

## Curriculum Vitae of Brent Steven Sipes

**BioBib**  
**BRENT STEVEN SIPES**  
**College of Tropical Agriculture and Human Resources**  
**Department of Plant and Environmental Protection Sciences**  
**FTE Distribution: 15%I; 70%R; 30%E**

### Education

| <u>Degree</u> | <u>University</u>               | <u>Major</u>                         |
|---------------|---------------------------------|--------------------------------------|
| BS            | Purdue University               | Agriculture, Plant Protection option |
| MS            | North Carolina State University | Plant Pathology                      |
| PhD           | North Carolina State University | Plant Pathology                      |

### Lifetime and Fellow Achievement Awards

Fellow, 2018. Society of Nematologists.

Ka Pouhana (Mentor) Award, 2005. College of Tropical Agriculture and Human Resources.

Novartis Recognition Award for Excellence, 1998. Society of Nematologists.

### PROFESSIONAL APPOINTMENTS

|                     |   |                 |
|---------------------|---|-----------------|
| Professor           | University of Hawaii at Mānoa               | 2003 to Present |
| Graduate Chair      | Tropical Plant Pathology                    | 2004 to Present |
| Chair               | Plant and Environmental Protection Sciences | 2010 to 2012    |
| Associate Professor | University of Hawaii at Mānoa               | 1998 to 2003    |
| Assistant Professor | University of Hawaii at Mānoa               | 1993 to 1998    |
| Junior Researcher   | University of Hawaii at Mānoa               | 1991 to 1992    |
| Lecturer            |   | 1991            |

### Courses Taught

#### Course Number and Title (credits)

PEPS/NREM/SUST 210 Introduction to Environmental Science (3 credits)

PPTH 405 Introduction to Plant Pathology (4 credits)

PEPS 451 Environmental Law (3 credits)

PEPS 499 Undergraduate Directed Research (variable credits)

PEPS 605 Biology of Plant Pathogens: Fungi & Nematodes (4 credits)

PPTH 616 Plant Nematology (3 credits)

PEPS 660 Tropical Plant Pathology Seminar (1 credit)

PEPS 691 Special Topics (Nematode Discussion) (1 credit)

PEPS 699 Directed Research (variable credits)

PEPS 700 Thesis Research (variable credits)

PEPS 799 Proposal/Defense Seminar (variable credits)

PEPS 800 Dissertation Research (variable credits)

### PUBLICATIONS

#### Books Edited

C. Chan, **B. Sipes**, and T. Lee. 2017. Enabling Agri-entrepreneurship and Innovation: Empirical Evidence and Solutions for Conflict Regions and Transitioning Economies. 214 pages. CAB International. Oxfordshire, UK.

#### Book Chapters

**B.S. Sipes** and B. Chinnasri. 2018. Nematode parasites of pineapple. in Plant-parasitic nematodes in subtropical and

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- tropical agriculture. 3<sup>rd</sup> edition. R.A. Sikora and J. Bridge, eds. CAB International, Oxfordshire, UK.
- B. Sipes** and A. Pires de Matos. 2018. Pests, Diseases and Weeds. in 2018. The Pineapple, 2nd Edition: Botany, Production and Uses. G.M. Sanewsk et al., eds. CAB International.
- B. Sipes** and R. Myers. 2018. Plant-parasitic nematodes in Hawaiian agriculture. In Plant parasitic nematodes in sustainable agriculture of North America. Vol. 1 - Canada, Mexico and Western USA. S.A. Subbotin and J.J. Chitambar, eds. Springer. ISBN:978-3-319-99584-7

