

Thomas G. Chastain, Ph.D.
Abbreviated Curriculum Vitae

Education

Ph.D.	Crop Science	Oregon State University	1987
M.S.	Crop Science	Oregon State University	1985
B.A.	Biological Sciences	California State University, Chico	1981

Employment History

2020-present

Department Head, Department of Crop and Soil Science, Oregon State University

Summary. Lead in administration of the department's academic, research, extension, and service programs. Conduct the business of the department including leading faculty meetings and provide leadership in faculty recruitment and curricular matters. Other duties include annual faculty performance reviews, approve purchases, approve travel requests and reimbursements, grant proposal approvals, employee timesheet approvals, resolving personnel matters, assignment of faculty to instructional duties, engaging in sound financial stewardship of departmental funds, and other activities as needed. Serve as liaison for the department to other departments and programs, and to the college and university. Use business intelligence to inform decisions and develop benchmark metrics for performance assessments, and employ data-driven approaches to policy recommendations. Craft and articulate a value story that effectively communicates the special nature of the department to many and varied audiences. Serve as leader in institutional advancement and development for the department. Develop private gifts that provide new department facilities, endowed professorships, and support of department programs and initiatives.

2019-2020

Interim Department Head, Department of Crop and Soil Science, Oregon State University

2016-2019

Associate Department Head, Department of Crop and Soil Science, Oregon State University

Summary. Assist or lead in administration of the department's academic, research, extension, and service programs. Conduct the business of the department including leading faculty meetings and provide leadership in faculty recruitment and curricular matters. Other duties include annual faculty performance reviews and evaluations, approve departmental purchases, processing courtesy faculty appointments, approve faculty travel requests and reimbursements, grant proposal approvals, employee timesheet

approvals, resolving personnel matters including faculty retention and negotiations, assignment of faculty to instructional duties, engaging in sound financial stewardship of departmental funds, and other activities as needed. Serve as liaison for the department to other departments and programs, and to the college and university.

2005-10

Head Advisor, Department of Crop and Soil Science, Oregon State University

Summary. My department needed a head advisor after the previous one had retired and I volunteered to fill this role. Responsible for all departmental student advising duties including recruitment and retention, course registration and scheduling, curriculum development and oversight, career counseling and placement, and scholarships for all departmental students. Served as the department internship coordinator as part of my duties. In addition to my normal teaching load of three courses, I also taught Orientation and Career Planning (CSS 100), and Senior Seminar (CSS 407) annually. I supervised one assistant in the program.

1989-present

Assistant Professor/Associate Professor/Professor of Seed Crop Physiology and Ecology, Department of Crop and Soil Science, Oregon State University

Summary. Tenure track, state-wide research and teaching appointment in seed crop physiology and ecology. Conducted research on management, ecology, and physiology of grass seed, and other seed crops. Three years of the appointment were served at the Columbia Basin Agricultural Research Center in Pendleton. Results were published in journals including *Field Crops Research*, *Agronomy Journal*, etc. Taught CROP 200 Crop Morphology and Ecology and CROP 460/560 Seed Production courses annually, and CROP 670 Physiology of Crop Yield on an alternate year basis. Taught CROP/HORT 414 Precision Agriculture 2020-2021. Served as part of the team teaching CROP 330 World Food Crops. Developed and delivered Ecampus versions of the CROP 200 and CROP 460/560 courses. Supervised faculty research assistants, biological science technicians, graduate research/teaching assistants, and undergraduate students.

1987-89

Assistant Professor of Seed Physiology (temporary position)/Acting Director Seed Testing Laboratory, Department of Agronomy and Soils, Washington State University

Summary. Temporary non-tenure track research and teaching appointment in seed physiology. Conducted research on biochemical tests for important pathogens of wheat and Kentucky bluegrass seed. Results were published in *Crop Science* and *Phytopathology*. Responsible for teaching 36% of the crop science student credit hours in the department. Courses included Field Crop Science, Seed Production and Technology, and Vegetable Seed

Production. As Acting Director, I was responsible for the administration of the official and commercial seed testing conducted at the seed laboratory while supervising 2 seed analysts and 4 lab technicians.

