Promotion and Tenure Vita

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A. EDUCATION AND EMPLOYMENT INFORMATION

1. Education

2013, Ph.D., Entomology and Nematology, University of Florida, Gainesville, FL
Major: Entomology
Dissertation title: Cultural Control of *Blissus insularis* in St. Augustinegrass Lawns in Florida
2008, M.S., Entomology, Punjab Agricultural University, Punjab, India
Major: Entomology
2006, B.S., Entomology, Punjab Agricultural University, Punjab, India
Major: Agriculture

2. Employment History

2019-present	Assistant Professor and Extension Entomology Specialist (tenure-track), Department of Crop and Soil Science, Oregon State University, Corvallis, OR
2017-2019	Postdoctoral Fellow, Department of Entomology and Nematology, the University of Idaho, Moscow, ID
2014-2017	Postdoctoral Scholar, Department of Botany and Plant Pathology, Oregon State University, Hermiston, OR
2014	Research Assistant, Department of Entomology and Nematology, University of Florida, Gainesville, FL
2010-2013	Graduate Research Assistant, Department of Entomology and Nematology, University of Florida, Gainesville, FL

B. TEACHING, ADVISING, AND OTHER ASSIGNMENTS

1. Instructional Summary

a. Credit Courses

I do not have a formal teaching appointment. As a part of my service to the Crop and Soil Science Department, I instructed the following seminar classes.

Summary of credit course teaching events

Course	Title	Enrollment	Term	Year	% responsibility
CROP/SOIL/ ENT 507	Seminar	5	Fall	2020	50
CROP/SOIL/ ENT 607	Seminar	7	Win, Spr	2021	100

Summary of guest lectures

Course	Course Title	Total Attendees	Term	Year	Topic
CROPS/SOIL/ ENT 101	Introduction to Crop, Soil, and Insect Science	15	Fall	2022	Career options in entomology
HORT 260	Organic Farm and Gardening	18	Spr	2021	Insect biocontrol (citizen evaluations of teaching were collected)
CROP 480	Case Studies in Cropping Systems Management	5	Sum	2020	Insect sampling techniques
CROPS 480	Case Studies in Cropping Systems Management	5	Sum	2020	Integrated pest management strategies
CROPS/SOIL/ ENT 101	Introduction to Crop, Soil, and Insect Science	19	Fall	2019	Career options in entomology

b. <u>Non-credit Courses and Workshops</u>

Summary of non-credit teaching events

Total no. events	Events (Organized or Co-organized)			Presentations in Non-credit Teaching Events			Invited Events	Total Attendees
	Regional	National	Inter.	Regional	National	Inter.		
10	9	1	—	60	—	—	6	4,220 (3,264*+956)

Since 2019, I have contributed to the organization of the following regional meetings, workshops, field days, and tours, which were attended by a diverse clientele (956). The pandemic curtailed many meetings in 2020 and 2021. *My **extension presentations** are listed on **page 31**, subheading **C.2.c Regional presentations.** A total of 3,264 attendees (growers, extension agents, and industry representatives) were recorded during these events.

Non-credit teaching events organized or co-organized

Title	Date	Location	Audience Type	No. Part.	My Role
OSU Hyslop Field Day	May 22, 2024	Corvallis, OR	Growers, field reps, OSU faculty, staff, students	200	Led organizing committee for the field day.
Symphylans: In a Class of their Own Workshop	Feb. 16, 2024	Corvallis, OR	Growers, industry reps	43	Organized and developed

					course content; taught insect pest management-related material.
83rd Annual Pacific Northwest Insect Management Conference, co-hosted by Oregon State University, Washington State University, NW Berry Foundation	Jan. 8-9, 2024	Portland, OR	University faculty and students, USDA-ARS scientists, Oregon Department of Ag and Washington Department of Ag entomologists, industry reps	60	President of the meeting; organized and developed content.
82nd Annual Pacific Northwest Insect Management Conference, co-hosted by Oregon State University, Washington State University, NW Berry Foundation, and USDA-ARS	Jan. 8-9, 2023	Portland, OR	University faculty and students, USDA-ARS scientists, Oregon Department of Ag and Washington Department of Ag entomologists, industry reps	58	Member of the executive committee; co-organized and developed the content of the annual meeting.
Seed Crop Insect Management Workshop	Dec. 1, 2023	Linn Co. Extension Office, Tangent, OR	Growers, industry reps	40	Organized and developed course content; taught insect pest management-related material.
OSU Hyslop Field Day	May 24, 2023	Corvallis, OR	Growers, field reps, OSU faculty, staff, students	200	Led organizing committee for the field day.
Crop Tour and Seed Weevil Project Update Presentation to FMC Corporation Team (chemical company)	Aug. 31, 2022	Corvallis, OR	FMC team, crop advisors	25	Organized and developed the content of the meeting.

OSU Hyslop Field Day	May 25, 2022	Corvallis, OR	Growers, field reps, OSU faculty, staff, students	160	Served on the organizing committee for the field day.
81st Annual Pacific Northwest Insect Management Conference, co-hosted by Oregon State University, Washington State University, NW Berry Foundation, and USDA-ARS	Jan. 9-10, 2022	Zoom	University faculty and students, USDA-ARS scientists, Oregon Department of Ag and Washington Department of Ag entomologists, industry reps	60	Organized and developed course content; taught insect pest management-related material.
Insect management and research updates—Fine Fescue Twilight Tour	May 21, 2021	Silverton, OR	Growers, industry reps	60	Organized and developed course content; taught insect pest management-related material.
80th Annual Pacific Northwest Insect Management Conference, co-hosted by Oregon State University, Washington State University, NW Berry Foundation, and USDA-ARS	Jan. 4-5, 2021	Zoom	University faculty and students, USDA-ARS scientists, Oregon Department of Ag and Washington Department of Ag entomologists, industry reps	50	Member of the executive committee; co-organized and developed the content of the annual meeting.
Total				**956**	

c. <u>Curriculum Development</u>: N/A

d. Graduate and Undergraduate Students and Postdoctoral Trainees

I served on multiple graduate student committees and advised two master's students, as indicated in the table below. I contribute to the development of the plan of study, research methodology, and preparation of peer-reviewed publications.

Postdoctoral and graduate students advised

Name	Degree Sought	Time Period	My Role
Grace Tiwari	M.S.	2022-2024 Completed	Committee chair/ major professor
Pear Intasin	M.S.	2022-2024 Completed	Committee chair/ major professor
Abigail Greenhalgh	M.S.	2022-2024 Completed	Graduate council representative
Alex Butcher	M.S.	2021-2023 Completed	Committee member
Casey Wilson	M.S.	2020-2023 Completed	Graduate council representative
Chloe Dugger	M.S.	2021-2023 Completed	Committee member
Fares Alzahrani	Ph.D.	2021- 2024 Completed	Committee member
Zach Hamilton	M.S.	2022, expected in Fall 2024	Graduate council representative

I have also mentored and trained the following undergraduate students through URSA and CAS research internships.

Undergraduate students advised

Name of Student	Time Period	My Role
Connor Eck	Fall 2022-present	Supervised hourly student helper.
Spencer Mitchell	Summer 2022-present	Supervised hourly student helper.
Emily Cook	Summer 2022-present	Supervised hourly student helper.
Christopher Bateman	Spring 2022-summer 2022	Undergraduate research student applicant (URSA). This research program is funded by OSU Office of Undergrad Research to support students for research contributions. Role: Project idea conceptualization and writing proposals to secure funding.
Holly Golightly	Spring 2022-summer 2022	URSA. Role: Project idea conceptualization and writing proposals to secure funding.

Audrey Wilson	Winter 2021-present	URSA. Role: Project idea conceptualization and writing proposals to secure funding.
Jacqueline Lemmon	Winter 2021-spring 2021	URSA. Role: Project idea conceptualization and writing proposals to secure funding.
Anna Burton	Winter 2020, spring 2020, summer 2020	Supervised hourly student helper.
Cat Reed	Winter 2020, spring 2020, summer 2020	Supervised hourly student helper.
Josef Vincent	Summer 2020-fall 2020	Supervised hourly student helper.

Visiting scientists hosted/trained

Name	Their Position	Time of Visit	My Role
Dr. Babu Panthi	Postdoctoral scholar	October 2021-March 2022	Research supervisor

e. <u>Team or Collaborative Efforts (selected)</u>

Editor-in-Chief, *PNW Insect Management Handbook* (2020- present)
This 800-page handbook is one of the most widely used resources for applied insect management in the Pacific Northwest. It is a collaborative outreach effort among Oregon State University, Washington State University, and the University of Idaho and is annually reviewed. Information in this publication is constantly updated, with special regard for the legal uses of pesticides. This handbook is a tool for commercial growers, county field faculty, consultants, field and nursery staff, and chemical industry representatives, to make timely pest control decisions. The handbook contains 18 sections and 90 chapters and is available online; 73 authors contribute to the content. *Role: I am editor-in-chief of the handbook, overseeing the activities of all chapter editors, authors, and other expert contributors.*

OSU Hyslop Field Day Organizing Committee (2022-present)
I lead the CSS communication committee, and organizing the annual Hyslop Research Farm Field Day is one of our committee's main charges. The aim of this event is to provide growers and industry representatives with the opportunity to learn about current research projects in seed and cereal crops, view field trials in person, and interact with OSU/USDA scientists. This is a well-attended field day event in the Willamette Valley each year (approximately 200 participants, including growers and industry representatives). Our planning committee works hard for fundraising and ensures that the program delivers the latest information addressing the high-priority needs of Oregon agriculture. *Role: In my role as lead of the organizing committee, I co-organized and developed the content of the field day.*

WERA11, Western Regional Turfgrass Research
The WERA11 committee comprises faculty and staff at universities across the West. Members work cooperatively on multistate applied research projects focusing on emergent and established pests in turfgrass systems and coordinate educational efforts throughout the region. Our overarching goal is to foster collaborative projects between participating universities and federal government agencies (USDA, U.S. Environmental Protection Agency, etc.). *Role: I have been part of the Extension working group led by Dr. Alec Kowalewski at OSU since 2020.*

S1710, The Working Group on Improving Microbial Control of Arthropod Pests
This is a multistate cooperative research and Extension effort among universities, USDA, and industry partners to develop and advance entomopathogens for biological pest suppression. *Role: I have been part of the Extension working group since 2020. The work group meets annually during the week of the ESA national meeting and solicits, discusses, and selects relevant current topics to target multistate funding opportunities. I organized the microbial control symposium at the 2022 Entomological Society of America annual meeting.*

Mint Pest Alert e-Newsletter
Mint root borer and variegated cutworm are two of the most problematic insect pests of mint. These pests have traditionally been managed with organophosphate insecticides such as chlorpyrifos. A newer product (chlorantraniliprole, trade name Coragen) is effective at controlling these pests, with fewer negative effects on nontarget organisms. Timing insecticide applications to the correct insect development stage is critical for optimum control. The Mint Pest Alert Newsletter was developed in 2014 as a decision support tool for growers to identify the optimum time to apply pesticides such as Coragen. The newsletter combined weather-based insect development models and insect trapping information to predict optimum spray timing. The newsletter has delivered such information to crop producers for the past decade. *Role: For the 2020-2021 growing seasons, I co-led this collaborative effort with Christy Tanner and Darrin Walenta, to deliver timely Mint Pest Alert e-newsletters to the three major mint-growing regions statewide. I have contributed to presentations about this project at two industry mint grower meetings and received funding for one year to run this program. Dr. Christy Tanner has been leading this project since 2021, and I am a cooperator, providing insect pest ID and management recommendations.*

Prior to Present Position

Ergot Alert Newsletter (2015-2016)
This newsletter provided timely information about ergot spore production to grass seed growers and field personnel in the Columbia Basin, the Grande Ronde Valley, and central Oregon. It provided decision-making guidance related to ergot management during the 2015-2016 growing season. As a postdoctoral researcher at OSU, I contributed to the team effort to write and disseminate this Ergot Alert Newsletter to Columbia Basin stakeholders.

f. International Teaching: N/A

2. Student and Participant/Client Evaluation

a. Credit Courses: NA

b. Non-Credit Courses and Workshops Summary of Client Evaluations of Teaching

Summary of Participant/Client Evaluation

Teaching event	Year	No. responses/ No. Participants	Quality of Instruction*	Quality of Event*
Billbug Species Characteristics, Impacts, and Management Strategies	2024	4/25	6.0	6.0
Acaricide Resistance Screening for Two-spotted Spider Mite Management in Hops	2024	10/35	6.0	6.0

Vegetable Grower Meeting: The Creepy Crawlers Underground: Symphylan Control	2024	12/30	6.0	5.92
Billbug Management and Alternatives to Chlorpyrifos, Jefferson Co. Seed Growers Association Meeting	2023	9/50	5.89	6.0
New Pests and Old, Insects to Watch for This Year, OSU Extension Meetings	2023	5/200	5.2	5.6
Clover Seed Weevil Research Updates during Coffee Hour, OSU Extension	2023	8/19	5.88	5.88
Billbug Research Update to Union Co. Seed Growers Association	2022	3/50	5.33	5.33
Coffee Hour Presentation on Alternatives to Chlorpyrifos Research Updates	2022	2/60	5.5	5
Best Practices to Control Insect Pests in Grass Seed Crops	2022	53/300	5.15	4.98
New Insect Management Updates for Grass Seed and Wheat	2021	8/300	5.13	4.88
Insect Biocontrol	2021	8/30	5.38	5.71
Insect Pest Management in Grass Seed: Updates from 2020 Insecticide Efficacy Trials During OSU HAREC Grass Field Day	2021	11/50	5.67	5.33
Available Literature and Assistance for IPM Planning from Oregon State University	2020ǂ	15/30	4.47	4.73
Psyllid Management	2020ǂ	8/28	5	5
Average score			**5.47**	**5.45**

*Mean ratings on a scale of 1-6: 1 = very poor, 2 = poor, 3 = fair, 4 = good, 5 = very good, 6 = excellent.

