AdamH.Sparks

Plant Disease Management Specialist@IRRI

skills

GIS
modelling
agricultural statistics

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personal summary

I am a plant pathology epidemiologist and ecologist who can effectively communicate and collaborate with diverse partners and stakeholders in an international setting. My work encompases traditional field-based research, epidemiological modeling, climate change, GIS and statistical methods. In turn, I use this work to understand what drives crop disease epidemics and derive disease control recomendations farmers and make recomendations for policy makers and other decision makers.

experience

since 2012 **International Rice Research Institute** (IRRI) — Scientist I
Develop tools and strategies for farmers to use in addressing rice diseases

2011-2012 **International Rice Research Institute** (IRRI) — Post-Doctoral Fellow
Linked plant disease models with GIS tools

2009-2010 **Kansas State University** — Post-Doctoral Research Associate
Developed and refined predictive Fusarium head blight models for wheat

2002-2004 **University of Nebraska-Lincoln** — Research Technologist
Managed maize and soybean plant pathology extension field research

2000-2003 **University of Nebraska-Lincoln** — Research Technician
Managed maize and sorghum plant pathology extension field research

1999-2000 **Purdue University** — Assistant Director
Coordinated training events for Purdue Diagnostic Training and Research Center

1997-1999 **Purdue University** — Research Technician
Managed soybean and canola production research studies

education

2009 **Ph.D.** Plant Pathology — Kansas State University, Manhattan, KS
Plant Disease Epidemiology and Ecology
Dissertation: *Disease risk mapping with metamodels for coarse resolution predictors: global potato late blight risk now and under future climate conditions*

2007 **Graduate Certificate** Geography — Kansas State University, Manhattan, KS
Geographic Information Science

2000 **B.Sc.** Agronomy — Purdue University, West Lafayette, IN
Soil and Crop Management

publications

peer-reviewed

Climate change may have little effect on global risk of potato late blight
A H Sparks, G A Forbes, R J Hijmans, K A Garrett
Global Change Biology *(2014). DOI:* `10.1111/gcb.12587`

A review on crop losses, epidemiology and disease management of rice brown spot to identify research priorities and knowledge gaps

M K Barnwal, A Kotasthane, N Magculia, P K Mukherjee, S Savary, A K Sharma, H B Singh, U S Singh, A H Sparks, M Variar, N Zaidi

European Journal of Plant Pathology *136.3 (2013) pp. 443–457. DOI: 10.1007/s10658-013-0195-6*

Taking transgenic rice drought screening to the field.

A C M Gaudin, A Henry, A H Sparks, I H Slamet-Loedin

Journal of Experimental Botany *63.2 (2012) pp. 695–709. DOI: 10.1093/jxb/ers313*

An Economic Assessment of the Impact of Mango Pulp Weevil on the Agricultural Sector of Palawan, Philippines

J D Mckinley, A H Sparks, V O Pede, B Duff

The Philippine Agricultural Scientist *95.3 (2012) pp. 286–292*

Complexity in climate-change impacts: an analytical framework for effects mediated by plant disease

K A Garrett, G A Forbes, S Savary, P Skelsey, A H Sparks, C Valdivia, A H C van Bruggen, L Willocquet, A Djurle, E Duveiller, H Eckersten, S Pande, C Vera Cruz, J Yuen

Plant Pathology *60.1 (2011) pp. 15–30. DOI: 10.1111/j.1365-3059.2010.02409.x*

International agricultural research tackling the effects of global and climate changes on plant diseases in the developing world

S Savary, A Nelson, A H Sparks, L Willocquet, E Duveiller, G Mahuku, G Forbes, K A Garrett, J Padgham, S Pande, M Sharma, J Yuen, A Djurle

Plant Disease *48 (2011) pp. 1–40*

A metamodeling framework for extending the application domain of process-based ecological models

A H Sparks, G A Forbes, R J Hijmans, K A Garrett

Ecosphere *2.8 (2011) art90. DOI: 10.1890/ES11-00128.1*

Beyond yield: plant disease in the context of ecosystem services.

M R Cheatham, M N Rouse, P D Esker, S Ignacio, W Pradel, R Raymundo, A H Sparks, G A Forbes, T R Gordon, K A Garrett

Phytopathology *99.11 (2009) pp. 1228–36. DOI: 10.1094/PHYTO-99-11-1228*

Ecology and epidemiology in R: disease forecasting

P D Esker, A H Sparks, L Campbell, Z Guo, M Rouse, S D Silwal, S Tolos, B Van Allen, K A Garrett

The Plant Health Instructor *(2008)*

Ecology and epidemiology in R: modeling plant disease progress over time

A H Sparks, P D Esker, M Bates, W Dall'Acqua, Z Guo, V Segovia, S D Silwal, S Tolos, K A Garrett *(2008)*

Ecology and epidemiology in R: spatial analysis

A H Sparks, P D Esker, G Antony, L Campbell, E E Frank, L Huebel, M N Rouse, B Van Allen, K A Garrett