1983-87

Graduate Research Assistant, Department of Crop Science, Oregon State University

Summary. Graduate student appointment on grass seed production and physiology. Conducted research on physiology and ecology of grass seed crops, and seed moisture testing for determining harvest readiness. Results were published in *Crop Science* and *Agronomy Journal*. Assisted in teaching the seed production course.

1982-83

Greenhouse and Lab Technician, Department of Botany and Plant Pathology, Oregon State University

Summary. Assisted in research on seed-borne viruses of legume germplasm. Used serological techniques in the lab and conducted greenhouse research on plant viruses.

Administration

My approach to leadership begins with continuous, active engagement with stakeholders, including students, clientele, faculty, alumni and the public. The department is a shared enterprise where stakeholders are engaged in the businesses of learning and investigative discovery, and have established entrepreneurial partnerships in scientific and technological activities. Active faculty governance is essential for the healthy growth and functioning of a department. The department head will recognize valuable opportunities and implement concrete actions for the betterment of the department and its stakeholders. Making sound decisions in concert with stakeholders and initiating creative actions that continually move the department forward is consistent with my long-held philosophy of leadership.

Initiatives and Key Accomplishments

- Changed the department approach to policy development and implementation and have increased the role of the faculty committee structure in these processes.
- New faculty committees were created to address emerging issues and to facilitate change in the way that business in the department was done. These changes more fully integrated off-campus faculty into active committee roles.
- New policies developed include: Faculty Performance Review, Guidelines for Graduate Student Teaching Experience, Instructor Workload and Instructor Professional Development.

- Worked to lower barriers to productivity, making it easier to achieve the goals of the department.
- Employ business intelligence to inform decisions and develop benchmark metrics for performance assessments.
- Used data-driven approaches to policy recommendations for the department.
- Crafted and articulated a value story that effectively communicates the special nature of the department to many and varied audiences.
- Led a strategic planning process that was completed in March 2021.
- Led a community climate inventory in the department in partnership with the university Ombuds Office. The outcomes of this inventory are being used to inform the administration on these matters and to facilitate implementation of corrective actions and development of new policies.
- Active participant and leader in the development of the undergraduate Ecampus degree programs in the crop and soil science disciplines. This new program has contributed to a recent 47% year over year increase in the number of undergraduate majors in the department.

Research

My research is directed at solving practical problems of Oregon's seed producers and developing new applications of previous research. A secondary goal is to increase our understanding of the underlying biological processes limiting greater economic and environmental efficiency of crop production. Oregon's seed production industry annually ranks among the state's top 5 agricultural enterprises so the work has a significant impact on the state's economy.

Crop plants are biological solar energy collectors, the size and efficiency of this collector is manipulated through management of the crop. My interest is to better understand how crop partitioning to seed yield is affected by manipulation of the crop canopy, age of the stand, nutrients and other factors. One underlying theme for the research is the systematic investigation of seed yield components and their relative contribution to seed yield.

The field is the primary laboratory for my research and much of the work has been conducted in on-farm settings at various locations around Oregon. This approach requires developing good relationships with seed producers and coordinating research activities with the commercial agriculture taking place in the farmer's fields. On-farm research lends first-hand credibility to the work and provides a front-row view of the research activities for the farmer-participant.