ǂ Extension waived the CET requirements during 2020, as per COVID-19 guidelines. Only two CET were collected during 2020.

Summary of Peer Teaching Evaluation

Date	Reviewer	Presentation Title	Location	Overall Score*
2024	Kristie Buckland	Symphylan Control in Vegetables	NWREC, OSU	5
2024	Nick Andrews	Symphylan Control in Vegetables	NWREC, OSU	5
2023	John Spring	Central Oregon Farm Fair Talk on Billbugs	Madras	4.5
2023	Andony Melathopolous	Detection of Clover Seed Weevil Insecticide Resistance	Wilsonville	5
2022	Kaci Buhl	Insect ID Resources and Management Tools—IPM in Forage Crops: A Webinar by the Pesticide Safety Education Program (PSEP) of OSU	Webinar	5
2022	Seth Dorman	Insecticide Resistance Management in White Clover Seed Weevil	Wilsonville	5
2022	Christy Tanner	Best Practices for Insect Management in Grass Seed Crops	Salem	5
2022	Hannah Rivedal	Best Practices for Insect Management in Grass Seed Crops	Salem	4
2021	Nicole Anderson	Clover Casebearer and Seed Weevil Research Updates—OSU Winter Seed Crop	Virtual	5
2021	Darrin Walenta	OSU Seed and Cereal Crop Grower Webinar	Virtual	4.5
2020	Elizabeth Verhoeven	Pest Management Consideration in Conservation Planning—NRCS	Virtual	4
2020	Alyssa Susan Duval	Step-by-Step Diagnostics of Pest Problem and IPM Tools	E-campus	5
2019	Andy Hulting	IPM in Grass Seed Systems	Salem, Oregon Seed League Annual Convention	4

2019	Caio Brunharo	IPM in Grass Seed Systems	Salem, Oregon Seed League Annual Convention	5
2019	Stefan Seiter	Entomology Professional and Research Opportunities for Undergrad Students	OSU Campus	5
Average score				**4.73**

*of 5 possible

Example remarks by peer reviewers

2024, Creepy Crawlers Underground, "I liked the management strategies checklist. This is a great for Extension talks. Good emphasis on correct ID." Dr. Kristie Buckland, OSU Horticulture. This presentation was rated 5.0 (scale 1 to 5).

2024, Creepy Crawlers Underground, "Excellent review of earlier work, monitoring strategies and ongoing research." Nick Andrews, OSU Small and Organic Farms Program. This presentation was rated 5.0 (scale 1 to 5).

2023, Detection of Clover Seed Weevil Insecticide Resistance, "Appreciated introducing resistance, conceptualized, at the beginning of Navneet's talk. Great outline—big bold boxes, which continued through the talk. There was a keen interest in Dr. Kaur's findings. Great use of slide polls to get grower input." Dr. Andony Melathopoulos, OSU Horticulture Pollinator Health Specialist. This presentation was rated 5.0 (scale 1 to 5).

2022, Best Practices for Insect Management in Grass Seed Crops, "Dr. Kaur did an excellent job of directing the audience to relevant resources for more detailed information on a variety of topics. The use of color coding nicely illustrated the different modes of action, and how to rotate them effectively. The way Dr. Kaur defined modes of action used simple language and was very clear. Dr. Kaur gave an excellent presentation and is an asset to the field crops extension team in the Willamette Valley and statewide." Dr. Christy Tanner, OSU Extension Service. This presentation was rated 5.0 (scale 1 to 5).

2021, OSU Seed and Cereal Crop Grower webinar, "Navneet provided an excellent summary of relevant work she is conducting for the grass seed and cereal producers. She provided adequate details for the short amount of time she was allotted to cover a lot of great information. Navneet does a great job relating her work to the stakeholders which is done based on their needs as an industry." Darrin Walenta, OSU Extension Service. This presentation was rated 4.5 (scale 1 to 5).

2021, Clover Casebearer and Seed Weevil Research Updates—OSU Winter Seed Crop, "Navneet is an excellent new addition to the Extension field crops group. She is working on projects that are very relevant to our growers and field reps. Technical expertise and data brought by Navneet's program has been needed for a long time. Navneet wrote a couple of well-thought

poll questions that allowed clientele to provide feedback on key insect pest species." Nicole Anderson, OSU Extension Service. This presentation was rated 5 (scale 1 to 5).

2020, Step-by-Step Diagnostics of Pest Problem and IPM Tools, "Navneet compiled two amazing guest lectures for the CROP/HORT 480 course. Students in this class simply needed a couple review elements including basics to entomology and helpful tips/resources to utilize when diagnosing pest-related problems in cropping systems. Both of her lectures were excellent and met all the needs of students for this inaugural online course offering. Audio recordings were of excellent quality and presentation timing was perfect. Navneet truly has a passion for educating and helping others! I wish she was one of my instructors and I know that she will be an excellent educator." Alyssa DuVal, Crop and Soil Science, OSU. This presentation was rated 5 (scale 1 to 5).

2019, IPM in Grass Seed Systems, "Presentation was clear, and included a brief background of the problem, good information on current pest problems in the Valley, and appropriate language on the potential management practices to address the problems. Great emphasis on integrated pest management concepts." Caio Brunharo, Weed Science Program, OSU. This presentation was rated 5 (scale 1 to 5).

3. Advising: N/A. I do not have a formal academic advising role, but I do interact daily with undergraduate students in my program each term. I have also assisted undergraduate students applying for URSA Engage funding and have supervised URSA Engage scholars. This program enables students to conduct significant research or creative projects under the guidance of OSU faculty. On average, I advise up to five undergrad students per year. I serve as a major advisor to two graduate students and serve on multiple graduate student committees for MS and PhD degree candidates in Entomology.

4. Other Assignments

a. Extension Programming to Address Critical Ag Industry Needs and Other Stakeholders to Improve the Profitability and Environment Sustainability

Situation
The cornerstone of my role as an Extension Entomologist is developing and implementing impactful Extension programming that addresses the diverse needs of our agricultural community and improves the profitability and environmental sustainability of diverse Oregon growers.

Approach
I have developed and promoted integrated pest management guidelines for diverse cropping systems in Oregon, including using selective insecticides, developing economic threshold levels, exploring novel biological control agents, and incorporating resistance management strategies. I aim to deliver Extension programs that drive positive change, empower stakeholders, and promote sustainable practices through strategic planning, innovative outreach methods, and collaborative partnerships. I provide one-on-one consultations to individual growers and field consultants and further disseminate my research findings in grower and industry-wide meetings. I value the two-way communications between Extension specialists and client groups on

research-based subject matter. Seeing is believing; hands-on learning experiences reinforce theoretical knowledge and build confidence in new practices. By conducting on-farm demonstrations, field trials, and insecticide resistance screening bioassays (listed below in the Research section), I have provided stakeholders with opportunities to observe sustainable pest management practices, evaluate their effectiveness, and gain firsthand experience in their implementation.

Outcome and Impact

I strive to provide my clientele with the latest information through open-access publications, presentations, and articles written explicitly for a grower audience. I collaborate with regulatory agencies (e.g., Oregon Department of Agriculture), industry stakeholders, and policymakers to provide data-driven support for sustainable pest management practices. For example, two special local needs labels (OR-240007 and OR-240009) under Section 24 (c) were recently supported by research conducted in my program at Oregon State University. This advocacy ensures that regulatory frameworks align with the needs of growers to remain economically profitable while safeguarding environmental health. By organizing workshops, seminars, and training sessions, I aim to equip participants with the knowledge and tools to effectively identify, monitor, and manage insect pests while minimizing environmental impact. Through outreach events, field days, and collaborative projects, I cultivate a sense of belonging and ownership among stakeholders, empowering them to actively participate in decision-making processes and collective action for the betterment of our agricultural community. To ensure the relevance and effectiveness of Extension programming, ongoing evaluation, and feedback mechanisms are essential. I am committed to conducting rigorous assessments of program outcomes, soliciting input from participants and stakeholders, and iteratively refining programmatic approaches based on lessons learned and emerging needs. Since I joined the faculty at OSU, I have engaged regularly with my clientele on technical insect management topics, responded to telephone inquiries, and made on-farm and office visits, emails, text messages, or telephone calls. On average, I have 100 such interactions per year. I engage with various clientele through Ask Extension and post information on my Field Crop Entomology Blog and X account. In summary, Extension programming is a powerful vehicle for translating scientific knowledge into practical solutions, empowering stakeholders with new management guidelines, and driving positive change within our agricultural community.

Scholarship

I led the editing and publication of the *Pocket Guide to Grass Seed Pests and Beneficials.* This 80-page publication is available through the OSU Extension Catalog. It includes information on identifying common pests and beneficial insects in grass seed production. This handy pocket guide contains pest management strategies for grass seed growers. I facilitated the printing of this book and the distribution of approximately 1,300 copies statewide through funding provided by the Oregon Seed Council. I am editor-in-chief for the *PNW Insect Management Handbook*, a widely used Extension publication (more than 100 site visits and downloads per year). In addition to editing, I have authored six *Handbook* chapters since 2019 and coauthored four numbered OSU Extension publications and two numbered PNW Extension articles since I joined the faculty at OSU.

b. Research

Research activities aim to identify integrated pest management options for sustainable arthropod pest management in Oregon cropping systems.

Alternatives to Chlorpyrifos: Identifying Viable Chemical Control Options for Insect Pest Management in Grass Seed Production Systems

Situation
Oregon leads the nation in grass seed production (fescues, ryegrass, bluegrass, etc.), with more than 400,000 acres in production each year. Insect pest issues impact profitability due to the direct and indirect (disease vectors) damage they cause and associated control costs ($10-$15/acre). Chlorpyrifos (trade name Lorsban), a broad-spectrum and widely used organophosphate insecticide that was registered for more than 40 years in the United States, was banned by the Oregon Department of Agriculture (ODA) as of a 2020 rulemaking. My top research priority at OSU has been to identify alternatives to chlorpyrifos for three soil-borne invertebrate species: sod webworms, billbugs, and symphylans, as identified in a chlorpyrifos critical use survey conducted by the OSU Alternative to Chlorpyrifos Research Work Group (see Approach, below) of grass seed growers statewide. Once efficacious tools are found, the grass seed industry must be educated about the proper application timing and strategies to manage insecticide resistance; this is my subsequent priority.

Approach
An Alternative to Chlorpyrifos Research Work Group was formed as part of a cross-commodity collaboration including five OSU entomologists. (I led grass seed research initiative.) It was funded by the Oregon Department of Agriculture through the Specialty Crop Block Program (ODA-SCBGP) in 2021. The research work group conducted a statewide survey to identify the industries impacted by the loss of chlorpyrifos and whether alternatives are available. Two Qualtrics surveys were sent to more than 500 people statewide before starting the project (pre-survey) and at the end of the project for evaluation of our Extension efforts (post-survey). The results of the pre-project survey allowed us to identify the critical use pattern for chlorpyrifos in grass seed crops. In total, 106 responses were collected, and respondents across all 35 specialty cropping systems identified symphylans as the targeted pest for 12-25% of their chlorpyrifos applications, followed by sod webworms and billbugs. I led ten on-farm research trials during 2020-2023 to determine the efficacy of chlorantraniliprole and other new modes of action (MoA) against sod webworms, symphylans, and billbugs in grass seed crops. Research results are delivered to clientele through plot tours at field days, presentations at industry meetings, development of seed research articles, and one-on-one interactions with other Extension faculty, agribusiness professionals, and seed growers.

Outcomes and impact
Two-year trial work identified anthranilic diamides (chlorantraniliprole, Group 28) as the most effective materials against sod webworms. These results were disseminated via technical report publications and grower meeting talks. I, along with OSU Extension agronomist Nicole

Anderson, recommended the incorporation of chlorantraniliprole-based insecticide formulations, (Vantacor and Besiege) into the sod webworm management program statewide. I also revised the *PNW Insect Management Handbook* to include this work. Recommendations were published in popular press articles through Oregon Seed Council e-updates. Symphylan research showed that bifenthrin-based liquid fertilizer-ready formulations and other pyrethroids can provide season-long efficacy when applied at the preplant stage, followed by mechanical or rain incorporation. The pesticide use pattern and efficacy of in-furrow and carbon seeding are still being investigated. During the post-project, 50% of the respondents (40 out of 79) reported that the information provided by my program helped them find alternative solutions. One-third of respondents (N=78) indicated that they were utilizing chemicals that I recommended.

Scholarship
The Oregon Department of Agriculture-Specialty Crop Block Program and the Oregon Seed Council funded this project ($380,283). We published five open-access, editor-reviewed journal articles (in *Arthropod Management Tests*) and two technical reports (OSU peer-reviewed *Seed Production Research Reports*). (See Section C. Scholarship and Creative Activity.) Research findings were disseminated to peers and clientele during 26 grower and Extension meetings and 3 scientific meetings reaching up to 2,000 diverse audiences.

