

Phillip A. Lujan

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Seed Certification Program Manager
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Education:

- Ph.D., 2018-2022** **New Mexico State University**, Department of Plant and Environmental Science
Dissertation: Management of Chile Pepper Phytophthora Blight with Pecan Byproduct Extracts
- M.S., 2012-2014** **New Mexico State University**, Department of Entomology, Plant Pathology and Weed Science (Minor: Molecular Biology)
Thesis: Factors Affecting Mycelial Growth and Pigmentation, and Pathogenicity in *Sclerotinia sclerotiorum* Isolated from Valencia Peanut in New Mexico
- B.S., 2005-2009** **New Mexico State University**, Department of Entomology, Plant Pathology and Weed Science
Honors Thesis: Effects of Melanin Inhibiting Compounds on Mycelial Growth, Pigmentation and Pathogenicity of *Sclerotinia sclerotiorum*

Professional Experience:

- Feb. 2023 – Current Extension Plant Pathologist / Assistant Professor, Extension Plant Sciences, New Mexico State University
- Jan. 2021 – Current Seed Certification Program Manager, Extension Plant Sciences, New Mexico State University
- Oct. 2018 – Feb. 2023 Plant Diagnostician, Extension Plant Sciences, New Mexico State University
- Oct. 2018 – Feb. 2023 Pesticide Safety Education Program Manager, Extension Plant Sciences, New Mexico State University
- May 2014 – Oct. 2018 Agricultural Research Assistant, Sr., Entomology, Plant Pathology and Weed Science, New Mexico State University
- Aug. 2013 – May 2014 Graduate Teaching Assistant, Entomology, Plant Pathology and Weed Science, New Mexico State University
- Aug. 2012 – Aug. 2013 Graduate Research Assistant, Entomology, Plant Pathology and Weed Science, New Mexico State University

Professional Certification:

Public Applicators Pesticide License (2018 – current) – New Mexico Department of Agriculture
Categories 1A & 1B - Agricultural Pests and Weeds
Categories 3A & 3B - Ornamental Pests and Weeds

Refereed Journal Publications:

- (1) **Lujan P**, Dura S, Guzman I, Grace M, Lila M, Steiner R, Sanogo S, **2023** Comparison of a proanthocyanidin and total phenolic extract derived from pecan shell and husk as elicitors of induced resistance against *Phytophthora capsici* on chile pepper. Plant Health Progress DOI: <https://doi.org/10.1094/PHP-12-22-0123-RS>
- (2) Lozada D, Nunez G, **Lujan P**, Dura S, Coon D, Barchenger D, Sanogo S, Bosland P, **2021** Genomic regions and candidate genes linked with *Phytophthora capsici* root rot resistance in chile pepper (*Capsicum annuum* L.). BMC Plant Biology DOI: 10.1186/s12870-021-03387-7
- (3) Sanogo S, **Lujan P**, **2021** Seed, transplant, and soil treatment with selected commercial Bacillus-based biofungicides and chemical fungicides and development of Phytophthora blight on chile pepper. Archives of Phytopathology and Plant Protection DOI: 10.1080/03235408.2021.2019426
- (4) Dura S, **Lujan P**, Guzman I, Steiner R, Sanogo S, **2021** A Field Evaluation of Jalapeno and Non-jalapeno Chile Pepper Resistance to Phytophthora Blight Caused by *Phytophthora capsici*. Plant Health Progress DOI: <https://doi.org/10.1094/PHP-02-21-0029-FI>
- (5) **Lujan P**, Dura S, Guzman I, Grace M, Lila M, Steiner R, Sanogo S, **2021** Efficacy of Pecan Husk and Shell Phenolic Extracts Against Phytophthora Blight in Chile Pepper. Plant Health Progress DOI: <https://doi.org/10.1094/PHP-02-21-0024-FI>
- (6) Zhu Y, Abdelraheem A, **Lujan P**, Idowu O, Sullivan P, Nichols R, Wedegaertner T, Zhang J, **2021** Detection and Characterization of Fusarium Wilt (*Fusarium oxysporum f.sp. vasinfectum*) Race 4 Causing Fusarium Wilt of Cotton Seedlings in New Mexico, USA. Plant Disease DOI: 10.1094/PDIS-10-20-2174-RE
- (7) Dura S, **Lujan P**, Puppala N, Sanogo S, Steiner R, **2020** Screening U.S. Peanut Mini-Core Accessions for Resistance against Sclerotinia Blight caused by *Sclerotinia sclerotiorum*. Canadian Journal of Plant Science DOI: 10.1139/CJPS-2020-0082
- (8) **Lujan P**, Zhu Y, Wedegaertner T, Nichols R, Abdelraheem A, Zhang J, Sanogo S, **2020** First Report of *Fusarium oxysporum f. sp. Vasinfectum* Race 4 Causing Fusarium Wilt of Cotton in New Mexico U.S.A. Plant Disease DOI: 10.1094/PHP-03-19-0017-BR
- (9) Bagga S, Lucero Y, Apodaca K, Rajapaske W, **Lujan P**, Ortega-Carranza J, Sengupta-Gopalan C, **2019** Chile (*Capsicum annuum*) Plants Transformed with the RB Gene from *Solanum bulbocastanum* are Resistant to *Phytophthora capsici*. PLoS ONE 14(10): e0223213. DOI: 10.1371/journal.pone.0223213
- (10) **Lujan P**, Dungan B, Holguin O, Sanogo S, Puppala N, Randall J, **2019** The Role of Carbon Sources in Relation to Pathogenicity of *Sclerotinia sclerotiorum* on Valencia Peanut. Canadian Journal of Plant Science DOI: 10.1139/CJPS-2018-0203
- (11) Sanogo S, Dura S, **Lujan P**, Barraza J, Kapran B, **2019** Occurrence of Botrytis Crown Rot Caused by *Botrytis cinerea* in Lettuce in Southern New Mexico. Plant Health Progress 20:2, 120-121. DOI: 10.1094/PHP-03-19-0017-BR
- (12) Kaur G, **Lujan P**, Sanogo S, Steiner R, Puppala N, **2019** Assessing in vitro Efficacy of Certain Fungicides to Control *Sclerotinia sclerotiorum* in Peanut. Archives of Phytopathology and Plant Protection 52:1-2, 184-199 DOI: 10.1080/03235408.2019.1603350
- (13) Zhu Y, **Lujan P**, Dura S, Steiner R, Zhang J, Sanogo S, **2019** Etiology of Alternaria Leaf Spot in Cotton in Southern New Mexico. Plant Disease 103(7) DOI: 10.1094/PDIS-08-18-1350-RE

- (14) Zhu Y, **Lujan P**, Dura S, Steiner R, Sanogo S, Zhang J, **2018** Evaluation of Commercial Upland (*Gossypium hirsutum*) and Pima (*G. barbadense*) Cotton Cultivars, Advanced Breeding Lines and Glandless Cotton for Resistance to Alternaria Leaf Spot (*Alternaria alternata*) Under Field Conditions. *Euphytica* 214(8):147 DOI: 10.1007/s10681-018-2230-3
- (15) Sanogo S, **Lujan P**, **2018** Rarity of a Fungal Pathogen and a Parasitic Flowering Plant Versus the Commonness of a Mycorrhizal Fungus in Pecan Orchards in New Mexico. *Plant Health Progress* 19:207-211. DOI: 10.1094/PHP-05-18-0024-S
- (16) **Lujan P**, Sanogo S, Puppala, N, Randall J, **2016** Factors Affecting Mycelium Pigmentation and Pathogenicity of *Sclerotinia sclerotiorum* on Valencia Peanut. *Canadian Journal of Plant Science* 96(3) DOI:10.1139/CJPS-2015-0258
- (17) Sanogo S, **Lujan P**, Daucom D, **2015** First Report of *Sclerotinia sclerotiorum* on Cabbage in New Mexico. *Plant Disease* <http://dx.doi.org/10.1094/PDIS-12-14-1328-PDN>
- (18) Yu SF, **Lujan P**, Jackson DL, Emerman M, Linal ML, **2011** The DEAD-box RNA Helicase DDX6 is Required for Efficient Encapsidation of a Retroviral Genome. *PLoS Pathogens* 7(10): e1002303. DOI:10.1371/journal.ppat.1002303

Refereed Extension Publications:

- (1) Giese, G. and **Lujan, P. 2022.** Guide H-329: Grape Powdery Mildew
- (2) **Lujan, P.** and Goldberg, N. **2021.** Circular-549: Chile Pepper Diseases
- (3) Beck, L. and **Lujan, P. 2021.** Guide A-145: Certified Noxious Weed Free Program
- (4) **Lujan, P.** and Goldberg, N. **2021.** Guide H-329: Grape Powdery Mildew
- (5) Goldberg, N. and **Lujan, P. 2021.** Guide H-106: Curly Top Virus
- (6) Goldberg, N. and **Lujan, P. 2020.** Guide A-229: Phymatotrichum Root Rot
- (7) **Lujan, P. 2020.** Guide H-158: How to Collect and Send Plant Specimens for Disease Diagnosis
- (8) Beck, L., Skidmore, A., **Lujan, P.**, Baca, S. and Abrahamson, N. **2020.** Guide A-618: Tips for Pesticide Applicators During a Personal Protective Equipment (PPE) Shortage
- (9) Pierce, J. and **Lujan, P. 2019.** Guide A-612: Extension Pesticide Applicator Training Series #3: Treatment Area Measurements
- (10) Pierce, J. and **Lujan, P. 2019.** Guide A-611: Extension Pesticide Applicator Training Series #2: Pest Management Practices
- (11) Pierce, J. and **Lujan, P. 2019.** Guide A-610: Extension Pesticide Applicator Training Series #1: Pest Identification

Grants/Industry Funding:

- Beck, L. and **Lujan, P. 2022-2026.** Western Regional Center in the National Plant Diagnostic Network. University of California, Davis. \$105,000.00 (4 years, In Progress).
- Lujan, P. 2022.** 2022 NM PSEP. \$17,225.00 (1 year, Completed).
- Beck, L. and **Lujan, P. 2022.** Western Regional Center in the National Plant Diagnostic Network. University of California, Davis. \$30,000.00 (1 year, Completed).
- Kersten, M., Pierce, J., Beck, L., Spears, L. and **Lujan, P. 2021.** Expanding IPM Extension and Education in New Mexico. USDA-NIFA. \$900,000.00 (3 years, In Progress).
- Beck, L. and **Lujan, P. 2021.** Western Regional Center in the National Plant Diagnostic Network. University of California, Davis. \$24,953.00 (1 year, Completed).
- Lujan, P. 2021.** 2021 New Mexico PSEP. eXtension Foundation. \$16,825 (1 year, Completed).
- Lujan, P. 2020.** Adopt-A-PSEP. Syngenta Chemical. \$5,000 (Unrestricted Gift).

Lujan, P. 2020. New Mexico PSEP 2020. eXtension Foundation. \$17,500 (1 year, Completed).
Renchie, D., Walker, T., **Lujan, P.** and Miller F. **2019.** Putting Collaboration into Practice. \$5,000 (6 month, Completed).
Lujan, P. 2019. Adopt-A-PSEP. Syngenta Chemical. \$5,000 (Unrestricted Gift).
Lujan, P. 2019. Further Educating New Mexico's Pesticide Applicators through Workshops. eXtension Foundation. \$17,709 (1 year, Completed).

Leadership:

National Plant Diagnostic Network Accreditation Committee

Chair – 2022-2023, 1 year term

Vice-chair – 2021-2022, 1 year term

Professional Service:

2023. Reviewer – Archives of Phytopathology and Plant Protection, 4 articles
2023. Chapter Reviewer. APS Press – Compendium of Pepper Diseases.
2023. Reviewer – Plant Disease, 1 disease note
2023. Internal Reviewer. Vegetable Research Journal.
2022. Chapter Reviewer. APS Press – Compendium of Pepper Diseases.
2021. Bio-AFM acquisition (NSF Major Research Instrumentation grant), Senior Personnel
2020 - Current. National Plant Diagnostic Network, STAR-D External Auditor
2018. Reviewer - Crop Protection Journal, 1 article.

Departmental Service:

Aug. 2022-May 2023. Extension Plant Sciences / Plant and Environmental Sciences Department Head
Hiring Committee (Committee Member).
2022. Extension Entomology Specialist Hiring Committee (Committee Member).
2022. IR-4 Program Manager Hiring Committee (Committee Member).
2018-Current. Extension Plant Sciences, Chemical Hygiene Officer.