Publications

Refereed Journals

- Tubbs, T.B., and T.G. Chastain. 2023. Development of 3-D point cloud imaging and 2-D image processing methods for high-throughput phenotyping of perennial ryegrass spikes. *The Plant Phenome Journal* 6, (e20077.<https://doi.org/10.1002/ppj2.20077>).
- Tubbs, T.B., and T.G. Chastain. 2023. Genetic variation for seed retention in accessions and genotypic lines of perennial ryegrass (*Lolium perenne* L). *Crop Sci.* 63:306-319 (on-line <https://doi.org/10.1002/csc2.20837>).
- Klein, M.L., T.G. Chastain, C.J. Garbacik, Y.P. Qian, and R. Mc Donnell. 2020. Acute toxicity of essential oils to the pest slug *Deroceras reticulatum* in laboratory and greenhouse bioassays. *Journal of Pest Science* 93:415-425.
- Morad, M.M., N.P. Anderson, and T.G. Chastain. 2019. Trinexapac-ethyl affects seed production in crimson clover (*Trifolium incarnatum* L.). *Agron. J.* 111:1333-1340.
- Angsumalee, D., S.G. Elias, N.P. Anderson, T.G. Chastain, and C.J. Garbacik. 2019. Plant growth regulator and irrigation effects on physiological and harvest maturity of red clover in relation to seed quality. *Agron. J.* 111:572-580.
- Chastain, T.G., C.J. Garbacik, and W.C. Young III. 2017. Tillage and establishment system effects on annual ryegrass seed crops. *Field Crops Res.* 209:144-150.
- DuVal, A.S., T.G. Chastain, C.J. Garbacik, and D.J. Wysocki. 2017. Nitrogen affects seed production characteristics in yellow mustard (*Sinapis alba* L.). *Agron. J.* 109:995-1004.
- Hampton, J.G., A.J. Conner, B. Boelt, T.G. Chastain, and M.P. Rolston. 2016. Climate change: Seed production and options for adaptation. *Agriculture* 6(3), 33 Published online July 26, 2016; doi: 10.3390/agriculture6030033
- Anderson, N.P., T.G. Chastain, and C.J. Garbacik. 2016. Irrigation and trinexapac-ethyl effects on seed yield in first- and second-year red clover stands. *Agron. J.* 108: 1116-1123.
- Ferguson, B.T., T.G. Chastain, C.J. Garbacik, B.T. Chastain, and D.J. Wysocki. 2016. Spring nitrogen and cultivar affect seed production in winter canola (*Brassica napus* L.). *Agron. J.* 108:1124-1131.
- Chastain, T.G., C.M. King, W.C. Young III, C.J. Garbacik, and D.J. Wysocki. 2015. Irrigation frequency and seasonal timing effects on perennial ryegrass (*Lolium perenne*) seed production. *Field Crops Res.* 180:126-134.
- Anderson, N.P., D.P. Monks, T.G. Chastain, M.P. Rolston, C.J. Garbacik, Chun-hui Ma, and C.W. Bell. 2015. Trinexapac-ethyl effects on red clover seed crops in diverse production environments. *Agron. J.* 107:951-956.
- Chastain, T.G., W.C. Young III, C.J. Garbacik, and T.B. Silberstein. 2015. Trinexapac-ethyl rate and application timing effects on seed yield and yield components in tall fescue. *Field Crops Res.* 173:8-13.
- Zapiola, M.L., T.G. Chastain, C.J. Garbacik, and W.C. Young III. 2014. Trinexapac-ethyl and burning effects on seed yield components in strong creeping red fescue. *Agron J.* 106:1371-1378.

