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Kansas State University
Department of Plant Pathology
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EDUCATION

PhD Plant Pathology
University of Florida 2020

MS Plant Pathology
The Ohio State University, Columbus, OH 2013

BA Biology (Honors in Biology)
Lafayette College, Easton, PA 2011

EMPLOYMENT AND APPOINTMENTS

Assistant Professor
Kansas State University · Manhattan, KS April 2020 - *present*
Department of Plant Pathology

Epidemiology and Portfolio Lead
Monsanto Company · St. Louis, MO July 2016- September 2016
North America Breeding Plant Health Team

Plant Health Project Lead
Monsanto Company · St. Louis, MO August 2015-July 2016
North America Breeding Plant Health Team

Research Associate
Monsanto Company · St. Louis, MO January 2013-August 2015
Soybean Breeding Team

PUBLICATIONS

Peer-reviewed

De Wolf, E., **Andersen Onofre, K.**, Lollato, R. Early Season Environmental Indicators of Wheat Stripe Rust Epidemics in the Central Great Plains Region of North America. *Plant Disease*. In press.

Cruppe, G., DeWolf, E., Jaenisch, B., **Andersen Onofre, K.**, Valent, B., Fritz, A., Lollato, R. 2021. Experimental and producer-reported data quantify the value of foliar fungicide to winter wheat and its dependence on genotype and environment in the central U.S. Great Plains. *Field Crops Research*. 273:108300.

Buddenhagen, C., Xing, Y., Andrade-Piedra, J. Forbes, G., Kromann, P., Navarrete, I., Thomas-Sharma, S., Choudhury, R., **Andersen Onofre, K.**, Schulte-Geldermann, E., Etherton, B., Sulá, P., Garrett, K. 2021. Where to Invest Project Efforts for Greater Benefit: A Framework for Management Performance Mapping with Examples for Potato Seed Health. *Phytopathology*. 112:7, 1431-1443.

