. F. S. **2011**. First report of *Fusarium proliferatum* causing root rot in soybean (*Glycine max*). Plant Disease 95:1316.
2. Diaz-Arias, M. M., Munkvold, G. and Leandro, L. F. S. 2013. Distribution and Frequency of Isolation of *Fusarium* Species Associated with Soybean Roots in Iowa. Plant Disease (in press) <http://dx.doi.org/10.1094/PDIS-11-12-1059-RE>
3. Diaz-Arias, M. M., Leandro, L. F. S. and Munkvold, G. 2013. Aggressiveness of *Fusarium* Species and Impact of Root Infection on Growth and Yield of Soybean Phytopathology 103(8):822-832. DOI: 10.1094/PHYTO-08-12-0207-R
4. Ellis, M. L.' Diaz-Arias, M. M., Cruz, D. R., Munkvold, G. and Leandro, L. F. S. 2013. First report of *Fusarium commune* causing damping-off, seed rot, and seedling root rot on soybean (*Glycine max*) in the United States. Plant Disease 97:284-285
5. Ellis, M. L.' Diaz-Arias, M. M., Leandro, L. F. S. and Munkvold, G. 2012. First Report of *Fusarium armeniacum* Causing Seed Rot and Root Rot on Soybean (*Glycine max*) in the United States. Plant Disease 96:1693.
6. Gongora, C. C., and Leandro, L. F. S. 2011. Plant age affects root infection and development of foliar symptoms of soybean sudden death syndrome. Plant Disease, 95:242-247.
7. Gongora, C., and Leandro, L. F. S. 2011. Effect of soil temperature and plant age at time of inoculation on progress of root rot and foliar symptoms of soybean sudden death syndrome. Plant Disease 95:436-440.
8. Gongora, C. C., Nutter, F. W. Jr., and Leandro, L. F. S. 2011. Temporal dynamics of root and foliar symptoms of soybean sudden death syndrome at different inoculum densities. European J. Plant Pathology (in press). On-line: DOI: 10.1007/s10658-011-9849-4.
9. Leandro, L. F. S., Robertson, A. E., Mueller, D. S., and Yang, X.B. 2013. Climatic and environmental trends observed during epidemic and non-epidemic years of soybean sudden death syndrome in Iowa. Plant Health Progress, May Issue, Pages: PHP-2013-0529-01-RS

10. Leandro, L. F. S., Tatalovic, N. and Luckew, A. 2012. Soybean sudden death syndrome – advances in knowledge and disease management. CAB Reviews 7 (53): 1-14. doi:10.1079/PAVSNNR20127053
11. Luckew, A. S., Leandro, L. F. S., Bhattacharyya, M.K., Nordman, D. J., Lightfoot, D. A. and Cianzio, S. R. 2013. Usefulness of 10 Genomic Regions in Soybean Associated With Sudden Death Syndrome Resistance. Theor. Appl. Genet. 126(9): 2391-403. DOI:10.1007/s00122-013-2143-4
12. Luckew, A., Cianzio, S. and Leandro, L. F. S. 2012. Screening method for distinguishing soybean resistance to *Fusarium virguliforme* in resistant by resistant crosses. Crop Science 52 (5): 2215-2223. DOI: 10.2135/cropsci2011.09.0500.
13. Mbofung, G. C. Y., Fessehaie, A., Bhattacharyya, M. K., and Leandro, L. F. S. 2011. A new Taqman real-time PCR assay for quantification of *Fusarium virguliforme* in soil. Plant Disease 94:860-866
14. Mbofung, G. C. Y., Goggi, S. A., Leandro, L. F. S., and Mullen, R. E. 2013. Effects of storage temperature and relative humidity on viability and vigor of treated soybean seeds. Crop Science 53(3): 1086-1095. DOI: 10.2135/cropsci2012.09.0530
15. Mbofung, G. C. Y., Harrington, T. C., Steimel, J., Navi, S. S., Yang, X. B., and Leandro, L. 2012. Multiloci fingerprint analysis reveals genetic variability within *Fusarium virguliforme* population from Iowa. Canadian J. Plant Pathology 34:83-97.
16. Pudake, R.N., Swaminathan, S., Sahu, B.B., Leandro, L.F., and Bhattacharyya, M.K. 2013. Investigation of the *Fusarium virguliforme* fvto1 mutants revealed that the FvTox1 toxin is involved in foliar sudden death syndrome development in soybean. Current Science 59(3):107-117. DOI: 10.1007/s00294-013-0392-z
17. White, S. D., Murphy, P. T., Leandro, L. F., Bern, C. J., Beattie, S., and Van Leeuwen, J. (Hans). 2013. Mycoflora of high-moisture maize treated with ozone. Journal of Stored Products Research. J. Stored Products Research 55:84-89