Preemptive Measures to Manage an Invasive Pest in Red Clover Seed Crops: Red Clover Casebearer Moth

Situation
The red clover casebearer moth, *Coleophora deauratella* (Lepidoptera: Coleophoridae), is a serious invasive insect species occurring predominantly in the red clover (*Trifolium pratense* L.) seed-producing regions of North America and New Zealand. Monitoring efforts by OSU agronomist Nicole Anderson confirmed the detection of *C. deauratella* in Oregon's Willamette Valley in 2011. Shortly thereafter, *C. deauratella* was detected in red clover fields of Oregon's Grande Ronde Valley and the Treasure Valley in 2018 and 2019, respectively. Discoveries of this invasive pest species in Oregon and New Zealand prompted investigation of the seasonal phenology and population dynamics of *C. deauratella* to inform management strategies and develop a risk prediction framework to mitigate outbreak severity. I led the casebearer pest monitoring network in red clover seed production systems in western Oregon from 2019 to 2021 to determine the potential pest host range and develop effective management tactics to reduce the severity of outbreaks on crop productivity.

Approach
Our research team used gut content analyses to amplify plant-derived internal transcribed spacer (ITS) regions. We analyzed chloroplast trnL genes to infer the host range or dietary history of early-season *C. deauratella* adults collected from commercial red clover fields in the Willamette Valley. Most of the sequence data obtained in this study corresponded to the plant family Fabaceae (85.7% *Trifolium* species, 28.6% *Vicia* species), ruling out the existence of an alternative host. I led a pheromone-based monitoring network in commercial red clover seed fields from 2019 to 2021 and conducted a mating disruption trial in 2020. My work indicated up to 38% reduction in adult moth captures in pheromone traps and a 73% decline in subsequent larval feeding damage in Oregon's Willamette Valley, demonstrating the effectiveness of mating

disruption for *C. deauratella* management. Continued testing will be needed to calibrate the timing, release rate, and release method of mating disruption techniques in Oregon and New Zealand.

Outcomes and impact
Seasonal phenology models were developed using pest monitoring data from Oregon and by our counterparts at Lincoln University and the Foundation of Arable Research (FAR). Median moth flight activity was predicted for Oregon's Willamette Valley at 256 GDDs, with a start date of January 1. For New Zealand, median flights occurred at 222 GDD, with a start date of November 1. Both Oregon and New Zealand phenology models performed with high accuracy levels to predict 25%, 50%, and 75% flight activity levels of *C. deauratella* adults. However, the pest populations have recently started receding, and it is thought that the presence of unknown biocontrol agents, climatic, or genetic factors has resulted in these low-pressure years. Considering the substantial economic impact (greater than 90% yield loss) of *C. deauratella*, regular pest monitoring is still necessary for red clover seed production systems in Oregon and New Zealand. In preparation for potential *C. deauratella* outbreaks in future years and to fill current knowledge gaps, continued research efforts can be directed to refine phenology models for predicting larval emergence and feeding damage timing, as the current phenology model is based on adult abundance. More research is also needed to calibrate the mating disruption technique and its utilization as a practical option for *C. deauratella* management in Oregon.

Scholarship
I am the lead author of a review article published in 2024 in the *Journal of Integrated Pest Management* on the biology and management of *C. deauratella* in red clover seed-growing regions in North America and New Zealand. My colleagues and I published the phenology model results in the *Journal of Pest Science* in 2024 and presented them at the 2023 International Herbage Seed Group Meeting in France. Research findings were also published in the 2021 OSU *Seed Production Research Report*, distributed to 1,350 seed growers throughout the state. (See Section C. Scholarship and Creative Activity.)

Insecticide Resistance Management of the Clover Seed Weevil in Oregon White Clover Seed Crops

Situation
Clover seed weevil, *Tychius picirostris*, (Coleoptera: Curculionidae), is a serious insect pest in Willamette Valley white clover (*Trifolium repens* L.) seed production. Historically, clover seed growers have relied heavily on broad-spectrum pyrethroid insecticides for *T. picirostris* management. After the discontinuation of chlorpyrifos, standard grower practices for *T. picirostris* management involve multiple foliar applications of pyrethroid (bifenthrin, IRAC group 3A) and organophosphate (malathion, IRAC group 1B) insecticides during the growing season. Since 2017, white clover seed growers have anecdotally reported poor efficacy and control failures with pyrethroid insecticides. Modes of action (MoA) registered for chemical control for this pest are limited. The reduced efficacy of pyrethroid insecticides in *T. picirostris* management necessitates evaluating field-collected *T. picirostris* adults to determine the extent of insecticide resistance to broad-spectrum insecticides and the development of insecticide resistance management (IRM) plans for white clover seed growers. Furthermore, field efficacy

trials are necessary to evaluate new MoA, optimal insecticide timing, improved larval detection methods, and treatment guidelines based on larval density per seed head.

Approach
To evaluate *T. picirostris's* resistance to pyrethroids and other MoA, we conducted laboratory bioassays in 2022 and 2023 with populations of *T. picirostris* collected from eight commercial white clover fields in Oregon and a known susceptible *T. picirostris* population from Canada. Laboratory findings provided strong evidence of *T. picirostris* resistance to pyrethroids in Oregon specimens. My graduate student, Grace Tiwari, conducted large- and small-plot field efficacy trials in three commercial fields during 2022 and 2023. The efficacy of eight foliar insecticide formulations for managing *T. picirostris* adult and larval life stages was determined across two crop years. Bifenthrin (Brigade 2EC), the grower's standard, showed negligible adult and larval suppression in both years. Insecticide formulations with isocycloseram and cyantraniliprole as the active ingredients reduced adult and larval populations when applied at the pre- and full-bloom crop growth stages.

Outcomes and impact
Our findings confirmed that the use of bifenthrin should be discontinued. After confirming high insecticide resistance, we now recommend to white clover growers to stop using bifenthrin insecticides and instead incorporate two-application timing management strategies to target adults and larval stages with contact and systemic insecticides, respectively. We recommend applying a contact insecticide (malathion) at pre-bloom and a systemic insecticide (Vantacor) at full bloom for season-long protection and to prevent seed yield loss. Other insecticide resistance management (IRM) strategies that we recommend include following economic threshold levels and recommended label rates, spray volume, and adjuvants as per the manufacturer's guidelines to improve coverage (OSU Extension publication No. EM 9429). We also demonstrated the potential of new MoA to include in a spray rotation program and to develop a sustainable IRM program for this pest. I provided supportive data for a Special Local Needs label (Section 24c) for Steward (indoxacarb), which the ODA is currently reviewing. I also recently received funding from the IR-4 program to evaluate indoxacarb efficacy against *T. picirostris* during the 2024 growing season. The impact of our research and Extension activities can be measured by the change in management practices by white clover seed growers. For example, pest management has relied heavily on bifenthrin products for the past two decades, but after learning about bifenthrin resistance, nearly two-thirds (64.2%) of respondents plan to completely stop using bifenthrin for clover seed weevil control. All of the remaining respondents planned to adjust their management by increasing the use of other products, and none of the respondents planned to continue using bifenthrin as before.

Scholarship
Collaborating with the Oregon Clover Commission, I presented these results at four grower meetings and one OSU Extension-led workshop. Three Extension seed production reports were made available from 2020 to 2023. These reports provide growers with yearly progress on the project. Two peer-reviewed articles were published in the international peer-reviewed *Journal of Economic Entomology* in 2024, and one extension publication on management guidelines was published in OSU Extension publication No. EM 9429. (See Section C. Scholarship and Creative Activity.).

C. SCHOLARSHIP AND CREATIVE ACTIVITY

Summary of publication activities

Time Frame	Refereed Journal Articles	OSU Extension Publications	Technical Research Reports	Other Publications, Abstracts, Proceedings	Producer Newsletters/ Popular Press
Since hire in 2019	**16**	**11**	**10**	**8**	**8**
2024	7	4	2	—	—
2023	1	1	2	4	4
2022	1	1	1	—	1
2021	6	2	4	2	1
2020	1	3	1	1	2
2019	—	—	—	1	—
Prior to hire in 2019	**10**	**—**	**7**	**5**	**6**
2019	2	—	—	—	—
2018	3	—	—	—	1
2017	1	—	2	1	2
2016	3	—	4	2	1
2015	1	—	1	2	2
Total	**26**	**11**	**17**	**13**	**14**

1. Publications

a. Peer-reviewed

Summary of peer-reviewed publications

Time Frame	Refereed Journal Articles	Book Chapters	Extension Publications	Other Peer-Reviewed Materials
Since hire in 2019	16	—	11	18
Prior to hire in 2019	10	—	—	12

i. Refereed Journal Publications

Willette, A.R, Dorman, S.J., Gent, D.H. and **N. Kaur.** 2024. Monitoring two-spotted spider mite populations from commercial hopyards in Oregon for resistance to Onager, 2023. Arthropod Management Tests XX: tsae088. http://dx.doi.org/10.1093/amt/tsae088. *Role: Corresponding author and Lead PI, data collection and analysis, writing and review*.

Willette, A.R, Dorman, S.J., Gent, D.H. and **N. Kaur.** 2024. Monitoring two-spotted spider mite populations from commercial hopyards in Oregon for resistance to Zeal, 2022. Arthropod Management Tests XX: tsae087. http://dx.doi.org/10.1093/amt/tsae087. *Role: Corresponding author and Lead PI, data collection and analysis, writing and review.*

Kaur, N., H. M. Rivedal, J. Intasin, E.C. Verhoeven, Y. Di, N.P. Anderson, S.J. Dorman, and J.M. Duringer. 2024. Response of sod webworm *Chrysoteuchia topiaria* Zeller (Lepidoptera: Crambidae) to endophyte infection and mycotoxin profiles of cool-season turfgrass species grown for seed in Oregon. Crop, Forage, & Turfgrass Management, 10, e20291. *https://doi.org/10.1002/cft2.20291* *Role: lead PI, lead and corresponding author.*

Tiwari, G., **N. Kaur**, N.P. Anderson, C.K. Tanner, D.M. Lightle, A.R. Willette, and S.J. Dorman. 2024. Evaluation of foliar insecticides for *Tychius picirostris* (Coleoptera: Curculionidae) management in Oregon white clover seed production. Journal of Economic Entomology, XX(XX), 2024, 1–12. https://doi.org/10.1093/jee/toae163. *Role: Major professor of the lead author, corresponding author.*

Kaur, N., N.P. Anderson, S.J. Dorman, D.L. Walenta, B. Donovan, C.K. Tanner, B. Mori, J. Otani, R. Sim, P. Rolston, and J. Faulkner. 2024. Biology and management of *Coleophora deauratella*, (Lepidoptera: Coleophoridae) in red clover seed growing regions in North America and New Zealand. Journal of Integrated Pest Management 15:1-8. https://doi.org/10.1093/jipm/pmae002. *Role: Lead PI, lead and corresponding author.*

Tiwari, G., **N. Kaur**, N.P. Anderson, C.K. Tanner, D.M. Lightle, A.R. Willette, J.K. Otani, A.M. Jorgensen, C. Yoder, and S.J. Dorman, 2024. Field-evolved pyrethroid resistance in *Tychius picirostris* Fabricius (Coleoptera: Curculionidae) populations in Oregon white clover seed crops. Journal of Economic Entomology toae012:1-9. https://doi.org/10.1093/jee/toae012. *Role: Lead PI, coauthor, corresponding author, major professor of first author.*

Dorman, S.J., **N. Kaur**, N.P. Anderson, R. Sim, C.K. Tanner, D.L. Walenta, and W.R. Cooper. 2024. Flight phenology and landscape predictors of invasive *Coleophora deauratella* populations in Oregon and New Zealand red clover. Journal of Pest Science 97:631-643. https://doi.org/10.1007/s10340-023-01684-8. *Role: Lead PI, co-corresponding author, co-author.*

Bateman, C., A.R. Willette, **N. Kaur**, S.J. Dorman, K. Buckland, and N.P. Anderson. 2023. Symphylan control in grass grown for seed, 2022. Arthropod Management Tests 48: tsad013. https://doi.org/10.1093/amt/tsad013. *Role: Lead PI, coauthor, data collection and analysis, mentor of undergraduate student*. Cited by 1.

Dodge, C., **N. Kaur**, M. Frey, and R. Mc Donnell. 2022. First record of the invasive slug *Boettgerilla pallens* Simroth, 1912 (Boettgerillidae) in Washington State, U.S.A. American Malacological Bulletin 39:1-2. https://doi.org/10.4003/006.039.0103. *Role: Coauthor*, *lead on molecular identification*.

Mattsson, M., **N. Kaur**, L.G. Van Slambrook, and D. M. Lightle. 2021. Evaluating insecticides for clover seed weevil control. Arthropod Management Tests 46: tsab164. https://doi.org/https://doi.org/10.1093/amt/tsab164. *Role: Co-PI, data collection, coauthor*. Cited by 1.