- Andersen Onofre, K. F.**, Forbes, G. A., Andrade-Piedra, J., Buddenhagen, C.E., Fulton, J., Gatto, M., Khidesheli, Z., Mdivani, R., Xing, Y., Garrett, K. 2021. An integrated seed health strategy and phytosanitary risk assessment: potato in the Republic of Georgia. *Agricultural Systems*. 191:103144. DOI: 10.1016/j.agsy.2021.103144
- Y. Xing, J. F. Hernandez Nopsa, **K. F. Andersen**, J. L. Andrade-Piedra, F. D. Beed, G. Blomme, M. Carvajal-Yepes, D. L. Coyne, W. J. Cuellar, G. A. Forbes, J. F. Kreuze, J. Kroschel, P. L. Kumar, J. P. Legg, M. Parker, E. Schulte-Geldermann, K. Sharma, K. A. Garrett, *Global Cropland Connectivity: A Risk Factor for Invasion and Saturation by Emerging Pathogens and Pests*. *BioScience*.
- K. A. Garrett, R.I. Alcalá-Briseño, **K. F. Andersen**, J. Brawner, R. Choudhury, E. Delaquis, J. Fayette, R. Poudel, D. Purves, J. Rothschild, I.M. Small, S. Thomas-Sharma, Y. Xing. 2020. Effective altruism as an ethical lens on research priorities. *Phytopathology*. 110: 708-722.
- K. Ogero, J. Kreuze, M. McEwan, N. Luambano, H. Bachwenkizi, K.A. Garrett, **K.F. Andersen**, R.A.A. van der Vlugt and S. Thomas-Sharma. 2019. Efficiency of insect-proof net tunnels in reducing virus-related seed degeneration in sweetpotato. *Plant Pathology*. 68:1472-1480.
- Andersen, K. F.**, C. E. Buddenhagen, P. Rachkara, R. Gibson, S. Kalule, D. Phillips, and K. A. Garrett. 2019. Analyzing key nodes and epidemic risk in seed networks: Sweetpotato in Northern Uganda. *Phytopathology*. 9:1519-1532.
- Delaquis, E., **K. F. Andersen**, N. Minato, C. T. L. Thuy, M. E. Karssenber, S. Sophearith, K. A. G. Wyckhuys, J. Newby, D. D. Burra, P. Srean, I. Phirun, L. D. Niem, P. T. Nhan, K. A. Garrett, C. J. M. Almekinders, P. C. Struik, S. de Haan. 2018. Raising the stakes: cassava seed networks at multiple scales in Cambodia and Vietnam. *Frontiers in Sustainable Food Systems*. 2:73.
- Garrett, K. A., R. I. Alcalá-Briseño, **K. F. Andersen**, C. E. Buddenhagen, R. A. Choudhury, J. C. Fulton, J. F. Hernandez Nopsa, R. Poudel, and Y. Xing. 2018. Network analysis: A systems framework to address grand challenges in plant pathology. *Annual Review of Phytopathology*. 56:559-580.
- Garrett, K. A., **K. F. Andersen**, F. Asche, R. L. Bowden, G. A. Forbes, P. A. Kulakow, and B. Zhou. 2017. Resistance genes in global crop breeding networks. *Phytopathology* 107:1268-1278.
- Buddenhagen, C. E., J. F. Hernandez Nopsa, **K. F. Andersen**, J. Andrade-Piedra, G. A. Forbes, P. Kromann, S. Thomas-Sharma, P. Useche, and K. A. Garrett. 2017. Epidemic network analysis for mitigation of invasive pathogens in seed systems: Potato in Ecuador. *Phytopathology* 107:1209-1218.
- Andersen, K. F.**, Madden, L. V., Paul, P.A. 2015. Fusarium Head Blight Development and Deoxynivalenol Accumulation in Wheat as Influenced by Post-Anthesis Moisture Patterns. *Phytopathology*. 105:210-219.
- Andersen, K. F.** Morris, L., Derksen, R. C., Madden, L. V. and Paul, P. A. 2014. Rainfastness of Prothioconazole + Tebuconazole for Fusarium Head Blight and Deoxynivalenol Management in Soft Red Winter Wheat. *Plant Disease*. 98:1398-1406.
- Andersen, K. F.** and Ospina-Giraldo, M.D. 2011. Assessment of the effect of temperature on the late blight disease cycle using a detached leaf assay. *Journal of the Pennsylvania Academy of Science*. 85:165-173.
- Andersen, K. F.** and Ospina-Giraldo, M.D. 2011. Relative disease susceptibility of cultivated varieties of potato to different isolates of *Phytophthora infestans*. *Journal of the Pennsylvania Academy of Science*. 85:140-146.

Non-peer reviewed

- Lingenfelter, J., De Wolf, E. D., Fritz, A., Knapp, M., Lollato, R., **Andersen Onofre, K.**, Whitworth, J., Adee, E., Dooley, S., Esser, A., Kimball, J., Larson, M., Stensaas, D., Keith, T., Dylan, W. Haag, L., Mengarelli, L, Sassenrath, G., Schlegel, A., Zhang, G., Knopf, J., Bohnert, C. August 2021. 2021 Kansas Performance Tests with Winter Wheat Varieties: Report of Progress 1128. SRP 1158.
- Lingenfelter, J., De Wolf, E. D., Fritz, A., Knapp, M., Lollato, R., **Andersen Onofre, K.**, Whitworth, J., Adee, E., Dooley, S., Esser, A., Kimball, J., Larson, M., Stensaas, D., Keith, T., Dylan, W. Haag, L., Mengarelli, L, Sassenrath, G., Schlegel, A., Zhang, G., Knopf, J., Bohnert, C. August 2020. 2020 Kansas Performance Tests with Winter Wheat Varieties: Report of Progress 1128. SRP 1158.
- Hollandbeck, G. F. **Andersen Onofre, K.**, DeWolf, E., Todd, T. 2020. Kansas cooperative plant disease survey report: preliminary 2020 Kansas wheat disease loss estimates. *Agriculture.ks.gov*.
- Buddenhagen, C. E., **K. F. Andersen**, J. C. Fulton, and K. A. Garrett. 2017. Survey methods for seed system network analysis. *PeerJ Preprints* 5:e2806v2801.