Published abstracts

1. Abdelsamad, N. and L. F. Leandro. 2013. Flooding duration affects severity of soybean sudden death syndrome. Phytopathology 103:S2.2
2. Cruz, D., Ellis, M. L., Leandro, L. F. and G. P. Munkvold. 2013. Characterization of the interaction between soybean cultivars and isolates of *Fusarium oxysporum* causing seedling disease. Phytopathology 103:S2.31
3. Ellis, M. L., Leandro, L. F. and G. P. Munkvold. 2013. PCR-RFLP fingerprinting of the intergenic spacer region to determine the lineage of fungi in the *Fusarium oxysporum* complex isolated from soybean. Phytopathology 103:S2.40

4. Ellis, M. L., Cruz Jimenez, D. R., Linn, B. F., Leandro, L. F. and G. P. Munkvold. 2013. Genotypic and phenotypic characterization of isolates in the *Fusarium oxysporum* species complex from soybean roots. *Phytopathology* 103:S2.39
5. Han, G. Leandro, L. F., Helmers M. and D. Mueller. 2013. Effect of different drainage systems on soybean root rot. *Phytopathology* 103:S2.56
6. Radwan, O. Leandro, L. F. and S. Covert. 2013. Genome expression of soybean roots and leaves in response to *Fusarium virguliforme* toxins. *Phytopathology* 103:S2.117
7. Tatalovic, N., Tylka, G. L. and L. F. Leandro. 2013. Effect of watering regime and *Fusarium virguliforme* (Fv) infection on location of soybean cyst nematode (SCN) syncytia in soybean roots. *Phytopathology* 103:S2.143
8. Abdelsamad, N., Mbofung, G. C., Robertson, A. E., Liebman, M., and Leandro, L.F. 2012. Long-term crop rotations suppress soybean sudden death syndrome in Iowa. *Phytopathology* 102:S4.1
9. Diaz-Arias, M. M., Leandro, L. F., and Munkvold, G. P. 2012. Frequency of isolation, aggressiveness, and impact on yield of *Fusarium* root rot species in soybean in Iowa. *Phytopathology* 102:S4.30
10. Tatalovic, N., Tylka, G. L., and Leandro, L. F. 2012. Effect of watering on the dynamics of *Heterodera glycines* and *Fusarium virguliforme* interaction in soybean roots. *Phytopathology* 102:S4.118
11. Diaz-Arias, M., Leandro, L. F., and Munkvold, G. 2011. Distribution and frequency of isolation of *Fusarium* species associated with soybean roots in Iowa. *Phytopathology* 101:S42.
12. Diaz-Arias, M., Tylka, G. L., Leandro, L. F., and Munkvold, G. 2011 Interactions between *Fusarium* root rot pathogens and *Heterodera glycines*, on soybean roots. *Phytopathology* 101:S42.
13. Leandro, L., Liebman, M., and Chase, C. 2012. Crop diversification: Impact on weeds, soybean sudden death syndrome and crop productivity. pp 61-68. Proceedings of the 24th Annual Integrated Crop Management Conference, November 18-19, 2012. Iowa State University, Ames, IA.
14. Srour, A.Y., Islam, K., Mansouri, S., Bond, J., Leandro, L., F., Malvick, D., and Fakhoury. 2011. Role of rhizosphere microbial communities and nematodes in SDS development and/or suppressiveness in soybean cultivated fields. *Phytopathology* 101:S171.
15. Tatalovic, N., Tylka, G. L., and Leandro L. F. 2011. Microscopic observation of the interaction between the soybean sudden death syndrome pathogen and soybean cyst nematode, in soybean roots. *Phytopathology* 101:S17.
16. Diaz-Arias, M., Tylka, G, Leandro, L. F., and Munkvold, G. 2010. Effects of soybean cyst nematode infestation and resistance on *Fusarium* root rot on soybeans, *Phytopathology* 100:S30.