### Refereed Journal Publications

- R. Myers, C. Mello, C. Nagai, **B. Sipes**, and T. Matsumoto. 2023. Evaluation of *Coffea arabica* cultivars for resistance to *Meloidogyne konaensis*. Agriculture 13: in press (June 2023)
- I. Acar and **B. Sipes**. 2022. Enhancing the biological control potential of entomopathogenic nematodes - Protection from desiccation and UV radiation. Biological Control: 10.1016/j.biocontrol.2022.104874.
- S. Budhathoki, **B.S. Sipes**, I. Shikano, R.Y. Myers, R. Manandhar, and K.-H. Wang. 2022. Integrating trap cropping and entomopathogenic nematode foliar sprays to manage diamondback moth and imported cabbage worm. Horticulturae 1073, <https://doi.org/10.3390/horticulturae8111073>.
- J. Marquez, R. Paudel, **B.S. Sipes**, and K.-H. Wang. 2022. Successional effects of no-till cover cropping with black oat (*Avena strigosa*) vs. soil solarization on soil health in a tropical Oxisol. Horticulturae 8: 527. <https://doi.org/10.3390/horticulturae8060527>
- P. Waisen, Z. Cheng, **B.S. Sipes**, and K.-H. Wang. 2022. Biofumigation effects of brassicaceous cover crops on soil health in cucurbit agroecosystems. Pedosphere 32:521-531. [https://doi.org/10.1016/S1002-0160\(21\)60054-1](https://doi.org/10.1016/S1002-0160(21)60054-1).
- R. Widanage, C. Chan, Y.-P. Tsang, **B. Sipes**, H. Melakeberhan, A. Sanchez-Perez, and A. Mejía-Coroy. 2022. Enhancing Technical Efficiency and Economic Welfare: A Case Study of Smallholder Potato Farming in the Western Highlands of Guatemala. Economia Agro-alimentare/Food Economy – Open Access. <https://doi.org/10.3280/ecag2022oa13227>
- R. Myers, B. Bushe, C. Mello, J. Lichty, A. Hara, K.-H. Wang, and **B. Sipes**. 2020. Yield increases in burrowing nematode-infested anthurium with fluopyram and trifloxystrobin applications. HortTechnology 30:603-607. <https://doi.org/10.21273/HORTTECH04648-20>
- P. Waisen, Z. Cheng, **B.S. Sipes**, J. DeFrank, S.P. Marahatta, and K.-H. Wang. 2020. Effects of biofumigant crop termination methods on suppression of plant-parasitic nematodes. Applied Soil Ecology 154:103595. <https://doi.org/10.1016/j.apsoil.2020.103595>
- B.H. Kandouh, A.E. Hasan, A.M. Abd-Al-Rasoul, and **B.S. Sipes**. 2019. Screening for susceptibility and tolerance to *Meloidogyne incognita* and *M. javanica* in okra cultivars in Iraq. Arab Journal of Plant Protection 37:279-285. <http://dx.doi.org/10.22268/AJPP-037.3.279285>
- J.-W. Lau, S. P. Marahatta, D. Ragone, K.-H. Wang, and **B. S. Sipes**. 2018. Plant-parasitic nematodes associated with breadfruit, *Artocarpus altilis*, in Hawai'i. Nematopica 48:172-178.
- J.-W. Lau, **B. Sipes**, K.-H. Wang, S. Marahatta, and D. Ragone. 2018. First report of *Pratylenchus coffeae* on breadfruit (*Artocarpus altilis*) in the United States. Plant Disease 102:1861. [doi.org/10.1094/PDIS-02-18-0242-PDN](https://doi.org/10.1094/PDIS-02-18-0242-PDN).
- S. Mishra, K.-H. Wang, **B.S. Sipes**, and M. Tian. 2018. Induction of host-plant resistance in cucumber by vermicompost tea against root-knot nematode. Nematopica 48:164-171.
- A. Pradhan, C. Chan, P.K. Roul, J. Halbrendt, and **B. Sipes**. 2018. Potential of conservation agriculture (CA) as climate smart technology for food security under rainfed uplands of India: A transdisciplinary approach. Agricultural Systems 163:27-35. <http://dx.doi.org/10.1016/j.agsy.2017.01.002>

### **LEADERSHIP ROLES (COMMITTEES, BOARDS, ADVISORY, ETC.)**

- Manoa Faculty Senate – multiple terms including Executive Committee and Chair
- College of Tropical Agriculture Senate – multiple terms including Executive Committee and Chair
- University of Hawaii Ethics Committee – co-Chair (2019-2021, 2023-Current)

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Gamma Sigma Delta, Honor Society of Agriculture - President  
American Phytopathological Society, Office of International Programs  
Hawaii Academy of Science - State Science and Engineering Fair Judge 1998-present  
*Nematropica* - Editor (2017-2019)  
Society of Nematologists - served as President, Treasurer and Secretary

### MENTORING ACTIVITIES

|                      | Current number | Number Graduated |
|----------------------|----------------|------------------|
| MS Committee Chair   | 3              | 18               |
| PhD Committee Chair  | 2              | 9                |
| MS Committee Member  | 2              | 20               |
| PhD Committee Member | 3              | 23               |

