

# Caroline Land

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## EDUCATION

**University of Florida;** Wimauma, Florida

*Doctor of Philosophy in Plant Pathology in Progress*

*Thesis Topic: Fusarium oxysporum f. sp. lycopersici (FOL) on Tomatoes*

GPA 3.93

**Auburn University;** Auburn, Alabama

*Masters of Science in Plant Pathology*

*Thesis Project: The study of applied management options to enhance crop protection against Verticillium wilt in Gossypium hirsutum.*

GPA 3.83

*Bachelor of Sciences, Agricultural Economics; Minor, Agronomy and Soil Science*

GPA 3.3 Cumulative; 3.5 Major

## WORK EXPERIENCE

*Graduate Research Assistant, University of Florida Plant Pathology Department, August 2015 – present*

- Perform isolation and culturing of plant pathogens.
- Conduct soil borne pathogen research on tomatoes.
- Evaluate labeled and unlabeled fungicides on vegetable crops.
- Worked with producers to organize on farm research trials
- Conducted a number of fumigation based trials

*Research Assistant II, Auburn University Plant Pathology Department, October 2013 – July 2015*

- Performed several different nematode extraction methods.
- Learned to identify six different species of plant parasitic nematodes.
- Performed isolation and culturing of different soil borne fungi.
- Gathered soil cores for fungi and nematode analysis.
- Conduct greenhouse, micro-plot and field trials for industry and commodity groups.
- Assist with soil borne pathogen research in agronomic crops, vegetables, and turf
- Isolate and identify plant pathogens
- Organize field trial designs and plant test plots
- Conduct greenhouse, micro-plot and field trials for industry and commodity groups
- Interact with industry personnel and representatives on issues related with research trials
- Hire, supervise and advise 8 undergraduate and graduate student workers
- Apply leadership and mentor skills to team and group project work

*Pathology Research Intern, Syngenta Crop Protection, May – August 2012*

- Performed several different tests regarding labeled and unlabeled fungicides.
- Cultivated and monitored inoculum for upcoming tests.
- Consistently utilized PPE in appropriate situations.

- Isolated and identified plant pathogens.
- Analyzed outcomes of ongoing field research.
- Organized and maintain a clean and professional lab facility.
- Calibrated various sprayers for field trial applications.

*Undergraduate Research Assistant, Auburn University Agronomy Department, January 2010 – August 2012*

- Assisted a variety of plant breeders maintain and process their research projects.
- Gained experience with a variety of crops such as cotton, soybeans, forages, and turf.
- Maintained research greenhouses and performed quality and nitrogen analysis tests.
- Ginned and delinted numerous cotton samples with acid assays.
- Aided in lab procedures to expedite experiments.

*Assistant Account Manager, Lambert-Powell Meat Lab, May 2011 – May 2012*

- Managed receipts and financial records.
- Oversaw billing payout and liability deductions using Quicken accounting system.
- Organized biweekly timesheets and payroll data.

## **RELEVANT CLASS EXPERIENCE**

Mycology	Plant Nematology
Weed Science	Advanced Crop Science
Soil Science	Grant and Proposal writing
Economic Entomology	Vegetable Production
Plant-Bacterial Interactions	Plant Genetics and Crop Improvement
Host Parasite Interactions I	Host Parasite Interactions II
Applied Population Genetics	Analysis of Microbes

## **TEACHING**

PLPA 3000 Laboratory: Weekly Laboratory- Spring 2014

PLPA 3000 Laboratory: Guest Lecturer for Nematology Lab- Fall 2014

PLPA 3000 Laboratory: Weekly Laboratory- Spring 2015

## **CONSULTING**

Brad Meyer. Agri-AFC. Wheat, Soybean, and Cotton Diseases and Nematode Samples.

Tyler N. Sandlin. Alabama Extension Agronomist. Soybean Diseases.

Drew Schrimsher. Agri-AFC. Cotton and Soybean Nematode Samples.

Ronald Smith. Alabama Extension Entomologist. Cotton Nematode Samples.

Tim Reid. Alabama Extension Entomologist. Cotton Nematode Samples.

## **ORAL PRESENTATIONS**

Supplemental Chloropicrin Application: Evaluation of In-Bed Fumigation Rate. Methy Bromide Alternatives Organization. November 8<sup>th</sup> 2016.