- Anderson, N.P., T.G. Chastain, and C.J. Garbacik. 2014. Effect of a strobilurin containing fungicide applied at two timings on seed yield in tall fescue. *Crop Management* 13. Published online April 14, 2014, doi:10.2134/CM-2013-0011-RS
- Chastain, T.G., C.J. Garbacik, and W.C. Young III. 2014. Spring-applied nitrogen and trinexapac-ethyl effects on seed yield in perennial ryegrass and tall fescue. *Agron J.* 106:628-633.
- Chastain, T.G., W.C. Young III, T.B. Silberstein, and C.J. Garbacik. 2014. Performance of trinexapac-ethyl on seed yield of *Lolium perenne* in diverse lodging environments. *Field Crops Res.* 157:65-70.
- Guy, S.O., D.J. Wysocki, W.F. Schillinger, T.G. Chastain, R.S. Karow, K. Garland-Campbell, and I.C. Burke. 2014. Camelina: adaptation and performance of genotypes. *Field Crops Res.* 155:224-232.
- Wysocki, D.J., T.G. Chastain, W.F. Schillinger, S.O. Guy, and R.S. Karow. 2013. Camelina: seed yield response to applied nitrogen and sulfur. *Field Crops Res.* 145:60-66.
- Huettig, K.D., T.G. Chastain, C.J. Garbacik, W.C. Young III, and D.J. Wysocki. 2013. Spring irrigation management of tall fescue for seed production. *Field Crops Res.* 144:297-304.
- Hampton, J.G., B. Boelt, M.P. Rolston, and T.G. Chastain. 2013. Effects of elevated temperature and CO₂ on seed quality. *J. Agric. Sci. (Cambridge)* 151:154-162. doi: 10.1017/S0021859612000263, Published online by Cambridge University Press 30 March 2012.
- Schillinger, W.F., D.J. Wysocki, T.G. Chastain, S.O. Guy, and R.S. Karow. 2012. Camelina: planting date and method effects on stand establishment and seed yield. *Field Crops Res.* 130:138-144.
- Chastain, T.G. 2012. *Crop Ecology: Productivity and Management in Agricultural Systems* Second Edition. By David J. Connor, Robert S. Loomis, and Kenneth G. Cassman. Cambridge University Press. *The Quarterly Review of Biology* 87 (4): 379.
- Chastain, T.G., C.J. Garbacik, T.B. Silberstein, and W.C. Young III. 2011. Seed production characteristics of three fine fescue species in residue management systems. *Agron. J.* 103:1495-1502.
- Mueller-Warrant, G.W., W.C. Young III, T.G. Chastain, and S.C. Rosato. 2007. Residue management and herbicides for downy brome (*Bromus tectorum*) control in Kentucky bluegrass grown for seed. *Weed Tech.* 21:411-421.
- Zapiola, M.L., T.G. Chastain, C.J. Garbacik, T.B. Silberstein, and W.C. Young III. 2006. Trinexapac-ethyl and open-field burning maximize seed yield in creeping red fescue. *Agron. J.* 98:1427-1434.
- Meints, P.D., Chastain, T.G., W.C. Young III, G.M. Banowetz, and C. J. Garbacik. 2001. Stubble management effects on three creeping red fescue cultivars grown for seed production. *Agron. J.* 93:1276-1281.
- Chastain, T.G., W.C. Young III, C.J. Garbacik, P.D. Meints, and T.B. Silberstein. 2000. Alternative residue management and stand age effects on seed quality in cool-season perennial grasses. *Seed Technology* 22: 34-42.

- Young, W.C. III, T.B. Silberstein, T.G. Chastain, and J.S. Rowarth. 1998. The relationship between applied nitrogen, nitrogen concentration in herbage, and seed yield in perennial ryegrass (*Lolium perenne* L.). II. Cultivars in Oregon. J. Appl. Seed Prod. 16:115-124.
- Chastain, T.G., and W.C. Young III. 1998. Vegetative plant development and seed production in cool-season perennial grasses. Seed Science Res. 8:295-301.
- Chastain, T.G., G.L. Kiemnec, C.J. Garbacik, B.M. Quebbeman, G.H. Cook, and F.J. Crowe. 1997. Residue management strategies for Kentucky bluegrass seed production. Crop Sci. 37:1836-1840.
- Silberstein, T.B., T.G. Chastain, and W.C. Young III. 1996. Growth and yield of red clover seed crops treated with paclobutrazol and uniconazol. J. Appl. Seed Prod. 14:17-23.
- Ball, D.A., D.J. Wysocki, and T.G. Chastain. 1996. Nitrogen application timing effects on downy brome (*Bromus tectorum*) and winter wheat (*Triticum aestivum*) growth and yield. Weed Tech. 10:305-310.
- Chastain, T.G., K.J. Ward, and D.J. Wysocki. 1995. Seedbed residue and seed size relationships in winter barley. Agron. J. 87:517-520
- Chastain, T.G., K.J. Ward, and D.J. Wysocki. 1995. Stand establishment responses of soft white winter wheat to seedbed residue and seed size. Crop Sci. 35:213-218
- Chastain, T.G., B.L. Klepper, and D.E. Wilkins. 1994. Relationship of wheat seed sprouting severity, planting depth, and seed treatment to emergence and yield. Crop Sci. 34:508-513.
- Smiley, R.W., W. Uddin, P.K. Zwer, D.J. Wysocki, D.A. Ball, T.G. Chastain, and P.E. Rasmussen. 1993. Influence of crop management practices on physiologic leaf spot of winter wheat. Plant Dis. 77:803-810.
- Chastain, T.G. 1992. Relationship of ergot to Kentucky bluegrass seed production and quality. J. Appl. Seed Prod. 10:7-10.
- Chastain, T.G. 1991. High temperature sodium hypochlorite effects on viability of *Tilletia controversa* teliospores and wheat seed. Crop Sci. 31:1327-1330.
- Chastain, T.G., and B. King. 1990. A biochemical method for estimating viability of teliospores of *Tilletia controversa*. Phytopathology 80:474-476.
- Chastain, T.G., and D.F. Grabe. 1989. Spring establishment of turf-type tall fescue seed crops with cereal companion crops. Agron. J. 81:488-493.
- Chastain, T.G., and D.F. Grabe. 1989. Spring establishment of orchardgrass seed crops with cereal companion crops. Crop Sci. 29:466-471.
- Chastain, T.G., and D.F. Grabe. 1988. Establishment of red fescue seed crops with cereal companion crops. II. Seed production and economic implications. Crop Sci. 28:313-316.
- Chastain, T.G., and D.F. Grabe. 1988. Establishment of red fescue seed crops with cereal companion crops. I. Morphological responses. Crop Sci. 28:308-312.