Kaur, **N**., L.G. Van Slambrook, A.L. Koppel, and N.P. Anderson. 2021. Efficacy of selected insecticides for aphid management in grass grown for seed crops, 2020. Arthropod Management Tests 46: tsab110. http://dx.doi.org/10.1093/amt/tsab110. *Role: Lead and corresponding author, data collection and analysis, lead PI.*

Kaur, N., J.M. Green, J.C. Holcomb, and N.P. Anderson. 2021. Efficacy of selected insecticides for aphid management in tall fescue grown for seed crops, 2020. Arthropod Management Tests 46:tsab126. http://dx.doi.org/10.1093/amt/tsab126. *Role: Lead and corresponding author, data collection and analysis, lead PI.*

Kaur, N., L.G. Van Slambrook, N.P. Anderson, A.B. Whitener, and E.C. Verhoeven. 2021. Efficacy of selected insecticides for sod webworm management in fine fescue for seed crops, 2020. Arthropod Management Tests 46: tsab128. http://dx.doi.org/10.1093/amt/tsab128. *Role: Lead and corresponding author, data collection and analysis, PI.*

Dung, J.K.S., J.M. Duringer, **N. Kaur**, J. Scott, K.E. Frost, D.L. Walenta, S.C. Alderman, A.M. Craig, and P.B. Hamm. 2021. Molecular and alkaloid characterization of *Claviceps purpurea* sensu lato from grass seed production areas of the US Pacific Northwest. Phytopathology 111: 831-841. https://doi.org/10.1094/PHYTO-07-20-0289-R. *Role: Data collection and analysis, coauthor.* Cited by 3.

Chen, X.D., **N. Kaur**, D.R. Horton, R.W. Cooper, J.A. Qureshi, and L.L. Stelinski. 2021. Crude extracts and alkaloids derived from *Ipomoea-Periglandula* symbiotic association cause mortality of Asian citrus psyllid *Diaphorina citri* Kuwayama (Hemiptera: Psyllidae). Insects 12:929. https://doi.org/10.3390/insects12100929. *Role: Co-PI, data collection and analysis, and manuscript review.* Cited by 4.

Kaur, N., W.R. Cooper, J.M. Duringer, A. Rashed, I.E. Badillo-Vargas, G. Esparza-Diaz, and D.R. Horton. 2020. Mortality of potato psyllid (Hemiptera: Triozidae) on host clippings inoculated with ergot alkaloids. Journal of Economic Entomology 113:2079-2085. https://doi.org/10.1093/jee/toaa144. *Role: Lead and corresponding author, data collection and analysis.* Cited by 6.

Prior to present position

Kaur, **N.**, R. Cating, S.I. Rondon, J. Scott, S.C. Alderman, D.L. Walenta, K.E. Frost, P.B. Hamm, and J.K.S. Dung. 2019. Dispersal potential of ergot spores by insects foraging in the perennial ryegrass fields in the Columbia Basin of Oregon and Washington. Crop, Forage & Turfgrass Management 5:1-5. https://doi.org/10.2134/cftm2019.04.0020. *Role: Lead and corresponding author.* Cited by 5.

Horton, D.R., **N. Kaur**, W.R. Cooper, E. Miliczky, I.E. Badillo-Vargas, G. Esparza-Diaz, A. Rashed, T.D. Waters, C.H. Wohleb, D.L. Johnson, L. Kawchuk, and A.S. Jensen. 2019. Whence and whither the convolvulus psyllid? An invasive plant leads to diet and range expansion by a native insect herbivore. Annals of the Entomological Society of America 112:249-264. https://doi.org/10.1093/aesa/say063. *Role: Conducted research and data analysis.* Cited by 8.

Dung, J.K.S., J. Scott, Q. Cheng, S.C. Alderman, **N. Kaur**, D.L. Walenta, K.E. Frost, and P.B. Hamm. 2018. Detection and quantification of airborne *Claviceps purpurea* sensu lato ascospores from Hirst-type spore traps using real-time quantitative PCR. Plant Disease 102:2487-2493. https://doi.org/10.1094/PDIS-02-18-0310-RE. *Role: Conducted research and data analysis.* Cited by 13.

Dung, J.K.S., **N. Kaur**, D.L. Walenta, S.C. Alderman, K.E. Frost, and P.B. Hamm. 2018. Reducing *Claviceps purpurea* sclerotia germination with soil-applied fungicides. Crop Protection 106:146-149. https://doi.org/10.1016/j.cropro.2017.12.023. *Role: Conducted research and data analysis*. Cited by 17.

Kaur, N., W.R. Cooper, J.M. Duringer, I.E. Badillo-Vargas, G. Esparza-Díaz, A. Rashed, and D.R. Horton. 2018. Survival and development of potato psyllid (Hemiptera: Triozidae) on Convolvulaceae: Effects of a plant-fungus symbiosis (Periglandula). PLoS One 13:e0201506. https://doi.org/10.1371/journal.pone.0201506. *Role: Lead and corresponding author*. Cited by 32.

Dung, J.K., S.C. Alderman, **N. Kaur**, D.L. Walenta, K.E. Frost, and P.B. Hamm. 2017. Identification of environmental factors related to *Claviceps purpurea* ascospore production in perennial ryegrass seed fields and development of predictive models. Plant Disease 101:895-906. https://doi.org/10.1094/PDIS-05-16-0609-RE. *Role: Led monitoring in Columbia Basin of Oregon.* Cited by 5.

Kaur, N., J.L. Gillett-Kaufman, S.A. Gezan, and E.A. Buss. 2016. Association between densities and St. Augustinegrass lawn parameters in Florida. Crop, Forage, & Turfgrass Management 1:1-5. https://doi.org/10.2134/cftm2016.0015. *Role: Lead and corresponding author.* Cited by 3.

Kaur, N., R. Cating, J.K. Dung, K.E. Frost, B.A. Robinson, and P.B. Hamm. 2016. First report of potato mop-top virus infecting potato in Oregon. Plant Disease 100:2337. https://doi.org/10.1094/PDIS-01-16-0032-PDN. *Role: Lead and corresponding author.* Cited by 4.

Kaur, N., J.L. Gillett-Kaufman, and E.A. Buss. 2016. Effect of plant growth regulators on *Blissus insularis* (Hemiptera: Blissidae). Florida Entomologist 99:557-558. https://doi.org/10.1653/024.099.0336. *Role: Lead and corresponding author.* Cited by 6.

Cating, R., C.N. Funke, **N. Kaur**, P.B. Hamm, and K.E. Frost. 2015. A multiplex reverse transcription (RT) high-fidelity PCR protocol for the detection of six viruses that cause potato

tuber necrosis. American Journal of Potato Research 92:536-540. https://doi.org/10.1007/s12230-015-9457-5. *Role: Conducted research experiments.* Cited by 11.

Journal Impact Factor (boldface indicates submissions since OSU hire)

Journal	Impact Factor	Number of Publications
American Journal of Potato Research	1.5	1
American Malacological Bulletin	0.5	1
Annals of the Entomological Society of America	2.3	1
Arthropod Management Tests	N/A	7
Crop Protection	2.8	1
Crop, Forage, & Turfgrass Management	**0.66**	2
Florida Entomologist	1.4	1
Insects	3.14	1
Journal of Economic Entomology	2.44	2
Journal of Integrated Pest Management	4.10	1
Journal of Pest Science	5.70	1
Phytopathology	4.0	1
Plant Disease	4.5	3
PLoS One	3.7	1

ii. Books edited: N/A

iii. Book chapters: N/A

iv. Extension Publications

These publications are university technical publications and are reviewed by external reviewers.

Kaur, N., G. Tiwari, N.P. Anderson, D. Lightle, C. Tanner, S. J. Dorman. 2024. Management Guidelines for the Clover Seed Weevil in Oregon White Clover Seed Production. OSU Extension publication No. EM 9429. *Role: Lead and corresponding author.*

Walenta, D.L., **N. Kaur**, N.P. Anderson, S. J. Dorman, A.R. Willette, C. Goracke, S. Eigenbrode, and B.A. Charlton. 2024. Integrated Pest Management Guidelines and Current Biocontrol Status for Cereal Leaf Beetle Management in the Pacific Northwest. OSU Extension publication No. PNW 777. *Role: Lead PI, data collection to revise the existing draft, corresponding author.*

Kaur, N., D.L. Walenta, B.C. Donovan, A.R. Willette, J.F. Spring, J.K. Dung, and N.P. Anderson. 2024. Biology and Management of Billbug Species Complex in Grass Seed Production Systems in Oregon. OSU Extension publication No. EM 9424. *Role: Lead and corresponding author.*

Dreves, A.J., **N. Kaur**, J.T. DeFrancesco, L.G. Van Slambrook, G.C. Fisher, S. Rondon, and N.P. Anderson. 2021. Pocket Guide to Grass Seed Pests and Beneficials: Identification,

Monitoring, Management. OSU Extension publication No. EM 9318. *Role: Corresponding author.*

Kaur, N., L.B. Coop, J.M. Green, N.P. Anderson, and G. Fisher. 2020. Omnivorous Leaftier: A Ubiquitous and Often Minor Pest of Small Grains and Other Seed Crops of Western Oregon. OSU Extension publication No. EM 9294. *Role: Lead and corresponding author.*

Dreves, A.J., **N. Kaur**, M.G. Bohle, D.B. Hannaway, G. Fisher, and S. Rondon. 2020. Invertebrate Pest Management for Pacific Northwest Pastures. OSU Extension publication No. PNW 750. *Role: Corresponding author and coauthor.*

Kaur, N., editor. (2020-present). Pacific Northwest Insect Management Handbook [online]. Oregon State University. https://pnwhandbooks.org/insect. Besides editing responsibilities, I contribute to six chapters: Characteristics of insecticides, Field and silage corn pests, Insecticide resistance management, Grass seed pests, Mint pests, and Integrated pest management. Annual revisions are included as one citation per year in the publication summary table under the OSU Extension publication column.

v. Published Abstracts and Proceedings

Dorman, S.J., **N. Kaur**, N.P. Anderson, R.E. Sim, C. Tanner, D.L. Walenta, and R. Cooper. 2023. Climate and landscape drivers of an invasive pest in Oregon and New Zealand: The red clover casebearer moth. Proceedings of the 11th International Herbage Seed Group Conference. June 11-18, Angers, France.

Hamilton, Z., A.R. Kowalewski, and **N. Kaur**, 2023. Destructive turfgrass insect diversity and distribution at golf courses in the Pacific Northwest of the United States. ASA, CSSA, SSSA International Annual Meeting. Oct. 29-Nov. 1, St. Louis, MO.

Willette, A.R., **N. Kaur**, S.J. Dorman, K. Buckland, and N.P. Anderson. 2023. Management options for garden symphylan suppression in grass grown for seed. 82nd Annual Pacific Northwest Insect Management Conference. Jan. 9-10, Portland, OR.

Tiwari, G., S.J. Dorman, and **N. Kaur**. 2023. Detection of bifenthrin resistance in white clover seed weevil. 82nd Annual Pacific Northwest Insect Management Conference. Jan. 9-10, Portland, OR.

Van Slambrook, L.G., E.C. Verhoeven, J.M. Green, A.B. Whitener, and **N. Kaur**. 2021. Management of sod webworm, *Chrysoteuchia topiaria* Zeller (Lepidoptera: Crambidae) in grass seed production systems in Oregon. 80th Annual Pacific Northwest Insect Management Conference. Jan. 5, virtual.

Panthi, B., L.G. Van Slambrook, E.C. Verhoeven, J.M. Duringer, and **N. Kaur**. 2021. Screening grass cultivars for resistance against sod webworm. 80th Annual Pacific Northwest Insect Management Conference. Jan. 5, virtual.

Kaur, N. 2020. Eliminating a symbiotic fungus (*Periglandula*) from psyllicidal Convolvulaceae allows successful development of potato psyllid. 79th Annual Pacific Northwest Insect Management Conference. Jan. 6, Portland, OR.

Dung, J.K., Q. Cheng, **N. Kaur**, D.L. Walenta, K.E. Frost, S.C. Alderman, and P.B. Hamm. 2019. Population biology and epidemiology of *Claviceps purpurea* in cool-season grass seed crops. Proceedings of the 10th International Herbage Seed Group Conference. May 12-19, Corvallis, OR.

Prior to present position

Published Abstracts and Proceedings

Walenta, D.L., J.K.S. Dung, **N. Kaur**, S.C. Alderman, K.E. Frost, S. Rondon, and P.B. Hamm. 2017. Integrated ergot disease management strategies in perennial grasses grown for seed. Proceedings of the 9th International Herbage Seed Group Conference. Oct. 30-Nov. 5, Pergamino, Argentina.

Kaur N., R.A. Cating, J.K.S. Dung, S.C Alderman, D.L. Walenta, P.B. Hamm, and K.E. Frost. 2016. Rapid differentiation of *Claviceps* species occurring in Oregon and Washington using high resolution melting curve analysis. Phytopathology 106:113-114.

Dung, J.K.S., J.C. Scott, S.C. Alderman, **N. Kaur**, D.L. Walenta, K.E. Frost, and P.B. Hamm. 2016. Development and validation of a quantitative PCR assay for the detection of *Claviceps purpurea* sensu lato ascospores. Phytopathology 106:197.

Kaur, N., J.K.S. Dung, S.C. Alderman, D.L. Walenta, K.E. Frost, and P.B. Hamm. 2015. Evaluation of perennial ryegrass cultivars for klendusity to ergot. Abstract. Phytopathology 105:S4.70.