Hands on Plant Diagnostic Clinic. Gulf Coast Research and Extension Center's Ag Expo. Taught industry personnel, producers, and gardeners about soil borne pathogens. November 2<sup>nd</sup> 2016.

Turf Day. Out Reach Event. Taught producers and industry personnel about the risks of nematodes on turf. April 1<sup>st</sup> 2015.

Applied Management Strategies and Risk Assessment of Verticillium Wilt on Cotton Cultivars. IMP Symposium. Salt Lake City. 2015

Evaluation of cotton (*Gossypium hirsutum*) cultivars and their response to nematicide seed treatments and its physiology. Southern Division American Phytopathological Society. Atlanta. 2015.

Applied Management Strategies for Verticillium Wilt and on-farm cotton cultivar variety evaluations. 2014. Beltwide Cotton Conference. San Antonio. 2015

Tiger Striping in Cotton. Hatch Project Meeting. Las Cruces NM. 2014

3<sup>rd</sup> Annual Ag Discovery Adventure. Out Reach Event. Taught children how to make fungal farms and raised awareness about row crop diseases. Attendance:1,656. E. V. Smith Reacher Center. September 13 2014.

Overview of Verticillium Wilt on Commercial Cotton Cultivars. Georgia and Alabama Cotton Consultants Meeting. Eufaula AL 2014

Verticillium Wilt on-farm cotton cultivar variety evaluations. 2013. Beltwide Cotton Conference. New Orleans LA. 2014

Verticillium Wilt Project Proposal. Hatch Project Meeting. Greenville NC. 2013

## **REFEREED JOURNAL ARTICLAES**

Land, C.J., K. S. Lawrence, and M. Newman. First Report of *Verticillium dahliae* on Cotton in Alabama. Plant Disease Volume 100, Number 3. Page 655 The American Phytopathological Society, St. Paul, MN. <http://dx.doi.org/10.1094/PDIS-10-15-1143-PDN>

Land, C.J., K. S. Lawrence, C. H. Burmester, and B. Meyer. Verticillium wilt Variety Assessment and Evaluation of Soil and Irrigation Interaction. Plant Health Progress-Submitted.

## **PEER REVIEWED PUBLICATIONS**

Land, C.J., K. S. Lawrence, C. H. Burmester, and C. Norris. 2015. Bayer CropScience experimental Nematicides for Management of the Reniform Nematode in North Alabama, 2014. Report9:N014 DOI:11.1094/PDMR09. The American Phytopathological Society, St. Paul, MN.

Lawrence, K., C. Land, R. Sikkens, C. H. Burmester; C. Norris. Cotton nematicide combinations for reniform management in north Alabama, 2014. Report9:N002 DOI:11.1094/PDMR09. The American Phytopathological Society, St. Paul, MN.

Lawrence, K., C. Land, R. Sikkens. Cotton variety and nematicide combinations for root knot management in central Alabama, 2014. Report9:N003 DOI:11.1094/PDMR09. The American Phytopathological Society, St. Paul, MN.

Lawrence, K., C. Land, R. Sikkens, C. H. Burmester; C. Norris. Cotton variety and nematicide combinations for root-knot management in central Alabama, 2014. Report9:N004 DOI:11.1094/PDMR09. The American Phytopathological Society, St. Paul, MN.

Land, C.J., K. S. Lawrence, B. Miller. 2015. Experimental ReSet for management of the Root-knot on Cucumber, 2014. Report9: N012 DOI:11.1094/PDMR09. The American Phytopathological Society, St. Paul, MN.

Land, C.J., K. S. Lawrence, C. H. Burmester, and B. Meyer. 2015. Verticillium Wilt on-farm Cotton Cultivar Variety Evaluations, 2014. Report9: FC098 DOI:11.1094/PDMR09. The American Phytopathological Society, St. Paul, MN.

Land, C.J., K. S. Lawrence, C. H. Burmester, and C. Norris. 2015. Experimental Propulse and its efficacy on the Reniform Nematode in North Alabama, 2014. Report9: N011 DOI:11.1094/PDMR09. The American Phytopathological Society, St. Paul, MN.