Book chapters

Garrett, K. A., R. I. Alcalá-Briseño, **K. F. Andersen**, R. A. Choudhury, W. Dantes, J. Fayette, J. C. Fulton, R. Poudel, and C. G. Staub. 2019. Adapting disease management systems under global change. In: J. Ristaino and A. Records (Editors), *Emerging Plant Diseases and Global Food Security*. APS Press, in press.

K-State Extension Publications

Andersen Onofre, K. and De Wolf, E. D. 2021. Foliar fungicide efficacy ratings for wheat disease management 2021. Kansas State University Agricultural Experiment Station and Cooperative Extension Service. Pub No. EP-130.

Andersen Onofre, K., De Wolf, E. D., Lollato, R. and Whitworth, J. R. 2021. Wheat Variety Disease and Insect Ratings 2020. Kansas State University Agricultural Experiment Station and Cooperative Extension Service. Pub No. MF991.

Lollato, R., **Andersen Onofre, K.**, De Wolf, E., Haag, L., Duncan, S., Pedreira, B. 2021. Wheat Rx: Wheat Variety Selection. Pub No. MF3587.

Andersen Onofre, K. and De Wolf, E. D. 2020. Foliar fungicide efficacy ratings for wheat disease management 2020. Kansas State University Agricultural Experiment Station and Cooperative Extension Service. Pub No. EP-130.

Andersen Onofre, K., De Wolf, E. D., Lollato, R. and Whitworth, J. R. 2020. Wheat Variety Disease and Insect Ratings 2020. Kansas State University Agricultural Experiment Station and Cooperative Extension Service. Pub No. MF991.

Andersen Onofre, K., De Wolf, E. D. Seed treatment fungicides for wheat disease management 2020. Kansas State University Agricultural Experiment Station and Cooperative Extension Service. Pub No. MF2955.

PROFESSIONAL PRESENTATIONS

Invited

Featherstone, A.M., A. Broyaka, Romulo Lollato, and **Kelsey Andersen Onofre**. “Wheat Production and Processing Assessment for Georgia, Ministry of Environmental Protection and Agriculture of Georgia, Tbilisi, Georgia, November 4, 2022.

K. Andersen Onofre. The influence of a changing climate on some of the most sinister wheat pathogens. Plant Health 2022. October 4th, 2022. Virtual Post-Meeting Webinar Series: Climate Change and the Future of our Natural and Agricultural Systems. Oral presentation.

K. Andersen Onofre. Practical management of Fusarium head blight. USWBSI Scabinar 2022. March 15th, 2022. Oral presentation.

K.F. Andersen Onofre. Foliar diseases of wheat: stripe rust and leaf spots. Crop protection network and ASA webinar series. January 6th, 2021. 450 virtual attendees.

K. F. Andersen Onofre. Developing a stakeholder driven research and extension program: early career perspectives. APS Workshop: Developing a toolkit for effective extension and outreach. Nov 30th, 2021.

K. F. Andersen, C. Buddenhagen, R. Gibson, P. Rachkara, S. Kalule, D. Phillips, and K. A. Garrett. Tools for modeling epidemics in seed systems to guide timely interventions. Oral Presentation. RTB Annual Seed Systems Meeting. Ibadan, Nigeria. Mar 13th-14th, 2019.

K. F. Andersen, C. Buddenhagen, R. Gibson, P. Rachkara, S. Kalule, D. Phillips, and K. A. Garrett. Modeling epidemics in seed systems to guide management strategies: the case of sweetpotato in northern Uganda. Oral Presentation. “Plant Pathologists of the Future” Special Session. Pacific Division American Phytopathological Society Meeting. Portland, Oregon. June 25th-27th, 2018.

K. F. Andersen and K. A. Garrett. Modeling epidemics in seed systems to inform management strategies. Oral Presentation. RTB Annual Seed Systems Meeting. Nairobi, Kenya. Mar 25th-27th, 2018.