Scott, J.C., **N. Kaur**, S.C. Alderman, D.L. Walenta, P.B. Hamm, K.E. Frost, and J.K.S. Dung. 2015. Molecular differentiation of *Claviceps* isolates from Kentucky bluegrass and perennial ryegrass in Oregon and Washington. Abstract. Phytopathology 105:S4.124-125.

vi. Technical Reports

The audience for the annual *Seed Production Research Report* is primarily Oregon's seed industry. This Extension publication summarizes information from the various seed research programs at OSU and USDA-ARS. The Oregon Seed Council (OSC) has funded the publication of this report for more than 40 years. OSC distributes this work to more than 1,300 seed growers throughout the state. In addition, the report is distributed to more than 120 international seed researchers associated with the International Herbage Seed Group (www.ihsg.org). Lastly, the report is available online through the Oregon Seed Extension Program website (https://cropandsoil.oregonstate.edu/seed-crops/seed-production-research-reports). Articles printed in this report receive two peer reviews prior to acceptance.

Willette, A.R., N.P. Anderson, S.J. Dorman, and **N. Kaur**. 2024. Comparative efficacy of pyrethroid insecticides against symphylans in tall fescue seed crops. In *2023 Seed Production Research Report by Oregon State University and USDA-ARS Cooperating.* Anderson, N.P., C.A. Mallory-Smith, and D.L. Walenta (eds.). Ext/CrS 170:3-4.

Kaur, N., C.K. Tanner, G. Tiwari, N.P. Anderson, D.M. Lightle, and S.J. Dorman. Industry survey of current practices and perspectives on clover seed weevil management in white clover seed production. 2024. In *2023 Seed Production Research Report by Oregon State University and USDA-ARS cooperating.* Anderson, N.P., C.A. Mallory-Smith, and D.L. Walenta (eds.). Ext/CrS 170:5-7.

Tiwari, G., **N. Kaur**, D.M. Lightle, N.P. Anderson, C. Tanner, and S.J. Dorman. 2023. Evaluating new insecticides to manage clover seed weevils in white clover seed crops. In *2022 Seed Production Research Report by Oregon State University and USDA-ARS Cooperating.* Anderson, N.P., C.A. Mallory-Smith, D.L. Walenta, and J. Spring (eds.). Ext/CrS 168:3-6.

Willette, A.R., **N. Kaur**, N.P. Anderson, and S.J. Dorman. 2023. Do newer pesticide chemistries provide enough symphylan control in grass seed crops? In *2022 Seed Production Research Report by Oregon State University and USDA-ARS Cooperating.* Anderson, N.P., C.A. Mallory-Smith, D.L. Walenta, and J. Spring (eds.). Ext/CrS 168:7-9.

Van Slambrook, L.G.**, N. Kaur**, B.C. Donovan, and N.P. Anderson. 2022. Prospects for wireworm management in grass seed production systems. In *2021 Seed Production Research at Oregon State University and USDA-ARS Cooperating.* Anderson, N.P., C.A. Mallory-Smith, D.L. Walenta, and J. Spring (eds.). Ext/CrS 166:27-29.

Kaur, N., L.G. Van Slambrook, B. Panthi, S.J. Dorman, and N.P. Anderson. 2021. Laboratory bioassays for screening bifenthrin resistance in white clover seed weevil (year 2). In *2020 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Anderson, N.P., A.G. Hulting, D.L. Walenta, and C.A. Mallory-Smith (eds.). Ext/CrS 164:74-76.

Kaur, N., B.A Mori, J. Otani, W.R. Cooper, D.L. Walenta, C. Tanner, L.G. Van Slambrook, B. Panthi, and N.P. Anderson. 2021. Preemptive measures to manage the red clover casebearer moth in Oregon clover seed crops. *In 2020 Seed Production Research at Oregon State University and USDA-ARS Cooperating.* Anderson, N.P., A.G. Hulting, D.L. Walenta, and C.A. Mallory-Smith (eds.) Ext/CrS 164:70-73.

Green, J.M., L.G. Van Slambrook, **N. Kaur**, and D.L. Walenta. 2021. Cutworm and armyworm population dynamics and investigation of parasitism in Kentucky bluegrass production. In *2020 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Anderson, N.P., A.G. Hulting, D.L. Walenta, and C.A. Mallory-Smith (eds.). Ext/CrS 164:37-39.

Kaur, N., B.C. Donovan, L.G. Van Slambrook, D.L. Walenta, and N.P. Anderson. 2021. Understanding billbug species complex in grass seed production systems in western Oregon. In *2020 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Anderson, N.P., A.G. Hulting, D.L. Walenta, and C.A. Mallory-Smith (eds.). Ext/CrS 164:34-36.

Kaur, N., W. Jessie, C. Sullivan, D.L. Walenta, E.C. Verhoeven, and N.P. Anderson. 2020. Evaluation of bifenthrin resistance in field-collected clover seed weevils. In *2019 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Anderson, N.P., A.G. Hulting, D.L. Walenta, and C.A. Mallory-Smith (eds.). Ext/CrS 164:44-45.

Prior to present position

Dung, J.K.S, S.C. Alderman, **N. Kaur**, D.L. Walenta, K.E. Frost, and P.B. Hamm. 2017. Development of a predictive degree-day model for airborne ergot ascospores in perennial ryegrass seed production systems of eastern Oregon. In *2016 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Anderson, N.P., A.G. Hulting, D.L. Walenta, and M. Flowers (eds.). Ext/CrS 152:35-37.

Kaur, N., J.K.S. Dung, D.L. Walenta, and K.E. Frost. 2017. Prospects for ergot disease management with biocontrol products. In *2016 Seed Production Research at Oregon State University and USDA-ARS Cooperating.* Ext/CrS 152:38-40.

Kaur, N., J.K.S. Dung, S.C. Alderman, D.L.Walenta, K.E. Frost, and P.B. Hamm. 2016. Ergot escape potential of commercial cultivars of perennial ryegrass. In *2015 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Anderson, N.P., A.G. Hulting, D.L. Walenta, M. Flowers, and C. Sullivan (eds.). Ext/CrS 152:27-30.

Dung, J.K.S., J.C. Scott, S.C. Alderman, **N. Kaur**, D.L. Walenta, K.E. Frost, and P.B. Hamm. 2016. Development of a DNA-based protocol to detect airborne ergot spores in cool-season grass seed fields. In *2015 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Anderson, N.P., A.G. Hulting, D.L. Walenta, M. Flowers, and C. Sullivan (eds.). Ext/CrS 152:31-34.

Kaur, N., S.C. Alderman, D.L. Walenta, K.E. Frost, J.K.S. Dung, and P.B. Hamm. 2016. Evaluation of new fungicide chemistries and application strategies to reduce ergot in grass seed production systems. In *2015 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Anderson, N.P., A.G. Hulting, D.L. Walenta, M. Flowers, and C. Sullivan (eds.). Ext/CrS 152:23-26.

Walenta, D.L., **N. Kaur**, S.C. Alderman, K.E. Frost, P.B. Hamm, and J.K.S. Dung. 2016. Using information technology to advance integrated ergot disease management in perennial grass seed cropping systems. *2015 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Ext/CrS 152:35-38.

Kaur, N., J.K.S. Dung, R.A. Cating, S.C. Alderman, D.L. Walenta, S.I. Rondon, and P.B. Hamm. 2015. Diversity and ergot incidence among insect populations in Kentucky bluegrass and perennial ryegrass seed fields in the Columbia Basin. *2014 Seed Production Research at Oregon State University and USDA-ARS Cooperating*. Anderson, N.P., A.G. Hulting, D.L. Walenta, M. Flowers, and C. Sullivan (eds.). Ext/CrS 151:21-23.

b. Other Publications

i. Producer Newsletters and Popular Press Publications

Kaur, N., S.I. Rondon, K. Buhl, and D.M. Lightle. 2023. OSU researchers race the clock to study alternatives to banned pesticide. Oct. 17, 2023. https://www.freshplaza.com/north-america/article/9568856/researchers-race-the-clock-to-study-alternatives-to-banned-pesticide/.

Kaur, N. and McKay, T. 2021. Profiles of ESA member diversity: Navneet Kaur (P-IE and PBT Sections) and Tanja McKay (MUVE Section). American Entomologist 3:36-40. https://doi.org/10.1093/ae/tmab045.

Prior to present position

Kaur, N., A. Rashed, D.R. Horton, W.R. Cooper, I.E. Badillo-Vargas, G. Esparza-Diaz, A. Jensen, D. Johnson, and L. Kawchuk. 2018. The "morning glory" psyllid? Potato psyllid development on morning glories and bindweed. Potato Progress 18:11.

Horton, D.R., W.R. Cooper, P.J. Landolt, J. Thinakaran, E. Miliczky, **N. Kaur**, D.A. Navarre, C.R Brown, K.D. Swisher, R.G. Novy, and J.L. Whitworth. 2017. Potato-related research at USDA-ARS laboratories in Washington and Idaho. Potato Progress 17:1-12.

Dung J.K.S., **N. Kaur**, D.L. Walenta, K.E. Frost, J.M. Duringer, and A.M. Craig. 2017. An update on ergot research at OSU. Oregon Seed Magazine Winter 2017.

Kaur, N., K.E. Frost, S.C. Alderman, D.L. Walenta, P.B. Hamm, and J.K.S. Dung. 2015-2016. Ergot Alert Newsletter. Lower Columbia Basin (OR and WA) 1:1-7. Newsletters were distributed weekly for two growing seasons.

Rondon, S.I., **N. Kaur**, J.K.S. Dung, K.E. Frost, and P.B. Hamm. 2015. The importance of insects in grass seed crops in the Pacific Northwest. Oregon Seed 6:33-35.

ii. <u>Trade/Industry Journal Articles</u>

Kaur, N. 2023. Early fall an opportunity for webworm, billbug control. Oregon Seed eUpdate 91:1-2.

Kaur, N. 2023. Symphylans: A challenging pest to manage. Oregon Seed eUpdate 89:3.

Kaur, N. 2023. Clover seed weevil found resistant to bifenthrin. Oregon Seed eUpdate 86:4.

Kaur, N. 2022. A multi-pronged approach to insect management research. Oregon Seed eUpdate 82:2.

Kaur, N. 2020. Omnivorous leaftier showing up in high number. Oregon Seed eUpdate 66:1.

Kaur, N. 2020. Extension entomology specialist talks IPM. Oregon Seed eUpdate 64:3.

iii. <u>Videos</u>: N/A

iv. <u>Websites and other social media platforms</u>

Field Crops Entomology Blogs. I keep the blog page (https://blogs.oregonstate.edu/fieldcropsentomology/) up to date with the latest research findings, publications, and pest alert information. I also run the field crops entomology program X account@FieldCrops_Ento.

2. Presentations to peers

Summary of presentations to peers at professional meetings

Year	Within Region	National	International	Total	No. invited
Since hiring in 2019	60	10	6	76	11
2024	10	4	1	15	2
2023	21	1	1	23	1
2022	9	—	3	12	2
2021	10	3	—	13	3
2020	9	1	1	11	3
2019	1	1	—	2	—
Prior to hiring in 2019	13	6	1	20	1
Total	**73**	**16**	**7**	**96**	**12**

a. National Presentations

Oral Presentations

Dorman, S.J., N. **Kaur**, G. Tiwari, N. Anderson, D. Lightle, and C.K. Tanner. 2024. Power of partnership: Management of insecticide resistance in white clover seed weevil. Pacific Branch ESA Meeting, April, Big Island, HI. *Volunteered*.

Kaur, N. 2024. Fostering DEI initiatives through Entomology for All column. Pacific Branch ESA Meeting, April, Big Island, HI. *Invited*.

Intasin, P., **N. Kaur**, N.P. Anderson, A. Kowalewski, A. Willette, and H.M. Rivedal. 2024. Evaluating endophyte-mediated resistance against winter cutworm *Noctua pronuba* in cool-season turfgrass. APS Pacific Division and Conference on Soilborne Plant Pathogens, March, Corvallis, OR. *Major advisor of the presenting author*.

Dorman, S.J., **N. Kaur**, N.P Anderson, R. Sim, C. Tanner, D.L. Walenta, and R. Cooper. 2023. Risk modeling of grass and clover seed crop pests in Oregon and New Zealand. Pacific Branch Entomological Society of America, April 2, Seattle, WA. *Volunteered*.

Kaur, N., 2021. Embracing interdisciplinary approach for transforming paths. Symposium Organized by Student Affairs Committee. Annual Entomological Society of America Meeting, Nov., Denver, CO. *Invited*.

Kaur, N., B.A. Mori, J. Ottani, D.L. Walenta, C. Tanner, L.G. Van Slambrook, and N.P. Anderson. 2020. Pheromone-mediated mating disruption for the suppression of the red clover casebearer moth *Coleophora deauratella* (Lepidoptera: Coleophoridae) in red clover seed

production systems in Oregon. Annual Entomological Society of America Meeting, Nov., virtual. *Volunteered*.

Poster Presentations

Intasin, P., **N. Kaur**, N.P. Anderson, A. Kowalewski, A. Willette, and H.M. Rivedal. 2024. Evaluating endophyte-mediated resistance against winter cutworm *Noctua pronuba* in cool-season turfgrass. Pacific Branch ESA Meeting, April 2024, Big Island, Hawaii. *Major advisor of the first author.*

Wilson, A.E., L. Van Slambrook, E. Verhoeven, and **N. Kaur**. 2021. Exploration of the microbial control options for the management of sod webworm, *Chrystoteuchia topiaria* (Zeller), in Oregon grass seed production systems. Entomological Society of America Meeting, Nov. 2021, hybrid. *Volunteered. Mentor of undergraduate student.*

Kaur, N., L.G. Van Slambrook, B. Panthi, S.J. Dorman, and N.P. Anderson. 2021. Do field failures of bifenthrin against white clover seed weevil indicate resistance development? Pacific Branch Meeting, Entomological Society of America, April 2021, virtual. *Volunteered*.