### EXTRAMURAL GRANTS

- M. Kermah, N. Sulemana, and **B. Sipes**. 2022. Nature-based Pathway to Sustainable Production of Amaranths using a One Health Approach. Conservation, Food & Health Foundation (\$28,960).
- B. Sipes** and C. Chan. 2022. Cochran Fellowship - Albania Fruits and Vegetables. USDA Foreign Agricultural Service (\$80,000).
- B. Sipes**, K.-H. Wang and R. Mandahar. 2022-2025. Entomopathogenic bombs – Sweet potato weevils be gone. WSARE (\$336,848).
- K.-H. Wang, K. Lawrence, **B. S. Sipes**, E. Sikora, Z. Cheng, R. Myers, R. Manandhar, J. Uyeda, S. Marahatta. 2021-2024. Organic sweetpotato IPM and soil health management for small- and mid-size farms. NIFA OREI (\$740,876).
- B. Sipes** and K.H. Wang. 2020-2021. A novel approach to rapid detection of *Meloidogyne enterolobii* and *Meloidogyne floridensis* in Hawaii. USDA, APHIS (\$80,945).
- K.-H. Wang and **B. Sipes**. 2020-2021. Promoting cacao (*Theobroma cacao*) production in Hawaii through Ecosystem Sustainable and Integrated Pest Management (ES-IPM) approaches. Hawaii Department of Agriculture SCBGP-FB (\$35,000).
- B. Sipes**. 2019-2021. Bolaug Fellowship Program – Algeria. USDA FAS (\$39,998).
- K. Chan and **B. Sipes**. 2018-2019. Mint: A Living Mulch Income Enhancer. Western SARE (\$20,000).
- C. Martiney and **B. Sipes**. 2018-2019. Conservation Biological Control of Coffee Berry Borer by Applying Nitrogen Fixing Tree Mulch to Enhance Indigenous Entomopathogenic Nematodes. Western SARE (\$20,000).
- B. Sipes** and M. Melzer. 2018-2019. Bolaug Fellowship Program – South Africa. USDA FAS (\$39,998).

### PRESENTATIONS AT CONFERENCES

- N.P. Silvester and **B.S. Sipes**. 2023. Survival and infectivity of entomopathogenic nematodes from desiccated living bombs. Society of Nematologists Annual Conference, Columbus, Ohio.
- L. Wong, K.-H. Wang, and **B.S. Sipes**. 2023. Mortality of the sweet potato weevil (*Cylas formicarius*) larvae caused by *Steinernema feltiae*. Society of Nematologists Annual Conference, Columbus, Ohio.
- C. Schloemer, K.S. Lawrence, S.H. Graham, K.-H. Wang, and **B.S. Sipes**. 2023. Winter cover crops and biological products to manage *Meloidogyne incognita* and promote soil health in sweetpotato. Society of Nematologists Annual Conference, Columbus, Ohio.
- D. Chellemi, K. Barber, and **B. Sipes**. 2022. Evaluation of allyl isothiocyanate (Dominus™) and crustacean meal (CrabLife Flake™) on soil microbiome and plant-parasitic nematodes on pineapple. Society of Nematologists Annual Conference, Anchorage, Alaska.
- S. Kakaire, A. Sanchez, A. Sacbaja, C. Chan, **B.S. Sipes**, and H. Melakeberhan. 2022. Adopting integrated nematode-soil health management in smallholder potato farmers in the Highlands of Guatemala. 7<sup>th</sup> International Congress of Nematology. Antibes, France.

