

VIII. PROMOTION AND TENURE VITA

A. EDUCATION AND EMPLOYMENT INFORMATION

1. EDUCATION

<u>Dates (yrs)</u>	<u>Institution</u>	<u>Degree</u>	<u>Major Field</u>
2000-2004	Montana State University	Ph.D.	Weed Ecology
1996-1999	The University of Illinois	M.S.	Weed Science
1992-1996	The University of Illinois	B.S.	Forest Science

2. EMPLOYMENT INFORMATION

2006 – Present	Extension Weed Management Specialist, Associate Professor and Associate Department Head , Oregon State University, Department of Crop and Soil Science, Corvallis, OR.
2004 – 2006	Post Doctoral Research Associate , The Pennsylvania State University, Department of Crop and Science, State College, PA.
2000 – 2004	Graduate Research/Teaching Assistant and Research Associate , Montana State University, Department of Land Resources and Environmental Sciences, Bozeman, MT.
1999	United States Peace Corps Volunteer , Quito, Ecuador
1996 – 1999	Graduate Research Assistant , The University of Illinois, Department of Crop and Soil Science, Urbana-Champaign, IL.

B. TEACHING, ADVISING AND OTHER ASSIGNMENTS

1. Instructional Summary

i. Credit Courses

The emphasis of my appointment is Extension education. However, I have taught the following credit courses within the Department of Crop and Soil Sciences (CSS). CROP/HORT 407 is the senior seminar class where students are tasked to develop and present a seminar to their peers on an agricultural topic of their choice after receiving instruction on how best to prepare a seminar and conduct research on the given topic. CROP 418 is an online-only course that I developed that grew out of my Extension programming and the need for educational material related to weed management in pasture systems as well as information on poisonous plant identification and management. I have also developed guest lectures and archived online material for the

following CSS classes: CROP 101 Orientation, CROP 310 Forage Production, CROP 440 Weed Management, CROP 480 Case Studies in Cropping System Management and CROP 599/699 Professional Development Class-Presentation Skills.

Course	Title	Year	Term	Enrollment	Credit Hours
CROP 418	Toxic Plants in PNW Pastures	2014	Fall		1
CROP/HORT 407	Senior Seminar	2014	Fall		1
CROP 480/580	Case Studies in Cropping...	2014	Spring		4
CROP 418	Toxic Plants in PNW Pastures	2014	Winter	2	1
CROP/HORT 407	Senior Seminar	2013	Fall	15	1
CROP 418	Toxic Plants in PNW Pastures	2013	Spring	7	1
CROP 418	Toxic Plants in PNW Pastures	2013	Winter	7	1
CROP/HORT 407	Senior Seminar	2012	Fall	17	1
CSS 418	Toxic Plants in PNW Pastures	2012	Winter	8	1
CSS/HORT 407	Senior Seminar	2011	Fall	10	1
CSS 418	Toxic Plants in PNW Pastures	2011	Fall	5	1
CSS/HORT 407	Senior Seminar	2010	Fall	15	1
CSS 418	Toxic Plants in PNW Pastures	2011	Winter	7	1
CSS 418	Toxic Plants in PNW Pastures	2010	Fall	5	1
CSS 418	Toxic Plants in PNW Pastures	2009	Fall	4	1

ii. Non-Credit Courses and Workshops

Summary of State and Regional Meetings, Field Days or Workshops Organized

Year	Regional Meetings, Field Days or Workshops Organized
2014	
2013	2
2012	2
2011	2
2010	3
2009	2

2008	2
2007	2
2006	
Total	15

Regional Meetings, Field Days or Workshops Organized

Hulting, A. G. 2013. Oregon Society of Weed Science Annual Meeting, Hood River, OR. October 29-30. *Role: In my role as Past President of the OSWS (2013) and a member of the board of directors of the OSWS I organize and develop the content of the annual meeting.*

Hulting, A. G. D. Curry and M. D. Flowers. 2013. Hyslop Farm Field Day, Corvallis, OR. May 29. *Role: Organized and hosted seed production portion of the field day.*

Hulting, A. G. and E. Peachey. 2012. Oregon Society of Weed Science Annual Meeting, Hood River, OR. October 30-31. *Role: In my role as President of the OSWS (2012) and a member of the board of directors of the OSWS I organize and develop the content of the annual meeting.*