Kaur, N. 2019. The *Periglandula*-Convolvulaceae symbiosis affects the suitability of plants to the psyllid *Bactericera maculipennis*. Annual Entomological Society of America Meeting, Nov. 2019, St. Louis, MO. *Volunteered*.

Prior to present position

Kaur, N., W.R. Cooper, J.M. Duringer, I.E. Badillo-Vargas, G. Esparza-Diaz, A. Rashed, and D.R. Horton. 2019. Insect interactions with plant pathogenic and plant mutualistic fungi in the family Clavicipitaceae. Seminar at the Department of Entomology, Plant Pathology, and Nematology at the University of Idaho, April 2019, Moscow, ID. *Invited*.

Kaur, N., W.R. Cooper, J.M. Duringer, I.E. Badillo-Vargas, G. Esparza-Diaz, A. Rashed, and D.R. Horton. 2018. Role of a mutualistic fungus, *Periglandula* species, to protect Convolvulaceae against psyllids. P-IE, Biocontrol, Pathogens and Predators. ESA, ESC, ESBC Joint Annual Meeting, Nov. 2018, Vancouver, BC, Canada. *Volunteered*.

Kaur, N., W.R. Cooper, J.M. Duringer, I.E. Badillo-Vargas, G. Esparza-Diaz, A. Rashed, and D.R. Horton. 2018. Evidence that a mutualistic association between Convolvulaceae and Clavicipitaceous fungi (*Periglandula*) defends plants against psyllids: Biological and chemical aspects of plant-microbe-insect interactions. Pacific Branch Meeting Entomological Society of America, June 2018, Reno, NV. *Volunteered*.

Kaur, N., J.K.S. Dung, R.A. Cating, S.C. Alderman, D.L.Walenta, S.I. Rondon, and P.B. Hamm. 2015. Insect abundance and its association with ergot disease of grass seed crops. Proceedings Pacific Northwest Insect Management Conference, Jan. 2015, Portland, OR. *Volunteered*.

Kaur, N. and Buss, E.A. 2013. Effect of cultural practices on *Blissus insularis* densities in St. Augustinegrass. Florida Entomological Society Annual Meeting, July 2013, Naples, FL. *Volunteered*.

Kaur, N. and Buss, E.A. 2012. Cultural control of southern chinch bug, *Blissus insularis* Barber (Hemiptera: Blissidae) in St. Augustinegrass. Advances in Pest Management for Turfgrass and Ornamentals Symposium at ESA Annual meeting, Nov. 2012, Knoxville, TN. *Volunteered.*

b. <u>International Presentations</u>

Oral presentations

Anderson, N.P. and **Kaur, N.** 2024. Managing cutworms/sod webworms in Oregon grass seed crops. Peace Region Forage Seed Association, 2024 Production and Marketing Seminar, March 7, 2024, Alberta, Canada. *Invited*.

Dorman, S., **N. Kaur**, N.P. Anderson, R. Sim, C. Tanner, D.L. Walenta, and R. Cooper. 2023. Climate and landscape drivers of an invasive pest in Oregon and New Zealand: The red clover casebearer moth. 11th International Herbage Seed Group Conference, June 11-18, 2023, Angers, France. *Volunteered*.

Kaur, N. 2022. About field crops entomology program-graduate school options in entomology. 2022. Punjab Agricultural University, Dec. 2022, Punjab, India. *Invited*.

Kaur, N. and Dara, S. Recent history and future trends in insect pathology and microbial control. 2022. Organized P-IE Section Symposium on Recent History and Future Trends in Sub-Disciplines (six talks). ESA, ESC, ESBC Joint Annual Meeting, Nov. 2022, Vancouver, BC, Canada. *Volunteered*.

Tiwari, G., **N. Kaur**, S. Dorman, N. Anderson, D. Lightle, and C.K. Tanner. 2022. Clover seed weevil insecticide resistance monitoring and management in Oregon white clover seed production. Ten-minute student competition talk. ESA, ESC, ESBC Joint Annual Meeting, Nov. 2022, Vancouver, BC, Canada. *I am graduate advisor of first author. Volunteered.*

Kaur, N., B.A. Mori, J. Otani, D.L. Walenta, C. Tanner, L.G. Van Slambrook, and N.P. Anderson. 2020. Pheromone-mediated mating disruption for the suppression of the red clover casebearer moth *Coleophora deauratella* (Lepidoptera: Coleophoridae). Annual Entomological Society of America Annual Meeting, Nov. 2020, virtual. *Volunteered*.

Prior to present position

Kaur, N. and Duringer, J.M. 2018. Role of a mutualistic fungus, *Periglandula* species, to protect Convolvulaceae against psyllids. ESA, ESC, ESBC Joint Annual Meeting, Nov. 2018, Vancouver, BC, Canada. *Volunteered*.

c. Regional Presentations

These presentations to clientele include ongoing educational programs I have developed either with a team of Extension faculty or with local industry personnel with whom I work closely on collaborative projects. Since my position is Extension focused with statewide responsibilities, I conduct outreach through presentations at grower meetings, industry events, and field tours to communicate research outcomes and apprise clientele of new pest management guidelines in field crop systems.

Oral presentations

Kaur, N. 2024. Field Crops Entomology Program, UK Farmers Tour, June 6, 2024, OSU campus Corvallis, OR (15 adults). *Volunteered*.

Kaur, N. 2024. Two-spotted spider mite research update. Marion Ag Grower Meeting, March 7, St. Paul, OR (30 adult contacts). *Volunteered*.

Kaur, N. 2024. Symphylan workshop: Symphylans in their own class. Feb. 16, OSU campus, Corvallis, OR (43 adult contacts). *Volunteered*.

Anderson, N. and **Kaur, N.** 2024. Agronomic updates in grass seed and clover seed crops. Marion Ag Service Winter Grower Meeting, Feb. 22, St. Paul, OR (25 adult contacts). *Volunteered*.

Kaur, N. 2024. Billbug management research update. Union County Growers meeting, Feb. 22, hybrid, La Grande, OR (25 adult contacts). *Volunteered*. *Peer teaching evaluation and citizen evaluation scores were collected.*

Kaur, N. 2024. Acaricide resistance screening updates. Oregon Hops Commission Meeting, Feb. 15, Gervais, OR (35 adult contacts). *Volunteered*. *Peer teaching evaluation and citizen evaluation scores were collected.*

Kaur, N. 2024. Symphylans research updates. Vegetable Growers Meeting, OSU and Wilbur Ellis, Feb. 7, NWREC (30 adult contacts). *Volunteered*. *Peer teaching evaluation, citizen evaluations, and peer teaching reviews were collected.*

Kaur, N. 2024. Symphylan research updates. SSWGO Annual Meeting, Feb. 6, Albany, OR (20 adult contacts). *Volunteered*.

Kaur, N. 2024. Management guidelines for seed weevil in white clover seed crops. Annual Clover Meeting, Jan. 31, Wilsonville, OR (60 adult educational contacts). *Volunteered*.

Kaur, N. 2024. Novel methods for two spotted spider mite management. Annual Mint Grower Meeting, Jan. 10, Lincoln City, OR (50 adult educational contacts). *Volunteered*.

Kaur, N. 2023. Bluegrass billbug and sod webworm management guidelines in grass seed crops, Pratum Co-op Willamette Valley Grower Meeting, Dec. 13, Albany, OR (80 adult educational

contacts). *Volunteered*.

Kaur, N. 2023. Current status of bluegrass billbug and its management. Oregon Seed League Annual Meeting and Trade Show, Dec. 5, Salem, OR (120 adult educational contacts, 3 youth educational contacts). *Volunteered*.

Kaur, N. 2023. Insecticide efficacy trials and insect management guidelines. South Valley Nutrien Ag Growers Meeting, Nov. 30, Lebanon, OR (60 adult educational contacts). *Volunteered*.

Kaur, N. 2023. Research updates on 2023 insecticide efficacy trials and insect management guidelines. Mid-Valley Nutrien Ag Grower Meeting, Oct. 30, Salem, OR (35 adult educational contacts). *Volunteered*.

Kaur, N. 2023. Insect pest management in grass seed crops: Efficacy trial results. Marion Ag Grower Meeting, Sep. 27, St. Paul, OR (30 adult educational contacts). *Volunteered*.

Kaur, N. 2023. New pests and old, insects to watch for this year. OSU Extension Seed and Cereal Crop Production Meetings, Sep. 13-14, Albany-Salem-Forest Grove, OR (200 adult educational contacts). *Volunteered*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2023. Updates on symphylan management research. Washington IPM Commission Board Meeting, Sep. 8, virtual (15 adult contact). *Invited*.

Kaur, N. 2023. Collaborative entomology project in eastern Oregon. Union County Farm Tour, June 27, Union and Baker counties, OR (127 adult educational contacts, 8 youth educational contacts). *Volunteered*.

Kaur, N. 2023. Areawide survey to understand the current status of cereal leaf beetle and its biocontrol agent. 2023 OSU Wheat Field Day, June 10, Hermiston, OR (25 adult educational contacts, 2 youth educational contacts). *Volunteered*.

Kaur, N. 2023. Insecticide efficacy trial for symphylan management. Hyslop Field day, May 24, OSU Hyslop Research Laboratory, Corvallis, OR (150 adult educational contacts). *Volunteered*.

Kaur, N. 2023. Clover seed weevil management strategies. Zoom Coffee Hour Series, March 16, Zoom (19 adult educational contacts). *Volunteered*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2023. A fresh look at symphylan control. Vegetable Grower, March 7, NWREC (35 adult educational contacts). *Volunteered*.

Kaur, N. 2023. Miticide screening efforts against two-spotted spider mites in Oregon hops. Oregon Hops Commission Meeting, Feb. 16, St. Paul, OR (30 adult educational contacts). *Volunteered*.

Kaur, N. 2023. Billbug research updates: Statewide efforts. Union County Grass Seed Growers Meetings, Feb. 15, La Grande, OR (35 adult educational contacts). *Volunteered*. *Peer teaching evaluation were collected.*

Kaur, N. 2023. Billbug management and alternatives to chlorpyrifos. Jefferson County Seed Growers Association Meeting/Central Oregon Farm Fair, Feb. 2 (50 adult educational contacts, 2 youth educational contacts). *Volunteered*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2023. Billbug and symphylan management research updates. OSU Winter Extension Meetings, Jan., Albany-Salem-Forest Grove, OR (300 adult educational contacts). *Volunteered*.

Kaur, N. 2023. Symphylan control in grass seed crops. Poster presentation at 60th Annual Ryegrass Growers Meeting, Jan., Albany, OR (50 adult educational contacts). *Volunteered*.

Kaur, N. 2023. Efficacy of modified Berlese funnel for scouting clover seed weevil (*Tychius picirostris*) Fabricius (Coleoptera: Curculionidae). Poster presentation at 60th Annual Ryegrass Growers Association Meeting, Jan. 18, Albany, OR (40 adult educational contacts). *Volunteered*.

Kaur, N. 2023. Symphylan management in seed crops. Specialty Seed Growers of Western Oregon, Jan. 17, Albany, OR (30 adult educational contacts). *Volunteered*.

Willette, A.R., **N. Kaur**, S.J. Dorman, K. Buckland, and N.P. Anderson. 2023. Management options for garden symphylan suppression in grass grown for seed. 82nd Annual Pacific Northwest Insect Management Conference, Jan 9-10, Portland, OR. *Volunteered. First presenter is a faculty research assistant in my program.*

Tiwari, G., S.J. Dorman, and **N. Kaur**. 2023. Detection of Bifenthrin resistance in white clover seed weevil. 82nd Annual Pacific Northwest Insect Management Conference, Jan 9-10, 2023, Portland, OR. *Volunteered*. *Major graduate student advisor of first author.*

Kaur, N. 2022. Improving clover seed weevil management in white clover seed crop. Nutrien Ag. Solutions, Grower Meeting, Nov., Lebanon, OR (40 educational contacts). *Volunteered*.

Kaur, N. 2022. Insect ID resources and management tools—IPM in forage crops: A webinar by the Pesticide Safety Education Program (PSEP) of OSU, Nov. 8, Zoom. (30 educational contacts). *Volunteered*.

Kaur, N. 2022. Biocontrol potential of native entomopathogenic nematodes for insect management in Oregon seed crops. The IPM-Hour, Western IPM Center, June 8, 2022, virtual. *Invited*.

Kaur, N. 2022. Symphylan control in seed crops. Hyslop Field Day, May 25, Hyslop Research Laboratory (171 attendees). *Volunteered*.

Kaur, N. 2022. Insect pest ID tools and interactive displays of field crops entomology exhibits. Hyslop Field Day, May 25. *Volunteered*.

Kaur, N. 2022. Updates on billbug research. 2022 Union County Seed Growers Meeting, Feb. 24, Zoom (50 growers). *Volunteered*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2022. Research efforts to identify alternatives to chlorpyrifos. OSU Extension Service coffee hour organized by Christy Tanner, Feb. 16, Zoom (60 growers and ag industry representatives). *Volunteered*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2022. Insecticide resistance management in white clover seed weevil. Oregon Clover Growers Meeting, Feb. 2, Wilsonville, OR (200 growers and ag industry representative). *Volunteered*.