Consulting:

Plant Disease Identification. 2023-current. Number of submitted plant disease samples completed - 655. NMSU Plant Diagnostic Clinic.
Seed Certification. 2023-current. Number of acres certified – 3,356. NMSU Seed Certification Program.
Plant Disease Identification. 2022. Number of submitted plant disease samples completed - 671. NMSU Plant Diagnostic Clinic.
Seed Certification. 2022. Number of acres certified – 5,771. NMSU Seed Certification Program.
Plant Disease Identification. 2021. Number of submitted plant disease samples completed - 734. NMSU Plant Diagnostic Clinic.
Seed Certification. 2021. Number of acres certified – 3,527. NMSU Seed Certification Program.
Plant Disease Identification. 2020. Number of submitted plant disease samples completed - 648. NMSU Plant Diagnostic Clinic.
Plant Disease Identification. 2019. Number of submitted plant disease samples completed - 815. NMSU Plant Diagnostic Clinic.

Plant Disease Identification. 2018. Number of submitted plant disease samples completed - 64. NMSU Plant Diagnostic Clinic.

Abstracts, Posters, Presentations and Workshops:

Lujan, P. 2023. EMG Field Day Workshop. NMSU Extension Plant Sciences.

Lujan, P. 2023. Master Gardeners Presentations (pre-recorded and live Q&A). NMSU Extension Plant Sciences.

Lujan, P. 2023. NMSU Pesticide Applicators Workshop. San Juan County. NMSU Extension Plant Sciences.

Lujan, P. 2023. National Plant Diagnostic Network Accreditation Workshop. Bowie, MD. NMSU Extension Plant Sciences.

Lujan, P. 2023. Intro to Plant Pathology, Invited Zoom Speaker. Morehead State. NMSU Extension Plant Sciences.

Lujan, P. 2023. Plant Pathology and Diagnostics. NMSU Guest Lectures (EPWS 100, EPWS 373)

Lujan, P. and Walker, S. 2023. Chile Pepper Diseases and Disorders workshop. Farmington, NM. NMSU Extension Plant Sciences.

Lujan, P. 2022. NMSU Pesticide Applicators Workshop. Lea County. NMSU Extension Plant Sciences.

Lujan, P. 2022. Master Gardeners Presentations (pre-recorded and live Q&A). NMSU Extension Plant Sciences.

Lujan, P. 2022. Plant Pathology and Diagnostics. NMSU Guest Lectures (EPWS 100, EPWS 373, EPWS 492, Agro 365)

Lujan, P. 2022. AgVenture Days. Southern New Mexico State Fair. NMSU Extension Plant Sciences.

Lujan, P. 2022. Forage Pest Management Workshop. NMSU Extension Plant Sciences.

Lujan, P. 2022. Fruit Tree IPM Zoom Presentation. NMSU Extension Plant Sciences.

Lujan, P. 2022. Top 10 Plant Diseases in New Mexico. Ready, Set, Grow. NMSU Extension Plant Sciences.

Lujan, P. 2022. Pesticide Applicators Online Zoom Workshop. NMSU Extension Plant Sciences.

Lujan, P. 2022. Intro to Plant Pathology, Invited Zoom Speaker. Morehead State. NMSU Extension Plant Sciences.

Lujan, P. 2022. Plant Sample Submission and Diseases. WSARE Training. NMSU Extension Plant Sciences.

Lujan, P. 2022. Diagnosing Potential Disease Issues in Pecan Orchards. Western Pecan Growers Association. NMSU Extension Plant Sciences.

Lujan, P. 2021. Pesticide Applicators Online Zoom Workshop. NMSU Extension Plant Sciences.

Lujan, P. 2021. Socorro County Pesticide Applicators Workshop. Presenter. NMSU Extension Plant Sciences.

Lujan, P. 2021. Master Gardeners Presentations (pre-recorded). NMSU Extension Plant Sciences.

Lujan, P. 2020. Pesticide Applicators Online Zoom Workshop. NMSU Extension Plant Sciences.

Lujan, P. 2020. Master Gardeners Presentations (pre-recorded). NMSU Extension Plant Sciences.

Lujan, P. 2019. Sierra County Pesticide Applicators Workshop. Presenter. NMSU Extension Plant Sciences.

Lujan, P. 2019. Pesticide Applicators Workshop. NMSU Extension Plant Sciences.

Lujan, P. 2019. Master Gardeners Presentations (**7 total**). NMSU Extension Plant Sciences.

Lujan, P. 2019. New Mexico Chile Conference. NMSU Extension Plant Sciences.