17. Luckew, A., Leandro, L. F., and Cianzio, S. 2010. A Method to increase precision in screening to identify differences in resistance to sudden death syndrome of soybeans from resistant by resistant crosses. ASA 90-1. American Society of Agronomy Meeting, October 2010.
18. Mbofung, G. C. Y., Vincent, M., Fessehaie, A., Bhattacharyya, M. and Leandro, L. 2010. Quantifying *Fusarium virguliforme* in soil using SYBR green and Taqman assays. *Phytopathology* 100:S80.
19. Diaz, M., Leandro, L. and Munkvold, G. 2009. Impacts of *Fusarium* root inoculation on soybean plants. *Phytopathology* 99:S29.
20. Gongora, C. and Leandro, L. 2009. Effect of soil temperature and plant age on root rot and foliar symptoms of soybean sudden death syndrome. *Phytopathology* 99:S45.
21. Srivastava, P., Marois, J. and Leandro, L. 2009. Effect of plant age and leaf node on susceptibility to soybean rust caused by *Phakospora pachyrhizi*. *Phytopathology* 99: S123.
22. Delgado, P., Mbofung, G. C. Y. and Leandro, L. F. S. 2008. Temperature and light effects on growth and sporulation of four isolates of *Fusarium virguliforme*. *Phytopathology* 98:S45.
23. Diaz-Arias, M., Leandro, L., and Munkvold G. 2008. Frequency of *Fusarium* species associated with soybean roots in Iowa. *Phytopathology* 98:S46.
24. Gongora, C. and Leandro, L. F. S. 2008. Window of opportunity for root infection leading to foliar symptoms of soybean sudden death syndrome. *Phytopathology* 98:S60.
25. Mbofung, G. C. Y., Fessehaie, A. and Leandro, L. 2008. Quantification of *F. virguliforme* in field soil using TaqMan real-time polymerase chain reaction. *Phytopathology* 98:S101.
26. Mbofung, G. C. Y., Harrington, T., Steimel, J., Yang, X. B., Navi, S. S., Leandro L. F. S. 2008. Understanding differential virulence within *Fusarium virguliforme* using multiloci fingerprint analyses. *Phytopathology* 98:S101.
27. Gongora, C, and Leandro, L. F. S. 2007. Effect of inoculum level of *Fusarium virguliforme* on timing of foliar and root symptom expression of soybean sudden death syndrome. *Phytopathology* 97:S41.
28. Leandro, L. F. S., Ferguson, L. M., Fernandez, G. E., and Louws, F. J. 2004. *Trichoderma* and compost for root rot management in strawberry transplant and field production systems. Proceedings of the 5th International Conference on Alternatives to Methyl Bromide, September 27-30, 2004, Lisbon, Portugal.
29. Ferguson, L. M., Louws, F. J., Fernandez, G. E., Poling, E. B., Pesic-Van Esbroeck, Z., Abad, Z. G., Sydorovych, O. B., Safley, C. D., Monks, D. W., Brannen, P. M., Smith, P., and Leandro, L. F. S. 2004. Integrated approaches to pest management in strawberry plasticulture production in southeastern USA: overview of the methyl bromide alternatives program. Proceedings of the 5th International Conference on Alternatives to Methyl Bromide, September 27-30, 2004, Lisbon, Portugal.
30. Leandro, L. F. S, Ferguson, L. M., Fernandez, G. E., and Louws, F. J. 2004. Population dynamics of *Trichoderma hamatum* T382 on strawberry roots and in soil. *Phytopathology* 94:S56.

31. Schwegel, R., Lu, Y., Ypema, Y., Leandro, L. F. S, and Louws, F. J. 2004. Documentation of a severe anthracnose epidemic in strawberry plug-plant production in North Carolina and evaluation of *Colletotrichum acutatum* isolates for sensitivity to strobilurin fungicides. *Phytopathology* 94:S94.
32. Leandro, L. F. S, Ferguson, L. M., Fernandez, G. E., and Louws, F. J. 2003. Root rot management using biocontrol amendments in strawberry plug plant production. *Phytopathology* 93:S49.
33. Leandro, L. F. S., Gleason, M. L., Wegulo, S. N., and Nutter, F. W., Jr. 2002. Effects of strawberry extracts on conidiation and appressorial production of *Colletotrichum acutatum*. *Phytopathology* 92:S45.
34. Wise, K. A., Leandro, L. F. S., Wegulo, S. N. and Gleason, M. L. 2002. Survival and dispersal of *Colletotrichum acutatum* on strawberry leaves under field conditions. *Phytopathology* 92:S87.
35. Leandro, L. F. S, Gleason, M. L., Wegulo, S. N., and Nutter, F. W., Jr. 2001. Environmental factors affecting germination and sporulation of *Colletotrichum acutatum* on strawberry leaves. *Phytopathology* 91:S53.
36. Behm, A. L., Gleason, M. L., Leandro, L. F. S., and Wegulo, S. N. 2001. Culture media effects on germination, appressorial formation, and sporulation of *Colletotrichum acutatum*. *Phytopathology* 91:S7.
37. Thorpe, D. J., Leandro, L. F. S., Gleason, M. L., and Wegulo, S. N. 2001. Evaluation of fungi and bacteria for biocontrol of *Colletotrichum acutatum in vitro* and on strawberry leaves. *Phytopathology* 91:S88.
38. Leandro, L. F. S., Gleason, M. L., and Nutter, F. W., Jr. 1999. Production of secondary spores by *Colletotrichum acutatum* on strawberry leaves in the absence of infection. *Phytopathology* 89:S44.