Peer-reviewed Extension Technical Bulletins (last 5 years) – 6 total

- Moore, A.D., D.J. Wysocki, T.G. Chastain, T. Wilson, and A.S. DuVal. 2019. Camelina: nutrient management guide. Pacific Northwest Extension Publication, PNW 718 (5 pages).
- Anderson, N.P., T.G. Chastain, J.M Hart., W.C. Young III, and N.W. Christensen. 2014. Tall fescue grown for seed: a nutrient management guide for western Oregon. Nutrient Management Guide. Oregon State University, EM 9099. (42 pages)
- Schillinger, W.F., D.J. Wysocki, T.G. Chastain, S.O. Guy, and R.S. Karow. 2014. Camelina: effects of planting date and method on stand establishment and seed yield. Pacific Northwest Extension Publication, PNW 661. (10 pages)

Reviewed University Research and Extension Publications (last 5 years) – 116 total

- Tubbs, T.B., and T.G. Chastain. 2021. Genetic variation for seed retention in accessions and genotypic lines of perennial ryegrass. In N. Anderson, A. Hulting, D. Walenta, and C. Mallory-Smith (ed.) Seed Production Research. Crop Sci. Ext. Rep. 164:17-20.
- Tubbs, T.B., and T.G. Chastain. 2020. Development of 3-D topometric imaging methods for high-throughput phenotyping of seed retention traits in perennial ryegrass. In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 162:3-5.
- Anderson, N.P., T.G. Chastain, C.J. Garbacik, and B.C. Donovan. 2020. Are Higher Yields Possible in Annual Ryegrass Seed Crops? (Year 2). In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 162:6-9.
- Anderson, N.P., T.G. Chastain, A.D. Moore, C.J. Garbacik, and B.C. Donovan. 2020. Spring-applied nitrogen and plant growth regulator effects on seed yield of third-year orchardgrass. In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 162:10-12.
- Anderson, N.P., T.G. Chastain, C.J. Garbacik, and B.C. Donovan. 2020. Seed yield performance and flowering initiation of twelve red clover varieties (Year 1). In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 162:41-43.
- Anderson, N.P., T.G. Chastain, and C.J. Garbacik. 2019. Are Higher Yields Possible in Annual Ryegrass Seed Crops? (Year 1). In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 160:14-16.
- Anderson, N.P., T.G. Chastain, A.D. Moore, and C.J. Garbacik. 2019. Spring-applied Nitrogen and Plant Growth Regulator Effects on Seed Yield of Second-year Orchardgrass. In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 160:22-23.
- Hudgins, T., N.P. Anderson, T.G. Chastain, and C.J. Garbacik. 2019. Plant Growth Regulator Combination Effects on Turf-type and Forage-type Tall Fescue Seed Crops. In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 160:24-26.