The Plant Health Instructor *(2008)*

Introduction to the R programming environment

K A Garrett, P D Esker, A H Sparks

The Plant Health Instructor *(2007)*

Ecology and epidemiology in R: modeling dispersal gradients

P D Esker, A H Sparks, G Antony, M Bates, W Dall'Acqua, E E Frank, L Huebel, V Segovia, K A Garrett

The Plant Health Instructor *(2007)*

Writing teaching documents as a class project

K A Garrett, P D Esker, A H Sparks, L C Scharmann

The Plant Health Instructor *(2007)*

conferences/proceedings

Modeling the impact of disease resistance on rice yields in the Philippines and Indonesia
A H Sparks, J Anaurio, C Duku, M Noel, D Raitzer
In Proceedings of the Australasian Plant Pathology Society 2013 Meeting *(2013)*

Preventing what ails rice with a strategic, statistical, prescriptive model system
A H Sparks, S Savary, A Nelson
Phytopathology *vol. 102:S4.113.7 (2012)*

Predisposition factors affecting brown spot disease development in rice
N F Magculia, A H Sparks
Phytopathology *vol. 102:S4.74.7 (2012)*

Putting information to use: Decisions at different scales
S Savary, A H Sparks, N Nelson, N McRoberts, P D Esker
Phytopathology *vol. 102:S4.162 (2012)*

An economic assessment of the impact of mango pulp weevil on the agricultural sector of Palawan, Philippines
J McKinley, V O Pede, A H Sparks, B Duff
The Conference Secretariat, 2011 PAEDA Biennial Convention *(2011)*

Income inequality and economic growth in the Philippines
G B Ballesefin, V O Pede, A H Sparks
The Conference Secretariat, 2011 PAEDA Biennial Convention *(2011)*

Crop losses in highly populated areas: A global perspective
L Willocquet, A Nelson, A Sparks, A Laborte, S Savary
Phytopathology *vol. 101:S223 (2011)*

Metamodels for scaling potato late blight risk analysis in climate change scenarios
A H Sparks, G Forbes, R Hijmans, K Garrett
Phytopathology *vol. 100:S121 (2010)*

Anticipating and responding to biological complexity in the effects of climate change on agriculture
K Garrett, G Forbes, S Pande, S Savary, A Sparks, C Valdivia, C Vera Cruz, L Willocquet
IOP Conference Series: Earth and Environmental Science *vol. 6.37 (2009)*

Adapting disease forecasting models to coarser scales: Global potato late blight prediction
A H Sparks, G Forbes, K A Garrett
Phytopathology *vol. 99:S122 (2009)*

Adapting global disease forecasting models for readily available weather data sets in GIS
A H Sparks, K A Garrett, G A Forbes
In Proceedings of the 10th International Epidemiology Workshop *(2009). Geneva, NY, USA*

Regional predictions of potato late blight risk in a GIS incorporating disease resistance profiles, climate change, and risk neighborhoods
A H Sparks, R Raymundo, R Simon, G Forbes, K A Garrett
Phytopathology *vol. 98:S149 (2008)*

book chapters

Chap. An introduction to key distributions and models for epidemiology using R
K A Garrett, P D Esker, A H Sparks
Stevenson, K and M Jeger, APS Press, Minneapolis, MN, "Exercises in Plant Disease Epidemiology", In Press

Chap. Cambio climático, enfermedades de las plantas e insectos plaga
K A Garrett, G A Forbes, L Gómez, M A Gonzáles, M Gray, P Skelsey, A H Sparks
Jiménez, E, "Cambio clim/'aico y adaptaciń en el Altiplano boliviano", 2013

Chap. Plant pathogens as indicators for climate change
K A Garrett, M Nita, E D De Wolf, L Gomez, A H Sparks
Letcher, T, Elsevier, "Climate Change Indicators", 2009

reports

Evaluation of seed treatment for controlling seedling diseases and compatibility with Rhizobium inoculants, 2003.
L J Geisler, A H Sparks
Fungicide and Nematicide Tests 59:ST025

Evaluation of seed treatment fungicides for controlling soybean seedling diseases, 2003
L J Geisler, A H Sparks
Fungicide and Nematicide Tests 59:ST025

invited talks

2013 **Biosecurity Risks in Southeast Asia Impacting on Human Food Supplies**
Forum: Pacific Environmental Safety Forum Australian Department of Defence and U. S. Pacific Command
Sydney, New South Wales, Australia

2010 **Global potato late blight risk in response to climate change, possible futures for a historic disease**
Symposium: Emerging Infectious Diseases in Response to Climate Change.
New York Academy of Sciences, New York, New York

extramural support

2013-2017 **PRISM** Philippine Rice Information SysteM $2,765,783
Component B – Crop Health Monitoring, Co-PI: A Nelson

2013-2015 **Syngenta** $454,640
Phase II, Project 2 – Crop Health Management

professional certifications

PRINCE2 Foundation (2014) candidate number: P2R/009385 – HiLogic Pty Ltd.

professional affiliations

American Phytopathological Society (APS)

Australasian Plant Pathology Society (APPS)

International Society of Plant Pathology (ISPP)

International Association for the Plant Protection Sciences (IAPPS)