K. F. Andersen and K. A. Garrett. Resistance gene flow in crop breeding networks, a source of resilience and risk to emerging global epidemics. Oral Presentation. RTB Annual Pest Risk Assessment Meeting. Kigali, Rwanda. Oct 9th-10th, 2017.

Contributed

- Debacker Moura, R., Wang, H., Abshire, J., Bowden, R., Byrne, J., Chilvers, M., Sanzhen, L., De Wolf, E., **Andersen Onofre, K.** A comparison of molecular diagnostic assays for *Tilletia* species causing bunt on wheat. American Phytopathological Society. Plant Health 2022. Poster Presentation.
- Abshire, J., Bowden, R., De Wolf, E., Debacker Moura, R. Wang, H., **Andersen Onofre, K.** Revisiting the morphological identification of the fungal wheat pathogens *Tilletia tritici*, *T. laevis*, and *T. controversa*. American Phytopathological Society. Plant Health 2022. Poster Presentation.
- Duffeck, M., Luis, J. M., Monclova-Santana, C., Byamukama, E., De Wolf, E., Owen, E., **Andersen Onofre, K.**, Burrows, M., Ali, S., Murry, T., McKelvy, U., Paul, P. Natural occurrence of *Spetoria tritici* blight in winter wheat in Ohio and its association with weather variables. American Phytopathological Society. Plant Health 2022. Poster Presentation.
- Plex Sula, A. I., Alcalá Briseño, R., Xing, Y., Etherton, B., **Andersen Onofre, K.**, Andrade-Piedra, J., Avelino, J., Dita, M., Gaiz, R., Hodson, D., Harvis, A., Kenyon, L., Kreuze, J., Mahabaleswara, S., Cifuentes, G., Sonder, K., Vallad, G., Garrett, K. Translating cropland and trade connectivity for mitigation of emerging pathogens: Priority locations globally and focusing on the Americas. American Phytopathological Society. Plant Health 2022. August 8th, 2022.
- Abshire, J., Wang, H., Bowden, R. L., De Wolf, E. D., **Andersen Onofre, K.** Revisiting diagnostic techniques for differentiation of fungal wheat pathogens *Tilletia tritici*, *Tilletia laevis*, and *Tilletia controversa*. NDPN National Meeting 2022. Poster Presentation.
- J.A. Cinderella, **K. Andersen Onofre**, G.C. Bergstrom, W.W. Bockus, C.A. Bradley, M. Breunig, E. Byamukama M.I. Chilvers, C. Cowger, T.R. Faske, A.J. Friskop, J. Kelly, N.M. Kleczewski, S. Mideros, P.A. Paul, T. Price, N. Rawat¹, J. Rupp, S. Shim, J. Stevens, D. Telenko, A.M. Koehler. Baseline Fungicide Sensitivity to Pydiflumetofen in *Fusarium graminearum* Isolated from Wheat Across 16 States. 2022 USWBSI Scab Forum. December 2021.
- Yanru Xing, Aaron Isai Plex Sulá, Ricardo Iván Alcalá Briseño, Berea A. Etherton, Robin Choudhury, **Kelsey F. Andersen**, and Karen A. Garrett. Cropland connectivity: best practices for incorporation in geographic risk analysis. Plant Health 2021. Virtual Meeting. Poster Presentation.
- Aaron Isai Plex Sulá, Dr. Ricardo Iván Alcalá Briseño, Yanru Xing, Ms. Berea A. Etherton, **Kelsey F. Andersen**, Jorge L. Andrade-Piedra, Miguel Angel Dita Rodriguez, David Hodson, Andrew Jarvis, Jan F. Kreuze, Kai Sonder, L.M Suresh PhD and Karen A. Garrett. Geographic disease risk analysis for major crops of Central America and Mexico: regional analyses and global structures. Plant Health 2021 Virtual Meeting. Poster Presentation.
- Yanru Xing, Sospeter Gachamba, **Kelsey F. Andersen**, and Karen A. Garrett. Surveillance and mitigation strategies for bacterial wilt and other diseases in a potato seed network in Kenya. Plant Health 2021 Virtual Meeting. Poster Presentation
- S. Lancaster, **K. F. Andersen**, J. Ikley. “Virtual Diagnostics: Getting the Most from Diagnostic Photographs”. 2020 Virtual Fall Multi-State Conference.
- K. F. Andersen**, E. Delaquis, J. Newby, Cu Thi Le Thuy, S. de Haan, J. Peter Legg, W. Cuellar, R. Ivan Alcala-Brise and K. A. Garrett. A decision support model for landscape-level management of cassava mosaic disease in Southeast Asia. Plant Health 2020. August 2020. Virtual Meeting. Oral Presentation.
- Y. Xing, J. F. Hernandez Nopsa, **K. F. Andersen**, J. L. Andrade-Piedra, F. Beed, G. Blomme, M. Carvajal-Yepes, D. L. Coyne, W. Cuellar, G. A. Forbes, J. F. Kreuze, J. Kroschel, P. Lava Kumar, J. Peter Legg, M. Parker, E. Schulte-Gelderman, K. Sharma and K. A. Garrett. Global cropland connectivity: a risk factor for invasion and saturation by emerging pathogens and pests. Plant Health 2020. August 2020. Virtual Meeting. Poster Presentation.
- J. Fayette, Y. Xing, W. Dantes, **K. F. Andersen**, O. Nicolas Carvil, T. Visintin da Silva Galdino, S. Kumar, C J Penca, A. Maria Szyniszewska, and K. A. Garrett. Integrating climate, cropland connectivity, and trade