Land, C.J., K. S. Lawrence, C. H. Burmester, and C. Norris. 2014. Experimental Nematicides for Management of the Reniform Nematode in North Alabama, 2013. Report 8:ST014 DOI:11.1094/PDMR08. The American Phytopathological Society, St. Paul, MN.

Land, C.J., K. S. Lawrence, C. H. Burmester, and C. Norris. 2014. Evaluation of Experimental Nematicides for the Management of the Reniform Nematode in North Alabama, 2013. Report 8:ST015 DOI:11.1094/PDMR08. The American Phytopathological Society, St. Paul, MN.

Land, C.J., K. S. Lawrence, C. H. Burmester, and C. Norris. 2014. Experimental Biological Management of the Reniform Nematode in North Alabama, 2013. Report 8: ST016 DOI:11.1094/PDMR08. The American Phytopathological Society, St. Paul, MN.

Land, C.J., K. S. Lawrence, S. Nightengale. 2014. Efficacy of experimental Biological Management of the Root-knot Nematode in Alabama, 2013 Report 8:ST017 DOI:11.1094/PDMR08. The American Phytopathological Society, St. Paul, MN.

Lawrence K. S., R. B. Sikkens, C. J. Land and C. Norris. 2014. Fungicide Combination Evaluations for Cotton Seedling Disease Management in North Alabama, 2013. Report 8:ST0002 DOI:11.1094/PDMR08. The American Phytopathological Society, St. Paul, MN.

Bailey D. L., K.S. Lawrence, R. B. Sikkens, C. J. Land and C. Norris. 2014. Evaluations for Cotton Disease with the Use of Fungicide Management in North Alabama, 2013. Report 8:ST019 DOI:11.1094/PDMR08. The American Phytopathological Society, St. Paul, MN.

Bailey D. L., K.S. Lawrence, C. J. Land, R. B. Sikkens, C.H. Burmester and C. Norris. 2014. Cotton Variety and Fungicide Combinations for Seedling Disease Management in North Alabama, 2013. Report 8:ST018 DOI:11.1094/PDMR08. The American Phytopathological Society, St. Paul, MN.

Lawrence K. S., C. J. Land, R. B. Sikkens, C.H. Burmester and C. Norris. 2014. Cotton Variety and Nematicide Combinations for Reniform Management in North Alabama, 2013. Report 8:ST001 DOI:11.1094/PDMR08. The American Phytopathological Society, St. Paul, MN.

Lawrence K. S., C. J. Land, R. B. Sikkens, C.H. Burmester and C. Norris. 2014. Cotton Variety and Nematicide Combinations for Reniform Management in North Alabama, 2013. Report 8:N001 DOI:11.1094/PDMR08. The American Phytopathological Society, St. Paul, MN.

## ABSTRACTS AND PROCEEDINGS

Land, Caroline, Gary Vallad, Joseph Noling, Nathan Boyd. Supplemental Chloropicrin Application: Evaluation of In-Bed Fumigation Rate. 2016. Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions. <https://mbao.org/>.

Land, Caroline, Gary Vallad, Rebecca Willis, and Sam Hutton. Greenhouse Evaluation of Dosage Responses of the I3 Gene to *Fusarium oxysporum f. sp. lycopersici* race 3. In Press. The American Phytopathological Society, St. Paul, MN

Land C., K. S. Lawrence. Evaluation of cotton (*Gossypium hirsutum*) cultivars responses to nematicide seed treatment and its physiology. Vol. 105 (Supplement 2), No. 4, 2015. The American Phytopathological Society, St. Paul, MN

Land, C. J., K. S. Lawrence, B. Meyer, C. H. Burmester. 2015. Applied Management Strategies for Verticillium Wilt and On-Farm Cotton Cultivar Variety Evaluations. 2014. Proceedings of the Beltwide Cotton Conference, Vol. 1:552-556. National Cotton Council of America, Memphis, TN. <http://www.cotton.org/beltwide/proceedings/2005-2015/index.html>

Land, C. J., K. S. Lawrence, P. Cobine, G. Lawrence. 2015. Tiger Striping Symptoms Caused by *Rotylenchulus Reniformis* in Upland Cotton. 2014. Proceedings of the Beltwide Cotton Conference, Vol. 1:195-199. National Cotton Council of America, Memphis, TN. <http://www.cotton.org/beltwide/proceedings/2005-2015/index.html>

Land, Caroline, K. S. Lawrence. 2014. Greenhouse Evaluation of Inoculation Methods and Commercial Cotton Cultivars in the Presence of Verticillium Wilt. Vol. 104 (Supplement 3), No. 11, 2014. The American Phytopathological Society, St. Paul, MN

Lawrence, K.S., C. Land and R. Sikkens. 2014. A new in-furrow nematicide for *Rotylenchulus reniformis* and *Meloidogyne incognita* nematode management in cotton. Journal of Nematology Vol. 46:191-192.