Kaur, N. 2022. Best practices to control insect pests in grass seed crops. 2022 OSU Winter Extension Meetings, Jan. 5-6, 2022, Albany-Salem-Forest Grove, OR (300 growers and agribusiness professionals). *Volunteered*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2021. Insect management in seed production and a new field guide for arthropod pest identification. Oregon Seed League Annual Meeting & Trade Show, December 6-7, Salem Convention Center, Salem, OR (200 growers and agribusiness professionals). *Volunteered*.

Kaur, N. 2021. Pests attacking field crops and gardens in Oregon: Scouting, identifying, and managing. OMGA Mini College, July 16, virtual (25 Master Gardeners). *Invited*.

Kaur, N. 2021. Insect pest management in grass seed: Updates from 2020 insecticide efficacy trials. OSU-HAREC Grass Seed Field Day, May 18, virtual (50 adult educational contacts). *Volunteered*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2021. Clover casebearer and seed weevil research updates, clover seed research updates. OSU Seed and Cereal Crop Grower Meetings, Feb., virtual (200 adult educational contacts). *Volunteered*.

Kaur, N. 2021. Understanding the biology and management of major lepidopteran insect pests attacking Kentucky bluegrass fields in Oregon. Eastern Oregon Kentucky Bluegrass Workgroup Research Updates—Union Co. Seed Growers Association Annual Meeting, Feb. 24, virtual (30 adult educational contacts). *Volunteered*.

Kaur, N. 2021. Available IPM planning resources and literature at OSU. NRCS USDA Western OR Staff Training Pest Management Conservation Plans IPM Principles, Jan. 26, virtual (19 adult educational contacts). *Invited*.

Kaur, N. 2021. New insect management updates for grass seed and wheat. OSU Seed Crop and Cereal Production Meeting Webinar Series, Jan. 7, virtual (250 adult educational contacts). *Volunteered*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2021. The electronic mint pest alert newsletter. Oregon Mint Commission Annual Research Meeting, Jan. 7 (25 adult educational contacts). *Volunteered*.

Van Slambrook, L.G., E.C. Verhoeven, J.M. Green, A.B. Whitener, and **N. Kaur**. 2021. Management of sod webworm, *Chrysoteuchia topiaria* Zeller (Lepidoptera: Crambidae) in grass seed production systems in Oregon. 80th Annual Pacific Northwest Insect Management Conference, Jan. 5, virtual. *Volunteered*. *First author is faculty research assistant in my program.*

Panthi, B., L.G. Van Slambrook, E.C. Verhoeven, J.M. Duringer, and **N. Kaur**. 2021. Screening grass cultivars for resistance against sod webworm. 80th Annual Pacific Northwest Insect Management Conference, Jan. 5, virtual. *Volunteered*. *Postdoctoral scholar mentor of first presenter.*

Kaur, N. 2020. Available literature and assistance for IPM planning from Oregon State University, pest management considerations in conservation planning—EDS Module 7. Facilitated Session Agenda, Dec. 7, virtual (30 adult educational contacts). *Invited*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2020. Sod webworm management and non-thermal stand rejuvenation. Fine Fescue Commission Meeting, Dec. 7, virtual (25 adult educational contacts). *Volunteered*. *Co-speaker*.

Kaur, N., R. Cooper, J.M. Duringer, A. Rashed, I. Badillo-Vargas, D.R. Horton. 2020. Implications of a non-pathogenic microbe in a potato-vector system: The morning glory endophyte (*Periglandula*) and potato psyllid. Program symposia. Putting Insect Vectors into Perspective: Plant-Insect-Pathogen Interactions across Natural and Managed Systems. Pacific Branch Meeting, April 19-22. Cancelled due to COVID-19. *Invited*.

Kaur, N. 2020. Eliminating a symbiotic fungus (*Periglandula*) from psyllicidal Convolvulaceae allows successful development of potato psyllid. 79th Annual Pacific Northwest Insect Management Conference, Jan. 6, Portland, OR. *Volunteered*.

Kaur, N. 2020. Psyllid management. Potato Central Clinic, RDO-Equipment Co. Feb. 18, Othello, WA (28 adult educational contacts). *Invited*. *Peer teaching evaluation and citizen evaluations of teaching were collected.*

Kaur, N. 2020. Seed weevil control in white clover. Oregon Clover Grower Annual Meeting, Feb. 5, Wilsonville, OR (200 adult educational contacts). *Volunteered*.

Kaur, N. 2020. Research directions, Extension entomology program at OSU. OSU Extension: Specialty Seed Growers Association Annual Meeting, Jan. 21, Albany, OR (40 adult educational contacts). *Volunteered*.

Kaur, N. 2020. Applied IPM in mint production: The mint pest alert and judicious pest management. Oregon Mint Growers Annual Meeting, Jan. 9, Oregon coast (60 adult educational contacts). *Volunteered*.

Kaur, N. 2020. Life After Lorsban—An entomologist's perspective. OSU Extension-Cereal and Seed Production Meetings, Jan. 7-8, Albany-Forest Grove-West Salem, OR (300 adult educational contacts). *Volunteered*.

Kaur, N. 2019. Integrated management of insect pests in grass seed production. Oregon Seed League Annual Meeting, Dec., Salem Convention Center, Salem, OR (200 adult educational contacts). *Volunteered*.

Prior to Present Position

Kaur, N., J.K.S. Dung, and K.E. Frost. 2016. Integrated disease management of ergot in grass seed crops. Columbia Basin Grass Seed Growers Association Annual Meeting, Feb., Hermiston, OR.

Kaur, N., J.K.S. Dung, and K.E. Frost. 2016. Integrated disease management of ergot in grass seed crops. Union County Grass Seed Growers Association Annual Meeting, Feb., La Grande, OR.

Kaur, N., J.K.S. Dung, and K.E. Frost. 2016. Integrated disease management of ergot in Kentucky bluegrass. Washington Turfgrass Seed Commission Annual Meeting, Jan., Pasco, WA.

Kaur, N. 2016. Understanding insect diversity and their potential role in disease spread in grass seed crops. Grass Seed Field Day, May, Hermiston, OR.

Kaur, N., J.K.S. Dung, R.A. Cating, S.C. Alderman, D.L. Walenta, S.I. Rondon, and P.B. Hamm. 2015. Columbia Basin Grass Seed Ergot Research Updates, Feb., Hermiston, OR.

Kaur, N., J.K.S. Dung, R.A. Cating, S.C. Alderman, D.L. Walenta, S.I. Rondon, and P.B. Hamm. 2015. Union County Grass Seed Ergot Research Updates, Feb., Hermiston, OR.

Dung, J.K.S. and **Kaur, N.** 2014. IPM approach for ergot management in grass seed crops. Grass Seed Field Day, May, Hermiston, OR.

Kaur, N. and Dung, J.K.S. 2014. Ergot disease of grass seed crops. Master Gardener Educational Program. June, Hermiston, OR.

Kaur, N., J.K.S. Dung, and P.B. Hamm. 2014. Updates on ergot research in grass seed crops. Hermiston Farm Fair and Trade Show, Dec., Hermiston, OR.

Kaur, N. and Buss, E.A. 2014. Advances in southern chinch bug management. Pest and Lawn Care Expo. Jan., Orlando, FL.

Kaur, N., E.A. Buss, and K. Kenworthy. 2012. Current turfgrass insect research update. Field Day for Australian Sod Growers, UF Plant Science Unit, July, Citra, FL.

Kaur, N. and Buss, E.A. 2012. How maintenance practices affect the southern chinch bug. North Central Florida Turfgrass Field Day, Sep., Ocala, FL.

Kaur, N. and Buss, E.A. 2011. Effect of different N rates and sources on population dynamics and fecundity of *Blissus insularis* (Barber) when reared on 'Captiva' and 'Floratam' St. Augustinegrass. North Central Florida Turfgrass Field Day, May, Citra, FL.

3. Grant and Contract Support

Since 2019, I have led or collaborated on approximately $1 million in grants and contracts administered through OSU, of which $0.5 million has come directly to my program.

a. Grant and Contract Support

Regional competitive grants since hire

Year(s)	PI(s)	Agency	Title	Total $	$ to my Program
2024-2025	**Kaur** (PI), Anderson	IR-4 program	Efficacy of indoxacarb against clover seed weevil	$12,000	$6,000
2023-2025	Intasin, **Kaur** (co-PI), Rivedal, Anderson, Kowalewski	Western SARE	Exploring endophyte-mediated resistance response against *Noctua pronuba* in cool-season turfgrass systems	$29,902	$29,902
2022-2025	**Kaur** (PI), Anderson, Dorman, Lightle, Tanner	Western SARE	Clover seed weevil management in white clover crops	$74,996	$50,000
2022-2025	**Kaur** (PI), Dorman, Lightle	Oregon Department of Agriculture Specialty Crop Block Grant	Viable solutions for symphylans in specialty crops—alternatives to chlorpyrifos	$161,189	$53,729

2021-2022	**Kaur** (PI), Verhoeven	USDA Western Region-IPM Center	Exploration of native entomopathogenic nematodes associated *Chrysoteuchia topiaria* in Oregon grass seed crops	$29,961	$20,000
2020-2022	Rondon, **Kaur (**co-PI), Lightle, Reitz, Adams	Oregon Department of Agriculture-Specialty Block Grant Program	Alternatives to chlorpyrifos: Addressing needs for sustainable insect management	$162,794	$15,332
Total				**$470,842**	**$174,963**

State and commodity commission grants since hire

Year(s)	PI(s)	Agency	Title	Total $	$ to my Program
2024-2025	**Kaur** (PI), Walenta, Anderson, Dorman	Eastern Oregon KBG Workgroup	Developing billbug phenology models	$4,500	$3,000
2024-2025	**Kaur** (PI), Walenta, Anderson, Dorman	Oregon Seed Council	Developing billbug management guidelines in grass seed crops	$30,910	$18,000
2024-2025	**Kaur** (PI), Anderson, Dorman, Berry	Oregon Seed Council	Carbon seeding compatibility and symphylan control in grass seed	$30,000	$20,000
2024-2025	**Kaur** (PI), Lightle, Dorman, Anderson, Tanner	Oregon Clover Commission	Insecticide control of seed weevil in white clover seed crops	$10,000	$6,000
2023-2025	**Kaur** (PI), Kadish, Tanner, Hooven	Oregon Mint Commission	Investigating novel methods for two-spotted spider mite management	$12,400	$12,400
2023-2025	**Kaur** (PI), Walenta	Oregon Wheat Commission and Washington Grain Commission	Survey for biocontrol status of parasitoid wasp in the PNW wheat growing region	$7,500	$7,500

2023-2025	**Kaur** (PI), Anderson, Walenta	Oregon Tall Fescue Commission, and Eastern Oregon Kentucky Bluegrass Workgroup	Biology and management of billbug species complex of grass seed production	$31,000	$15,000
2023-2025	**Kaur** (PI), Anderson, Dorman	Oregon Tall Fescue Commission, Commissions	Identifying viable solutions for symphylan management in grass seed crops	$12,500	$6,000
2023-2025	**Kaur** (PI), Lightle, Dorman, Anderson, Tanner	Oregon Clover Commission	Clover seed weevil management in Oregon's white clover production systems	$18,000	$10,000
2023-2024	**Kaur** (PI), Gent, Dorman	Oregon Hop Commission	Evaluate acaricide resistance in Willamette Valley hop yards	$13,940	$13,940
2022-2023	**Kaur** (PI), Anderson, Walenta, Spring	Eastern Oregon Kentucky Bluegrass Workgroup	Biology and management of billbug species complex in grass seed production systems	$12,800	$4,000
2022-2023	Anderson, **Kaur** (co-PI)	Oregon Clover Commission	Developing new approaches to seed weevil management in white clover	$7,500	$3,750
2022-2022	**Kaur** (PI), Buckland, Anderson, Dorman	Washington Pesticide Registration Commission	Symphylan control in vegetable seed crops	$12,500	$12,500
2022-2023	**Kaur** (PI), Buckland, Anderson, Dorman	Specialty Seed Growers Association of Western Oregon	Symphylan control in vegetable seed crops	$12,000	$12,000

2021-2023	**Kaur** (PI), Anderson, Walenta, Tanner	Oregon Clover Commission	Leveraging innovative insect pest management approaches for the management of red clover casebearer moth in Oregon's clover seed crops	$5,000	$1,500
2021-2022	**Kaur** (PI), Anderson	Oregon Seed Council	Efficacy of broflanilide (Teraxxa) against wireworm activity in grass seed production systems	$12,450	$7,000
2021-2022	**Kaur** (PI), Anderson, Walenta, Spring	Oregon Seed Council	Biology and management of billbug species complex in grass seed production systems (year 1-3)	$10,327	$3,000
2021-2023	**Kaur** (PI), Anderson, Walenta, Spring	Eastern Oregon Kentucky Bluegrass Workgroup	Biology and management of billbug species complex of grass seed production systems	$7,870	$3,500
2020-2023	**Kaur (**PI**)**, Verhoeven, Duringer	Oregon Seed Council	Sod webworm management in perennial grass seed production systems	$18,315	$12,000
2020-2021	**Kaur (**PI**)**, Anderson, Walenta, Tanner	Oregon Clover Commission	Biotic factors reducing red clover casebearer moth damage potential in red clover seed production systems in Oregon	$10,000	$6,000
2020-2021	**Kaur (**PI**)**, Anderson	Oregon Clover Commission	Bifenthrin resistance in clover seed weevils	$4,500	$4,500
2020-2021	Anderson, **Kaur (**co-PI)	Oregon Seed Council	Getting ahead of an emerging insect pest in Willamette Valley grass seed crops	$13,500	$5,500