- data layers to understand phytosanitary risk for mango in Haiti and the Caribbean. Plant Health 2020. August 2020. Virtual Meeting. Poster Presentation.
- W. Dantes, Yanru Xing, R. Choudhury, J. Fayette, **K. F. Andersen**, G. Blomme, M. A. Dita Rodriguez, W. Ocimati, Ophny Nicolas Carvil, John Fredy Hernandez Nopsa and Karen A. Garrett. Getting a jump on new banana diseases: risk assessment for Haiti and the Caribbean. Plant Health 2020. August 2020. Virtual Meeting. Poster Presentation.
- S. Thomas-Sharma, R. Ivan Alcala-Brise, C. Almekinders, **K.F. Andersen**, J.L. Andrade-Piedra, A. Bonaventure Omondi, C. Buddenhagen, M. Carvajal-Yepes, R. Choudhury, W. Dantes, J. Fayette, J. Fulton, J. F. Hernandez Nopsa, J. F. Kreuze, P. Kromann, J. Peter Legg, M. McEwan, P. S. McManus, L. Nkengla, K. Ogero, O. Ortiz, G. Thiele, Y. Xing, J. E. Yuen, G. A. Forbes and K. A. Garrett. Plant Health 2020. August 2020. Virtual Meeting. Poster Presentation.
- K. F. Andersen**, E. Delaquis, S. de Haan, Cu Thi Le Thuy, N. Minato, J. P. Legg, W. Cuellar, and K. A. Garrett. Big data solutions for smallholder farmers in Southeast Asia: machine learning for real-time forecasting of cassava mosaic disease risk. Oral Presentation. Plant Health 2019. Cleveland, OH. August 3rd-7th, 2019.
- W. Dantes, J. Fayette, J. C. Fulton, Y. Xing, **K. F. Andersen**, R. A. Choudhury, M. Divers, K. A. Garrett. Risk factors for Banana Xanthomonas Wilt in Haiti and the Caribbean. Poster Presentation. Plant Health 2019. Cleveland, OH. August 3rd-7th, 2019.
- K. F. Andersen**, E. Delaquis, S. de Haan, Cu Thi Le Thuy, N. Minato, J. P. Legg, W. Cuellar, and K. A. Garrett. Integrating data sources to evaluate risk of cassava mosaic disease: an emerging threat in Southeast Asia. Oral Presentation. Southern Division American Phytopathological Society Meeting. Gainesville, FL. Feb 8th-9th, 2019.
- K. F. Andersen**, J. Fulton, J. Andrade, C. Buddenhagen, G. Forbes, M. Gatto, R. Mdivani, and K.A. Garrett. Risk assessment for epidemic spread of the quarantined potato pathogen *Synchytrium endobioticum* in the Republic of Georgia. Poster Presentation. International Congress of Plant Pathology. Boston, MA. Jul 27th-Aug 3rd, 2018.
- K. F. Andersen** and K. A. Garrett. Modeling epidemics in seed systems to inform management strategies. Oral Presentation. 12th Meeting of the International Epidemiology Workshop. Lillehammer, Norway, June 10th- June 14th, 2018.
- K. F. Andersen** , C. Buddenhagen , R. Gibson , P. Rachkara , S. Kalule, D. Phillips , and K. A. Garrett. Modeling epidemics in seed systems to guide management strategies: the case of sweetpotato in northern Uganda. Oral Presentation. Southern Division American Phytopathological Society Meeting. Fayetteville, AK. Feb 16th-18th, 2018.
- K. F. Andersen**, C. Buddenhagen, P. Rachkara, R. Gibson, S. Kalule, D. Phillips, S. Kalule. Analyzing key nodes and epidemic risk in seed networks: Sweetpotato in northern Uganda. Poster Presentation. American Phytopathological Society Meeting. Aug 1st-Aug 9, 2017. San Antonio, TX.
- K. A. Garrett, R. Choudhury, **K. F. Andersen**. Adapting disease forecasting models to climate change scenarios. Oral Presentation. American Phytopathological Society Meeting. San Antonio, TX. Aug 1st-Aug 9th, 2017.
- Buddenhagen, C. J. F. Hernandez Nopsa, **K. F. Andersen**, J. L. Andrade-Piedra, P. Kromann, G. A. Forbes, S. Thomas-Sharma, K. A. Garrett. Epidemic network analysis for mitigation of invasive pathogens in seed systems: Potato in Ecuador. Poster Presentation. American Phytopathological Society Meeting. San Antonio, TX. Aug 1st-Aug 9th, 2017.
- W. Bucker Morales, **K. F. Andersen**, C. Cowger, R. Dill-Macky, L. V. Madden, P. Anderson Paul. Effect of pre-anthesis rainfall patterns on fusarium head blight and deoxynivalenol in wheat: a multi-state study. Poster Presentation. American Phytopathological Society Meeting. Tampa, FL. July 31st-Aug 3rd, 2016.
- K. F. Andersen**, Willyerd, K.T., Cabrera, A., Madden, L.V., and Paul, P.A. Effects of intermittent pre- and post-anthesis moisture patterns on Fusarium head blight, deoxynivalenol, and fungal biomass in wheat. Oral Presentation. American Phytopathological Society Meeting. Austin, TX. Aug 11th-14th, 2013.