Land, C. J., K. S. Lawrence, D. W. Schrimsher, and C. H. Burmester. 2013. Cotton Varieties and Nematicide Combinations for Reniform and Root-knot Management in Alabama. Journal of Nematology Vol. 45:301.

Land, C. J., K. S. Lawrence, B. Meyer, C. H. Burmester. Verticillium Wilt on-farm cotton cultivar variety evaluations. 2013. Proceedings of the Beltwide Cotton Conference, Vol. 1:266-269. National Cotton Council of America, Memphis, TN. <http://www.cotton.org/beltwide/proceedings/2005-2012/index.html>

## NON-REFEREED PUBLICATIONS

Land, C.J., K. S. Lawrence, C. H. Burmester, and B. Meyer. Studies on the Management of Verticillium wilt in Cotton. Plant Pathology Series Timely Information. 2015 PP-756.

Land, C. J., K. S. Lawrence, B. Meyer, C. H. Burmester. 2014. Commercial Cotton Varieties Responses to Verticillium Wilt. Alabama Agricultural Experiment Station Research Report Series 2014. <http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

Lawrence K. S., R. B. Sikkens, C. J. Land and C. Norris. 2014. Fungicide Combination Evaluations for Cotton Seedling Disease Management in North Alabama, 2014. Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

Bailey D. L., K.S. Lawrence, R. B. Sikkens, C. J. Land and C. Norris. 2014. Evaluations for Cotton Disease with the Use of Fungicide Management in North Alabama, 2014. Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

Bailey D. L., K.S. Lawrence, C. J. Land, R. B. Sikkens, C.H. Burmester and C. Norris. 2014. Cotton Variety and Fungicide Combinations for Seedling Disease Management in North Alabama, 2014. . Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

Land, C. J., K.S. Lawrence, C.H. Burmester, and C.Norris. 2013. Evaluation of Experimental Nematicides for the Management of the Reniform Nematode in North Alabama, 2013. Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

Land, C. J., K.S. Lawrence, C.H. Burmester and C. Norris. 2013. Experimental Nematicides for Management of the Reniform Nematode in North Alabama, 2013. Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

K.S. Lawrence, C. J. Land, R. B. Sikkens, C.H. Burmester and C. Norris. 2013. Cotton Variety and Nematicide Combinations for Reniform Management in North Alabama, 2013. Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

K.S. Lawrence, C. J. Land, and R. B. Sikkens. 2013. Cotton Variety and Nematicide Combinations for Root-knot Management in Central Alabama, 2014. Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

K.S. Lawrence, C. J. Land, R. B. Sikkens, C.H. Burmester and C. Norris. 2013. New Nematicide Evaluations with Vydate C-LV for Reniform Management in North Alabama, 2013. Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

C.J. Land, K.S. Lawrence, C.H. Burmester and C. Norris. 2013. Experimental Biologicals Management of the Reniform Nematode in North Alabama, 2013. Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

C.J. Land, K.S. Lawrence and S. Nightengale. 2013. Efficacy of Experimental Biological Management of the Root Knot Nematode in Alabama, 2013. Alabama Agricultural Experiment Station Research Report Series 2014.

<http://www.aces.edu/anr/crops/documents/CottonBulletin.pdf>

**RECOGNITIONS AND AWARDS (Most current at the top)**

Honorable Mention at the Southern Division American Phytopathological Society's Student Presentation Competition 2015.

Second Place at the Beltwide Cotton Conference Student Oral Presentation for the Disease Category 2015.

First Place at the Beltwide Cotton Conference Student Oral Presentation for the Disease Category 2014.

Most Outstanding Department of Plant Pathology Master's Student Award for 2014

College of Agriculture Dean's List Spring 2012

College of Agriculture Dean's List Fall 2011