Lujan, P., Beck, L., Sutherland, C. 2019. New Mexico Hemp Conference. NMSU Extension Plant Sciences.

Lujan, P. 2018. Pesticide Applicators Workshop (**4 total**). NMSU Extension Plant Sciences.

- Zhu, Y., **Lujan, P.**, Dura, S., Zhang, J., and Sanogo S. 2017. Characterization of *Alternaria* species causing Alternaria leaf spot of cotton in Southern New Mexico (Annual Meeting of American Phytopathological Society (APS) Pacific Division, Riverside, CA, June 27-29).
- Dura, S., **Lujan, P.**, Sanogo, S., and Puppala, N. 2017. Screening of U.S. Mini-Core for resistance against Sclerotinia Blight using the detached leaflet and whole plant inoculation methods (Annual Meeting of APS Pacific Division, Riverside, CA, June 27-29).
- Sanogo, S., **Lujan, P.**, and Idowu, J. 2017. Search of a biorational alternative program to chemical soil fumigation for control of wilt diseases in chile pepper in New Mexico (Annual Meeting of APS Pacific Division, Riverside, CA, June 27-29).
- Lujan, P.**, Sanogo, S., and Puppala, N. 2015. Evaluating peanut varieties for resistance to *Sclerotinia sclerotiorum* (Annual Meeting of American Phytopathological Society (APS), Pasadena, CA, August 1-5, 2015).
- Sanogo, S., **Lujan, P.**, and Idowu, J. 2015. Reduction in the population of *Phytophthora capsici* and disease severity in chile pepper by extracts from pecan shell and husk tissues (Annual Meeting of American Phytopathological Society (APS), Pasadena, CA, August 1-5, 2015).
- Sanogo, S., **Lujan, P.**, Rudolph, R., Uchanski, M., and Walker, S. 2015. Integration of spring-planted mustard cover crop and mustard seed meal for control of Verticillium wilt in chile pepper. (Annual Meeting of APS, Pasadena, CA, August 1-5, 2015).
- Kaur, G., **Lujan P.**, Sanogo S., and Puppala, N. 2015. Evaluating the performance of *Sclerotinia sclerotiorum* under the effect of registered fungicides (Annual Meeting of American Peanut Research and Education Society (APRES), Charleston, South Carolina, July, 2015)
- Kaur, G., **Lujan P.**, Sanogo S., and Puppala, N. 2015. Efficacy of fungicides on mycelial growth and pigmentation, and sclerotia and oxalic acid production by *Sclerotinia sclerotiorum* (Annual Meeting of American Phytopathological Society (APS), Pasadena, CA, August 1-5, 2015).
- Lujan, P.**, Dungan, B., Schaub, T., Randall, J., Puppala, N. Idowu, J., and **Sanogo, S.** 2013. The role of carbon sources in relation to pathogenicity of *Sclerotinia sclerotiorum* on Valencia peanut. APS Joint Caribbean and Pacific Division Annual Meeting; Tucson, Arizona, June 17-19, 2013.
- Lujan, P.**, Sanogo, S., Puppala, N., and Randall, J. 2012. Factors affecting mycelium pigmentation and pathogenicity of *Sclerotinia sclerotiorum* on Valencia peanut. *Phytopathology* 102:S4.73
- Lujan, P.**, Liess, L., and Sanogo, S. 2009. Mycelial pigmentation in relation to melanin-inhibiting compounds and pathogenicity of *Sclerotinia sclerotiorum* on Valencia peanut. *Phytopathology* 99:S77

Websites:

- NMSU – Plant Diagnostic Clinic – <https://aces.nmsu.edu/ces/plantclinic/>
 NMSU – Pesticide Safety Education Program - <https://pesticide.nmsu.edu/>
 NMSU – Seed Certification Program – <https://seedcertification.nmsu.edu/>

Professional Affiliations and Memberships:

- American Association of Pesticide Safety Educators
 American Phytopathological Society (National and Pacific Division)
 Association of Official Seed Certifying Agencies (AOSCA)
 National Association of County Agricultural Agents (NACAA)
 National Plant Diagnostic Network
 National Stakeholder Team for Pesticide Safety Education
 North American Invasive Species Management Association (NAISMA)
 Western Plant Diagnostic Network

Awards and Recognitions:

NMSU ACES Team Award for Pest Diagnostics and Response Team, 2017