- Chastain, T.G., and N.P. Anderson. 2019. Can Portable NIR Be Used for Seed Moisture Testing in Grass Seed Crops? In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 160:27-28.
- Klein, M.L., T.G. Chastain, C.J. Garbacik, and R. Mc Donnell. 2019. Can Essential Oils Be Used to Control the Gray Field Slug? In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 160:29-32.
- Hudgins, T., N.P. Anderson, T.G. Chastain, and C.J. Garbacik. 2018. Effects of plant growth regulator mixtures on turf-type and forage-type tall fescue seed crops. In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 154:15-18.
- Anderson, N.P., T.G. Chastain, A.D. Moore, and C.J. Garbacik. 2018. Spring-applied nitrogen and plant growth regulator effects on orchardgrass seed yield. In N. Anderson, A. Hulting, and D. Walenta (ed.) Seed Production Research. Crop Sci. Ext. Rep. 154:12-14.
- Anderson, N.P., T.G. Chastain and C.J. Garbacik. 2017. Plant growth regulator and irrigation effects on white clover seed crops. In N. Anderson, A. Hulting, D. Walenta, and M. Flowers (ed.) Seed Production Research. Crop Sci. Ext. Rep. 153:46-48.
- Morad, M., T.G. Chastain, N.P. Anderson, and C.J. Garbacik. 2016. Trinexapac-ethyl timing and rate effects on crimson clover seed yield. In N. Anderson, A. Hulting, D. Walenta, M. Flowers, and C. Sullivan (ed.) Seed Production Research. Crop Sci. Ext. Rep. 152:3-5.
- Anderson, N.P., T.G. Chastain and C.J. Garbacik. 2016. Enhancing fertilizer efficiency in perennial ryegrass seed crops with urease inhibitors. In N. Anderson, A. Hulting, D. Walenta, M. Flowers, and C. Sullivan (ed.) Seed Production Research. Crop Sci. Ext. Rep. 152:12-14.
- Anderson, N.P., C.J. Garbacik, T.G. Chastain and S. Elias. 2015. Boron effects on red clover seed production and quality. In N. Anderson, A. Hulting, D. Walenta, and M. Flowers (ed.) Seed Production Research. Crop Sci. Ext. Rep. 150:9-11.
- Angsumalee, D., S.G. Elias, T.G. Chastain, N.P. Anderson, C.J. Garbacik. 2015. Effect of irrigation and plant growth regulators on physiological maturity and seed quality of red clover. In N. Anderson, A. Hulting, D. Walenta, and M. Flowers (ed.) Seed Production Research. Crop Sci. Ext. Rep. 150:4-8.

Other Publications

- Books and Book Chapters (2 total)
- Proceedings and Symposia (28 total)
- Abstracts (43 total)
- Non-technical publications (6 total)

Professional Meetings, Symposia, and Conferences

I have served as presenter, organizer, session chair, plenary speaker, and keynote speaker at domestic and international venues. Invited speaker at domestic (114 events) and international (14 events) venues, speaker at field days and farm tours (49 events)

Grants

Awarded \$3,567,357 in grant funds from the following sources: federal agency (37.7%), state and local governments (36.3%), commodity commissions (14.3%), foundations (9.3%), and corporate (2.5%).

Selected grant funding sources:

US Dept. of Transportation

National Science Foundation

Agricultural Research Foundation

Oregon Seed Council

Oregon Dept. of Agriculture

Syngenta

Murdock Charitable Trust

City of Portland Biofuels Investment Fund

Teaching

I strive to provide a transformative educational experience for students and other learners in on-campus and Ecampus venues. One of my goals in teaching is for my students to learn to be discriminating consumers of information, a skill that they will need in their careers. For example, information is widely available from a vast array of sources but the challenge for students is to ascertain what is solid and reliable and to differentiate that from opinion and speculation. Maintaining an unbridled enthusiasm for teaching and the subject matter is important. For me, lecturing is an extended conversation with students over the course of a term. I work hard to create an environment conducive for learning both inside and outside of the classroom setting. I believe that student engagement is not a static process but it should be active and fluid, and able to adapt to the student and situation. I view teaching as a strategic investment that assists me in connecting students to my research activities, and ultimately to the needs of my clientele.