Hulting, A. G. and M. D. Flowers. 2012. Hyslop Farm Field Day, Corvallis, OR. May 30. *Role: Organized and hosted seed production portion of the field day.*

Hulting, A. G. and E. Peachey. 2011. Oregon Society of Weed Science Annual Meeting, Hood River, OR. October 18-19. *Role: In my role as a member of the board of directors of the OSWS I organize and develop the content of the annual meeting.*

Hulting, A. G. and M. D. Flowers. 2011. Hyslop Farm Field Day, Corvallis, OR. May 25. *Role: Organized and hosted seed production portion of the field day.*

Hulting, A. G. and M. D. Flowers. 2010. OSU Extension Wheat Production Short Course, Corvallis, OR. December 13-14. *Role: Organized and developed course content and taught weed management related material.*

Hulting, A. G. and E. Peachey. 2010. Oregon Society of Weed Science Annual Meeting, Hood River, OR. October 19-20. *Role: In my role as a member of the board of directors of the OSWS I organize and develop the content of the annual meeting.*

Hulting, A. G., M. D. Flowers and W. C. Young III. 2010. Hyslop Farm Field Day, Corvallis, OR. May 26. *Role: Organized and hosted seed production portion of the field day.*

Hulting, A. G. and E. Peachey. 2009. Oregon Society of Weed Science Annual Meeting, Hood River, OR. October 20-21. *Role: In my role as a member of the board of directors of the OSWS I organize and develop the content of the annual meeting.*

Hulting, A. G., M. D. Flowers and W. C. Young III. 2009. Hyslop Farm Field Day, Corvallis, OR. May 27. *Role: Organized and hosted seed production portion of the field day.*

Hulting, A. G. and E. Peachey. 2008. Oregon Society of Weed Science Annual Meeting, Hood River, OR. October 21-22. *Role: In my role as a member of the board of directors of the OSWS I organize and develop the content of the annual meeting.*

Hulting, A. M. D. Flowers and W. C. Young III. 2008. Hyslop Farm Field Day, Corvallis, OR. May 28. *Role: Organized and hosted seed production portion of the field day.*

Hulting, A. G. and E. Peachey. 2007. Oregon Society of Weed Science Annual Meeting, Hood River, OR. October 16-17. *Role: In my role as a member of the board of directors of the OSWS I organize and develop the content of the annual meeting.*

Hulting, A. G., M. D. Flowers and W. C. Young III. 2007. Hyslop Farm Field Day, Corvallis, OR. May 30. *Role: Organized and hosted seed production portion of the field day.*

iii. Curriculum Development

Course related to weed management in the Department of Crop and Soil Science

I have utilized the insight from my Extension appointment, interaction with county-based Extension faculty, and my own interest in poisonous plants to fill a void in Extension programming at OSU by developing the online course *Toxic Plants in PNW Pastures* (CROP 418). The 1 credit course was developed for upper level undergraduate and graduate students, agribusiness professionals, and small- or large-acreage landowners and livestock producers seeking various continuing education certifications and has attracted students located around the country. The course is administered through OSU Extended Campus and was first taught in 2009. The class describes many important poisonous plants found in Pacific Northwest pastures and to lesser extent rangelands. Participants discuss (in an on-line format) the identifying characteristics of each plant, the life history strategies and growth stages of each plant, toxins found in each plant and symptoms of poisoning in humans and livestock with the goal of developing a general understanding of the ecology and biology of these weeds, which is fundamental for determining the best management and control options available.

Curriculum Committee Service

Plant Sciences Curriculum Committee Member-Cross-departmental group charged with reviewing plant science-related graduate courses in the OSU College of Agriculture. 2007-2008.

iv. Graduate Students and Postdoctoral Trainee

Major Professor

John Miskella, MS in Weed Science, Dept of CSS. Thesis: *Hybridization Between Yellow Starthistle (Centaurea solstitialis) and Meadow Knapweed (Centaurea moncktonii)*. (2011-2014).

Jessica Haavisto, MS in Weed Science, Dept of CSS. Thesis: *Biology and Management of Hare Barley in Western Oregon Pastures* (2009-2011).

Melody Rudenko, MS in Weed Science, Dept of CSS. Thesis: *Integrating Restoration and Ecologically Based Weed Management Practices for Invasive Japanese Knotweed Control* (2007-2009).

Member of Graduate Committee

Mingyang Liu, PhD candidate in Weed Science, Dept. of CSS. (2013-Present).