- K. F. Andersen**, Morris, L. A., Derksen, R. C., Madden, L.V., Paul, P. A. Determining ‘Rain Fast’ Time and Residual Life of Prosoaro on Wheat Spikes. Poster Presentation. 2012 National Fusarium Head Blight Forum. Orlando, FL. December 4th-6th, 2012.
- K. F. Andersen**, Willyerd, K., Madden, L.V. and Paul, P.A. Influence of variable moisture patterns on the association between Fusarium head blight and deoxynivalenol contamination in wheat. Poster, 2012 American Phytopathological Society Meeting. Providence, RI. Aug 4th-8th, 2012.
- K. F. Andersen** Influence of rainfall patterns on the development and management of Fusarium head blight and deoxynivalenol in wheat. Oral presentation, Plant Pathology Spring Symposium. Wooster, OH. June 18th, 2012.
- K. F. Andersen**, Willyerd, K., Madden, L.V. and Paul, P.A. Influence of Variable Misting Patterns on Fusarium Head Blight and DON in Soft Red Winter Wheat. Poster, 2011 National Fusarium Head Blight Forum. St. Louis, MO. December 4th-6th, 2011.
- K. F. Andersen** and Ospina Giraldo, M. Relative susceptibility of cultivated varieties of potato when infected with different isolates of *Phytophthora infestans*. Poster, 2011 Oomycete Molecular Genetics Meeting. Asilomar, CA. March 13th-15th, 2011.