Other abstracts

1. Leandro, L. F. S. and Silva, V. 2009. Optimization of inoculation methods with *Fusarium virguliforme* for virus-induced gene silencing studies on soybean sudden death syndrome. 2009 North Central Division Meeting, Ames, Iowa, June 21-23, 2009.
2. Lim, K., Gongora, C., Caragea, P. and Leandro, L. F. S. 2009. Effect of planting density, SCN population, and soil pH on soybean root rot. 2009 North Central Division Meeting, Ames, Iowa, June 21-23, 2009.
3. Srivastava, P., Marois, J., Wright, D., Walker, D. and Leandro, L. F. S. 2009. Changes in susceptibility to soybean rust caused by *Phakopsora pachyrhizi* associated with plant age and leaf node position. Proceedings of the 2009 National Soybean Rust Symposium, New Orleans, December 12-13, 2009.

4. Delgado, P., Mbofung, G. C. Y. and Leandro, L. F. S. 2008. Soybean sudden death syndrome: temperature effects on growth and sporulation of *Fusarium virguliforme*. Abstract for oral presentation at the ISU Undergraduate Research Symposium, April 2008.
5. Delgado, P., Mbofung, G. C. Y. and Leandro, L. F. S. 2008. Soybean sudden death syndrome: temperature effects on the fungal pathogen. Poster presented at the Research in the Capitol Event, March 2008.
6. Gongora, C., Nutter, F. W. Jr., and Leandro, L. F. S. 2008. Temporal dynamics of root and foliar symptoms of soybean sudden death syndrome at different inoculum densities. Proceeding of the 35th SSDW Meeting, March 12-13, 2008.
7. Keong, L. K., Gongora, C. and Leandro, L. 2008. Spatial distribution of soybean root rot, root pathogens and soil pH. Abstract for oral presentation at the ISU Undergraduate Research Symposium, April 2008.
8. Keong, L. K., Gongora, C. and Leandro, L. 2008. Understanding root health to improve soybean productivity in Iowa. Poster presentation the Research in the Capitol Event, March 2008.
9. Vincent, M., Shrestha, P., Pometto III, A. L., Leandro, L. F. S., Kim, T. H., Khanal, S. K. and Van Leeuwen, J. 2008. Simultaneous saccharification and fermentation of corn stover for the production of fuel ethanol using *Gloeophyllum trabeum* and *Saccharomyces cerevisiae*. Corn Utilization and Technology Conference. Kansas City, MO, June 2-4, 2008. *Role:*

TEACHING AND EXTENSION ACTIVITIES

Courses Taught

- Micro/Biol 456 Principles in Mycology. 3 credits, two 1h lectures and one 3h lab per week. Undergraduate and Grad students. (Fall 2006 - 50% responsibility, Fall 2007-2012- 100% responsibility)
- PLP 565 Responsible Conduct in Research, 1 credit, 1 h lecture/week (Spring 2010 and 2012- 50% responsibility; Spring 2013- 100% responsibility)

Extension Publications

1. Leandro, L., Mueller, D., Robertson, A. E., and A. Sisson. 2011. Sudden death syndrome-resistant soybean varieties for Iowa. PM 3009, Jan 2011.
<http://www.iasoybeans.com/productionresearch/publications/sds2011/sds2011.pdf>
2. Robertson, A. E., Mueller, D., Leandro, L., Tylka, G. and Yang, X.B. 2011. Begin scouting for sudden death syndrome in soybean. ICM News Jul 21, 2011.
<http://www.extension.iastate.edu/CropNews/2011/0720robertson.htm>

3. Robertson, A. E., and L. Leandro. 2010. Video offers guidance for coping with soybean sudden death syndrome. ICM News, Sept 9, 2010.
4. <http://www.extension.iastate.edu/CropNews/2010/0909robertson.htm>
5. Robertson, A. E., and L. Leandro. 2010. Answers to questions about soybean sudden death syndrome in Iowa 2010. ICM News, Sept 7, 2010.
<http://www.extension.iastate.edu/CropNews/2010/0907robertsonleandro.htm>
6. Tabor, G., Leandro, L., and Robertson, A. E. 2007. Brown stem rot and sudden death syndrome: can you tell them apart? Integrated Crop Management, Mar 26, 2007, pp 70-7.