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- L. Wong, K.-H. Wang, and **B. S. Sipes**. 2022. Infection and mortality of *Cylas formicarius* by Hawaiian isolates of *Steinernema feltiae* and *Oscheius* sp. *Journal of Nematology* 54: in press.
- B. Sipes, K.-H. Wang, and L. Wong. 2021. Emergence of *Steinernema feltiae* infective juveniles from “living bombs” of *Tenebrio molitor*. *Journal of Nematology* 53:33. <https://sciendo.com/article/10.21307/jofnem-2021-095>
- C. Chan, J. Chan-Dentoni, P. LaPorte, B. Sipes, A. Sanchez, A. Mejia, and H. Melakeberhan. 2020. Discovering the economic and spatial factors to enhance farm technical efficiency: A case study of smallholder potato farming in the Western Highlands of Guatemala. 175th EAAE. Gargnano, Garda Lake, Italy.
- L. Wong and **B. Sipes**. 2020. Host status of the Hawaiian native plants *Vitex rotundifolia*, *Sida fallax*, *Ipomea pes-caprae brasiliensis*, and *Prichartidiata* sp. to *Rotylenchulus reniformis* and *Meloidogyne javanica*. *Journal of Nematology* 52:A-44.
- L. Wong and **B. Sipes**. 2020. Host status of the plant-parasitic nematodes *Rotylenchulus reniformis* and *Meloidogyne javanica* on six Hawaiian native plants species. *Phytopathology* <https://apsnet.confex.com/apsnet/2020/meetingapp.cgi/Paper/16742>
- I. Acar and **B. Sipes**. 2019. Enhancing biological insect control: Protecting entomopathogenic nematodes from UV radiation and dehydration. *Journal of Nematology* 51:<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8327614/pdf/jofnem-51-065.pdf>.
- C. Chan, R. Widanage, **B. Sipes**, H. Melakeberhan, A. Sanchez, and A. Mejia. 2019. Enhancing agricultural productivity and gender contribution: A case of potato cultivation in Western Guatemala. Western Agricultural Economics Association, Coeur d’Alene, ID.
- S. Kakaire, A. Sanchez-Perez, **B.S. Sipes**, C.-L. Lee, A. Sacbaja, C. Chan, and H. Melakeberhan. 2019. Integrated nematode and soil health management in the Western Highlands of Guatemalan potato production soils: I – similarities and differences in soil food web structure and function. *Journal of Nematology* 51:<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8327614/pdf/jofnem-51-065.pdf>.
- A. Sanchez-Perez, G.I. Alvarez, **B.S. Sipes**, S. Kakaire, C.-L. Lee, A. Sacbaja, C. Chan, and H. Melakeberhan. 2019. Integrated nematode and soil health management in the Western Highlands of Guatemalan potato production soils: II – integrated efficiency of soil amendments. *Journal of Nematology* 51:<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8327614/pdf/jofnem-51-065.pdf>.
- P. Waisen, K.-H. Wang, Z. Cheng and **B. S. Sipes**. 2019. Susceptibility of brassica cover crops to *Meloidogyne* spp: An opportunity to enhance biofumigation effects. *Journal of Nematology* 51:<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8327614/pdf/jofnem-51-065.pdf>.
- R. Widanage, C. Chan, A. Mejia, A. Sanchez, **B.S. Sipes**, A. Sacbaja, and H. Melakeberhan. 2019. Integrated nematode and soil health management in the Western Highlands of Guatemalan potato production soils: III – Enhancing technical efficiency of growers. *Journal of Nematology* 51:1-1 open access.
- A. Alhussaini, **B. Sipes**, K.-H. Wang, and Z. Cheng. 2018. Identification of the bacterial symbiont from entomopathogenic nematode (*Oscheius*) and its biological control potential. *Journal of Nematology* 50:625.
- I. Acar and **B. Sipes**. 2018. Enhancing the biological control potential of entomopathogenic nematodes: Protection from desiccation. *Journal of Nematology* 50:623.
- C. Chan, P. LaPorte, J. Chan-Dentoni, **B.S. Sipes**, A. Sanchez, A. Sacbaja, and H. Melakeberhan. 2018. Assisting smallholder farmers in adopting integrated nematode-soil health management: I – Fuzzy cognitive mapping to understand grower perceptions. *Journal of Nematology* 50:620-630.
- S. Kakaire, A. Sanchez, **B.S. Sipes**, C.-L. Lee, A. Sacbaja, C. Chan, and H. Melakeberhan. 2018. Assisting smallholder farmers in adopting integrated nematode-soil health management: III – Changes in soil biophysiochemistry. *Journal of Nematology* 50:643.
- P. LaPorte, C. Chan, **B.S. Sipes**, A. Sanchez, A. Sacbaja, and H. Melakeberhan. 2018. Assisting smallholder farmers in adopting integrated nematode-soil health management: II – Fuzzy cognitive mapping identifying gaps between experts and farmers perceptions. *Journal of Nematology* 50:644-645.
- P. LaPorte, J. Chan-Dentoni, C. Chan, **B. Sipes**, H. Melakeberhan, and A. Mejia. 2018. Perception of potato practices and their impacts by farmers in Guatemala using fuzzy cognitive mapping. 30<sup>th</sup> International Conference of Agricultural Economics. Vancouver, Canada.

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- R. Myers, C.L. Mello, B. Bushe, J. Lichty, A.H. Hara, and **B.S. Sipes**. 2018. Effects of fluopyram on *Radopholis similis* in anthurium production. *Journal of Nematology* 50:648.
- A. Sanchez, G.I. Alvarez, **B.S. Sipes**, S. Kakaire, C.-L. Lee, A. Sacbaja, C. Chen, and H. Melakeberhan. 2018. Assisting smallholder farmers in adopting integrated nematode-soil health management: IV – Changes in cyst nematode population density and potato yield. *Journal of Nematology* 50:654-655.
- P. Waisen, K.-H. Wang, Z. Chen, and **B. S. Sipes**. 2018. Managing plant-parasitic nematodes and soil health through ecological based biofumigation using brown mustard oil radish. *Journal of Nematology* 50:661-662.