Past teaching assignments:

CROP 460/560 Seed Production, 1993-2019

CROP 670 Physiology of Crop Yield, 1998-2019

CROP 200 Crop Morphology and Ecology, 2002-2019

CROP/HORT 414/514 Precision Agriculture, 2020-2021
CSS 100 Orientation and Career Planning, 2006-2009
CSS 407 Senior Seminar, 2006-2009

Advising

Served as thesis advisor or committee member for 49 graduate students and served as an advisor or committee member for 5 undergraduate student theses. As Head Advisor, I advised 102 undergraduate students majoring in the department and an additional 54 students working toward a minor. Directed experiential learning opportunities for 59 students in domestic and international internships in research or commercial endeavors and have directed another 9 in study abroad programs.

Student Thesis Advising

Major Professor for 11 MS and 5 PhD students
Committee Member for 21 MS and 18 PhD students
Advisor for 3 undergraduate thesis students
Committee Member for 2 undergraduate thesis students

Outreach

Disseminated results of investigative discovery and interpretation to scientists, extension personnel, agricultural industry and grower practitioners, local, state and federal government agencies, professional societies, international clientele, and the general public. Developed blog/web platforms for rapid and widespread sharing of program activities. Presented findings of research in over 200 non-classroom presentations in both domestic and foreign locations. Interviewed for over 100 newspaper, magazine, radio, and television stories on various seed production topics.

Leadership and Service (selected examples)

American Society of Agronomy

Associate Editor and Member Editorial Board, *Agronomy Journal*, 1993–1998

Association of Official Seed Certification Agencies/Crop Science Society of America