2020-2021	**Kaur (**PI), Walenta, Anderson	Eastern Oregon Kentucky Bluegrass Workgroup	Understanding the biology and management of armyworm and cutworm species complex attacking Kentucky bluegrass fields in Oregon	$7,082	$5,000
2020-2021	**Kaur (**PI), Walenta, Sullivan	Oregon Mint Commission	Electronic mint pest alert newsletter regarding control of mint root borer, cutworm complex and loopers, year 7	$4,540	$1,500
Total				**$309,134**	**$193,590**

Other sponsored grants—university and foundation grants

Year	Personnel	Agency	Title	Total $	$ to my Program
2024-2026	**Kaur (**PI), Anderson, Walenta, Dorman	Agricultural Research Foundation	Developing guidelines for billbug management in grass seed crops	$15,000	$15,000
2023-2024	**Kaur** (PI)	College of Agricultural Science (CAS)	Faculty development grant	$2,000	$2,000
2023-2025	Intasin, **Kaur** (PI), Rivedal, Anderson, Kowalewski	Agricultural Research Foundation	Exploring endophyte-mediated resistance response against winter cutworm, *Noctua pronuba* in cool-season turfgrass systems	$15,000	$15,000
2022-2024	**Kaur** (PI), Buckland, Anderson, Dorman	Agricultural Research Foundation	Symphylan control in vegetable seed crops	$14,988	$7,000
2022-2024	Anderson, **Kaur** (co-PI)	Agricultural Research Foundation	Developing new approaches to seed weevil management in white clover crops	$15,000	$10,000

2022-2024	Dorman, Choi, **Kaur** (PI), Anderson	Agricultural Research Foundation	Identification and field evaluation of a pheromone lure to monitor a critical pest in grass seed crops: The winter cutworm	$15,000	$2,000
2021	**Kaur** (PI)	OSU CAS	Faculty development grant	$2,000	$2,000
2021	**Kaur (**PI)	OSU Extension Service	Faculty development grant	$2,000	$2,000
2021-2023	**Kaur** (PI), Anderson, Walenta	Agricultural Research Foundation	Leveraging innovative insect pest management approaches for the red clover casebearer moth in Oregon's clover seed crops	$14,981	$8,000
2020-2022	**Kaur** (PI), Green, Anderson	Agricultural Research Foundation	Biology and ecology of winter cutworm in grass seed systems	$14,895	$10,000
Total				**$110,864**	**$73,000**

Private industry contracts

Year	Company	Title	$
2024	KWS Seeds	Symphylan efficacy trial	$24,000
2023	West Coast Beet Seed	Symphylan efficacy trial	$8,000
2023	FMC	Clover seed weevil efficacy trials in white clover	$18,000
2022	FMC	Sod webworm and billbug control in grass seed	$6,000
2022	FMC	White clover seed weevil control	$6,000
2022	Nichino America	Sod webworm control in grass seed	$6,000
2022	Syngenta	Billbug control in grass seed	$5,000
2021	FMC	Vantacor against sod webworm	$5,000
2021	Corteva	Transform against aphids	$10,000
2021	Syngenta	Evaluate efficacy of Endigo ZCX and Warrior II applied for insects in grass grown for seed	$5,000
2021	BASF	Wireworm efficacy trial in grass seed	$5,000
2020	FMC	Prevathon against sod webworm	$10,000
2020	Syngenta	Evaluate efficacy of Endigo ZCX and Warrior II applied for insects in grass grown for seed	$2,500
2020	Corteva	Transform against aphids	$6,500
Total			**$117,000**

b. Fees generated: N/A

4. Patent Awards, Cultivar Releases, and Inventions: N/A

5. Other Information Appropriate to the Discipline

a. Membership in Professional Societies

Entomological Society of America (2010-present)
Oregon State University Extension Association (OSUEA) (2019-present)
American Phytopathological Society (January 2014-April 2017)
Florida Turfgrass Association (2011-2013)
Florida Entomological Society (2010-2013)

b. Professional Development

Search Advocate Training Workshop, 2020-present. OSU's Search Advocate program enhances equity, validity, and diversity in University hiring.

National Faculty Development Faculty Success Program Bootcamp Workshop, Jan. 16-April 2021.

Setting Up and Growing Your Research Program/Lab. College of Agricultural Sciences Faculty Professional Development Program, Oregon State University, Jan. 19, 2021, Corvallis, OR.

Orientation to Grant Writing and Submission. College of Agricultural Sciences Faculty Professional Development Program, Oregon State University, Oct. 20, 2020, Corvallis, OR.

Check-in—what's working, what's not, what has surprised you, and how can we help? College of Agricultural Sciences Faculty Professional Development Program, Oregon State University, June 8, 2020, Corvallis, OR.

Developing Successful Outreach and Engagement Programs. College of Agricultural Sciences Faculty Professional Development Program, Oregon State University, Feb. 18, 2020, Corvallis, OR.

D. SERVICE

1. University Service

a. Service to the Department

Chairperson, Crop and Soil Science (CSS) Department Communication Committee, 2023-present.

Search committee member, CSS Departmental Chair Search, 2024- present.

Search committee member, Extension entomologist, irrigated crops, HAREC, 2023 (hired Josephine Antwi).

Chair, Crop and Soil Science Department Seminar Committee, 2019-2022.

Search committee member, Mid-Valley Extension agent, 2022 (search failed).

Search committee member and search advocate, OSU seed certification aide 2, 2022 (hired Kendra Blake).

Search committee member and search advocate, faculty research assistant, Mc Donnell lab, 2021 (hired Dr. Casey Richart).

Search committee member and search advocate, faculty research assistant, invertebrate pest management, Mc Donnell lab, 2020 (hired Dr. Chrissy Dodge).

b. Service to the College

Search committee member and search advocate, COAREC station director, 2024-present.

Search committee member and search advocate, COAREC station director, 2023 (failed).

Search committee member and search advocate, faculty research assistant, vegetable breeding program, PI Jim Meyers, Corvallis, 2022.

Search committee member and search advocate, faculty research associate, Honeybee Lab, PI Ramesh Sagili, 2022.

Search committee member, research technician, entomology lab, USDA-ARS Forage and Cereal Research Unit, Corvallis, 2022 (hired Dr. Eliza Hernández).

Search committee member, research entomologist, USDA-ARS Forage and Cereal Research Unit, Corvallis, 2021 (hired Dr. Seth Dorman).

Search committee member, director of Oregon IPM Center, 2021 (hired Dr. Silvia I. Rondon).

P&T dossier review, promotion review, OSU Horticulture, senior faculty research assistant Carolyn Breece, 2020.

Search committee member, South Valley assistant professor of practice, 2020 (hired Dr. Christy Tanner).

c. Service to the University: N/A

2. Service to the Profession

a. Grant Panels:
External reviewer for Western SARE R&E grant applications, 2023, Montana.

b. Offices/Roles in Professional Societies

i. Committees

Member-at-large, Executive Committee, Entomological Society of America, Pacific Branch, Annapolis, MD, 2020-present.

Member-at-large, Planning Committee for the Insect Pest Management Conference, Portland, OR, 2020-present.

Member-at-large, Planning Committee, Entomological Society of America, Pacific Branch, Annapolis, MD, November 2019-present.

ii. Symposium Sessions, Entomological Society of America (ESA)

Power of Partnership-Cross Border Collaborations. Pacific Branch Meeting, April 14-17, 2024, Hawaii (organizers: **Kaur, N.**, Dorman S.J., Antwi, J., Oppendisano, T.).

Incorporating Microbials into the Culture of IPM. P-IE Section Symposium during ESA, ESBC Joint Annual Meeting, Nov. 2022, Vancouver, BC, Canada (organizers: **Kaur, N.**, Greasch, J., Sandhi, R., Jaronski, S.).

The Fate of Chlorpyrifos in the United States and Beyond. Pacific Branch Entomological Society of America, April 2021 (organizers: **Kaur, N.**, Rondon, S.I.).

Barriers to IPM Implementation: How Research Gets Applied on Farms. Pacific Branch Meeting, ESA, April 2020 (organizers: **Kaur, N.**, Rondon, S.I.), cancelled due to COVID-19.

iii. Moderating Student Sessions and Judging Student Competitions

Since 2014, I have moderated sessions (4) or served as a judge for student competitions (3) at the ESA Annual or Pacific Branch meetings.

iv. Manuscript Review

I review at least two manuscripts per year for the Entomological Society of America journals, including Environmental Entomology, Journal of Economic Entomology, Journal of IPM, American Entomologist, and Annals of the Entomological Society of America. In addition to ESA journals, I have served as a reviewer for the following:

Agriculture (2016)
American Journal of Entomology (2015-present)
Crop Science (2019-present)
Diversity (2018-2019)
Florida Entomologist (2014-2016)
Insect Science (2021-present)
Plant Disease (2014-2020)
PLoS One (2016-2018)

c. Editor or Associate Editor of Journal: Entomology for All Column Editor for American Entomologist

d. Papers Reviewed for the Journals: See iv. Manuscript Review above

e. P&T Dossier Review (from peer institution): N/A

f. DEI Related Service

Chairperson, Diversity, Equity and Inclusion Committee and DEI Communication Committee, Entomological Society of America-Pacific Branch, 2022-present, Annapolis, MD.

g. Other Reviewer Roles

External reviewer for Ph.D. dissertation for Joel Faulkner at Lincoln University, Christchurch, NZ. Biocontrol of the Red Clover Case Bearer Moth in Red Clover Seed Production Systems in New Zealand, 2023.

Reviewer for the Entomological Society of America Awards Committee for the ESA Professional award category, Early Career Innovation Award, 2020-2022.

3. Service to the Public (Professionally Related)

I answer at least 20 queries per year through the Ask Extension website, 2019-present. Ask Extension offers one-to-one custom, expert answers from Cooperative Extension/University staff and volunteers within participating Land Grant institutions from across the United States.

I provide individual consultations (about 50 per year) on insect ID and damage queries along with management guidelines to diverse clientele statewide, 2019-present.

4. Service to the Public (Non-professionally Related)

Science Fair judge, middle school, winter 2013, Gainesville, FL.

Entomological exhibits, Ocala County Fair, spring 2012, FL.

Insect collection techniques for summer middle school camp—hydromania, summer 2014, Hermiston, OR.

A day in the life of an Extension entomologist, talk during a STEM club meeting, winter 2023, Corvallis High School, Corvallis, OR.

E. AWARDS

1. National and International Awards: N/A

2. State and Regional Awards: N/A

3. University Awards

OSUEA Newer Extension Faculty Award, 2023. The newer faculty award recognizes superior achievement for faculty with less than seven years of Extension experience. I received this award for distinction in Extension activities as a new faculty.

4. College Awards

Creating an Ecosystem for Success Award, Crop and Soil Science, 2024. This award recognizes the achievements of a team for their inspirational teamwork and is presented to a team in the department for their ability to foster teamwork that promotes a healthy and productive work ecosystem.

Extension and Outreach Award, Crop and Soil Science, 2023. This award recognizes effectiveness in Extension and outreach activities.

William Bertha and Cornett Fellowship, College of Agriculture and Life Sciences, University of Florida, 2013

Grinter Fellowship, University of Florida/Entomology and Nematology, 2010

5. Community Awards

Colonel Frank Ward Memorial Award, Florida Turfgrass Association, 2013

F. DIVERSITY, EQUITY, AND INCLUSION

I advocate for equitable access to resources, information, and opportunities for all. Learning from diverse people has significantly impacted my scientific career and professional development. I embrace diversity in all areas of my professional activity, including extension teaching, outreach, public engagement, recruitment, and all other areas of societal activity. My program at Oregon State University consists of members of diverse ethnicities and races (one white female technician and two Asian grad students with LGBTQIA+ identities). I am committed to supporting the diverse trainees once they join our lab and have gladly given my creativity, time, and resources to that endeavor, one from which I have received a great personal reward.

I value building an inclusive program to support diversity within my institution and strengthen my Extension and research programming by fostering a multicultural environment and providing equal opportunities to students regardless of gender, color, age, and ethnicity. I have also participated in search advocacy workshops and served as a search advocate to facilitate hiring diverse teams in various departmental and college searches. My research and extension program serves small and large-scale farms with diverse cropping systems. Oregon seed producers have diverse agricultural operations and unique pest challenges they face. I collaborate with diverse organizations, e.g., Oregon Grass Seed Commission, Oregon Clover Seed Commission, Oregon Mint Commission, Oregon Hops Commission, Specialty Seed Growers of Western Oregon, Carrot Seed, and Sugar Beet Seed Companies, to understand their needs and work with all producer groups, including minorities and under-represented clientele (women farmers and first-generation Asian American growers) who are organic and specialty seed producers. I use interactive teaching methods that engage participants from various backgrounds and learning styles.

I strive to amplify under-represented voices, address systemic barriers, and cultivate an inclusive environment where everyone feels valued and empowered to contribute their unique perspectives. At the professional level, I am an active member of the Diversity Equity and Inclusion Committee of the Entomological Society of America-PIE section and lead a communication committee that oversees Entomology for All columns in The American Entomologist's quarterly magazine of ESA. I strive to include diverse perspectives in all aspects of my work, from research design to dissemination, and regularly assess my DEI efforts to identify areas for improvement. I am adaptable to adjust my teaching based on the feedback received to meet the needs of diverse groups better.