National Grass Variety Review Board, 1994-1996

Crop Science Society of America

Member of Board of Directors, 1995-1998, 2016-2022

Seed Science Award Committee, 2018-2019

Budget and Finance Committee, 2017-2022; Chair, 2020-2022

Chair, Division C-4 (Seed Physiology, Technology, and Production), 1997

Chair, Symposium on Turfgrass Seed Production, 1997

Future Farmers of America

State Career Development Event Coordinator, 2006-2009

International Herbage Seed Group

President, 2017 - 2019

President Elect (Vice President), 2013 – 2017

Member Board of Directors, 1999–present

Program Moderator; Perugia Italy, 1999; Lanzhou China, 2015

Co-Chair, Organizing Committee, 2019 IHSG Conference, 2018-2019

Oregon State University

Faculty Senate, Academic Requirements Committee, 2016-2017

Faculty Senate, Academic Standing Committee, 2013-2016

Office of the Registrar, Program Review Committee, 2015

Commencement

College of Ag Sciences and Column Marshall, 2006-2018

Faculty Representative, 2001-2005

Faculty Advisor, OSU Track and Cross Country Club, 2000 – 2001

Gamma Sigma Delta Scholarship Committee, 1999-2001

Oregon State University - College of Agricultural Sciences

Seed Certification, Foundation Seed and Plant Materials Board, 1993-present

Cereal Variety Release Committee, Ex-officio Member, 2019-present

Associate Dean of Academics Search Committee, 2020

Plant Science Undergraduate Program Planning Committee, 2009-2011

Scholarship and Awards Committee, 2003-2007; Chair 2005-2006

Mentor, Ag Ambassadors, 2007-2008

Student Recruitment and Retention Committee, 2004-2005

Oregon State University - Department of Crop and Soil Science

Program Director, Crop and Soil Science Undergraduate Program Review, 2016

Scholarship Committee, 1995-2014; Chair 1999 – 2014

Curriculum Committee, 1999-2011, 2014 - 2016; Chair 2005-2009, 2014-2016

Awards Committee, 1995-1998

Graduate Faculty Committee, 1992-99

Crop Science Graduate Admission Review Committee, 1994-2004

Certification Variety Review Committee, 1993 - 2005

Peer Teaching Evaluation Committee, 2001, Chair 2015-2016

Promotion and Tenure Committee, 2016

Faculty Search Committees (15), 1996-2019

Hyslop Professorship Committee Chair, 2018

Oregon Seed Council

Seed Services Advisory Committee, 2023-present

State of Oregon

Member Seed Certification and Foundation Seed Board, 1993 – 2019

Field Burning Administrative Rules Committee – 1997

US Department of Agriculture

W-168 Regional Technical Committee, Seed Biology and Technology Investigations

OSU Representative, 1992-2003

Secretary, 1994; Vice Chair, 1995; Chair, 1996

Symposium Publication Chair 1996-1998

W3168 Environmental and Genetic Determinants of Seed Quality and Performance

OSU Representative, 2018

Technical Advisory Committee, Grass Seed Research Program

Member, 1993 - 2005, Chair, 2001- 2005

International

Seed production is an international enterprise and trade in seed among nations is commonplace. There is also an open sharing of ideas and research among various countries involved in the production of seed, and I've been involved in that by hosting foreign visitors and in making visits to other seed production areas. One organization in particular has done much to facilitate this international exchange of information and technology among scientists and practitioners alike for the past four plus decades – the International Herbage Seed Group. Visitors and visits, have been to and from, nations such as Zambia, China, Australia, Canada, Lithuania, Estonia, Latvia, South Africa, New Zealand, Denmark, Norway, Italy, Argentina, Britain, and Mexico.

Collaborative studies have been conducted with colleagues from CIMMYT in Mexico, Lincoln University and Ag Research in New Zealand, Aarhus University in Denmark, University of Saskatchewan in Canada, and others. I participated in international research teams that investigated effects of elevated CO₂ and temperature on seed quality and seed production (New Zealand, Denmark, USA; 2011-2014 and trinexapac-ethyl effects on red clover seed production (USA, New Zealand, Australia, China.

Invited to CIMMYT-Mexico in 1989 to develop techniques to determine the viability of *Tilletia indica* teliospores and for killing these spores on wheat seed. This led to the acceptance of my sodium hypochlorite method for killing *T. indica* spores by USDA-APHIS,

thereby making it possible to continue shipment of wheat germplasm to the USA and to other international CIMMYT cooperators.

Directed the study abroad/learning exchange programs for 8 departmental students from 2006-present in the following countries – Mongolia, New Zealand, Ghana, and Canada. Assisted in acquiring travel funds for students, including the 2007 American Society of Agronomy Cross Cultural Exchange Award for Julia Pedersen's exchange in Mongolia.

Directed the senior thesis of Austin Fricker in Nicaragua from 2010-2013 on the culture and the agricultural practices of the Miskito people indigenous to the eastern coastal region of that country. Austin lived in Nicaragua among the Miskito for one year and wrote about his experiences in his senior thesis and made posts to a blog that he created for the topic.

I compared and contrasted the Oregon and New Zealand seed production systems in 2013 as part of a working visit to New Zealand hosted by the Foundation for Arable Research, Lincoln University, and AgResearch.

I served as President of the International Herbage Seed Group and I was involved in planning the organization's meetings Lanzhou China in June 2015 and in Pergamino Argentina in 2017, and in Corvallis in 2019. I was invited as a plenary speaker at the IHSG meetings in China. I have built and I maintain the current IHSG web site.

I was the keynote speaker for a seed conference and extended visit to Tasmania, Australia in November 2014. The organizers (government/private consortium) have solicited my assistance in helping them to assess their potential for a seed production industry modeled after Oregon. The results of my work continues to be shared with Tasmanian seed producers through the Tasmanian Institute of Agriculture's list serve and web site.

Selected Awards and Honors

- Oregon Seed Association, 2024
- Seedsman of the Year, Oregon Seed Council, 2023
- Elected Fellow of the American Society of Agronomy and Fellow of the Crop Science Society of America, 2023
- Linn Soil and Water Conservation District, Educator of the Year, 2018
- American Society of Agronomy, Extension Education Community Materials Award of Excellence, 2015
- College of Agricultural Sciences, Ag Executive Council Distinguished Professor, 2015
- George Hyslop Endowed Professorship for Oregon Grass Seed Research and Education, 2008-2013
- Outstanding Teacher Award, 2004, 2006, 2008, 2010, Department of Crop and Soil Science