Bianca Martins, PhD in Weed Science, Dept. of CSS. (2009-2014).

Suphannika Intanon, PhD in Weed Science, Dept. of CSS. (2010-2013).

Mingyang Liu, MS in Weed Science, Dept. of CSS. (2010-2013).

Amir Attarian, MS in Weed Science, Dept. of CSS. (2010-2013).

Natalie Graham, MS (non-thesis option) in Barley Genetics, Dept. of CSS. (2009-2012).

Wilson Avila-Garcia, PhD in Weed Science, Dept. of CSS. (2008-2011).

John Allan, MS Candidate in Weed Science, Dept of CSS. (2010, Student withdrew from degree program for personal reasons).

Murali Bellamkonda, MS (non-thesis option) in Weed Science, Dept. of CSS. (2007-2010).

Suphannika Intanon, MS in Weed Science, Dept of CSS. (2007-2009).

Michael Quinn, PhD in Weed Science, Dept. of CSS. (2006-2010).

Maria Zapiola, PhD in Weed Science, Dept. of CSS. (2006-2009).

Postdoctoral Scientist Mentor

Joseph Dauer, Postdoctoral Research Associate with Weed Science Program, Dept of CSS. (2008-2010)

Service as an OSU Graduate Council Representative

Graduate Council Representative for Lauren A. Smith , PhD Candidate, Doctor of Philosophy in Wildlife Science, Dept. of Fisheries and Wildlife. 2014-Present.

Graduate Council Representative for Ricardo Pavez , MS Candidate, Master of Science in Sustainable Forest Management. June, 2014.

Graduate Council Representative for Arthur Bass, MS Candidate, Department of Fisheries and Wildlife. July, 2010.

v. Team or Collaborative Efforts in the Delivery of Instruction (Selected)

OSU Extension/OR Wheat Growers League/ODA Willamette Valley Wheat Production Meetings. A team approach to delivering education related to wheat production in the Willamette Valley, OR, in response to the recent economic factors resulting in dramatic increases in winter wheat acreage and decreases in grass grown for seed acres. On-campus Extension specialists and three county-based Extension faculty cooperate on the development and implementation of twice yearly workshops related to wheat production in the Willamette Valley and have reached over 200 growers and agribusiness professionals at three locations each time the workshop is offered. Total attendance at these workshops from 2008-2014 was approximately 1800 individuals. Team members: A. Hulting, J. Hart, M. Flowers, G. Fisher, W. Young III, M. Mellbye, N. Anderson, P. Marquardt and T. Silberstein. *Role: I have served as a co-organizer with Hart and Flowers (with close collaboration with county-based faculty) for this educational effort from 2008 to present. I provide weed management in winter wheat data and publish annual research reports, on-line content and field day handouts and other related weed management educational and outreach information for the OSU Weed Science Program.*

OSU Extension Hyslop Research Farm Field Day. A team approach to implementing changes in format and delivering education and research results to growers and agribusiness professionals at the annual Hyslop Research Farm Field Day. On-campus Extension specialists cooperate to develop program content that has annually increased attendance (100-150 participants annually) and gradually shifted the material solely based on grass seed and wheat production to material that is more inclusive and more accurately reflects the diverse nature of research and Extension projects of COA and USDA-ARS faculty. Team members: A. Hulting, W. C. Young III, M. Flowers and D. Curry. *Role: I have served as a co-organizer with Young and Flowers for this educational effort from 2007 to present. Recently, I have planned, organized and hosted the seed production/entomology portions of the field day. This entails identifying and coordinating speakers on relevant seed production and entomology topics. I also provide and present weed management information at the field day on a yearly basis developed by the OSU Weed Science Program on appropriate seed and cereal grain production topics.*

2010 OSU Extension Wheat Production Short Course. A team approach to developing and delivering an intensive short course on western OR wheat production to meet demand for applied production information resulting from the dramatic increase in wheat acres from 2009-present. Thirty paid attendees, made up of agribusiness professional, wheat growers, OSU faculty and staff and OSU graduate students, attended the two day workshop. Course was team taught over a two day period by A. Hulting and M. Flowers and five other OSU research faculty. Course topics included wheat variety selection, agronomic issues, wheat growth and development, soil fertility and management, wheat quality and end uses, review of wheat diseases and their management, insect pests of wheat and weed management and herbicide resistance management in wheat. The short course was evaluated by participants following completion and results of that evaluation are provided here.

Course Presentations

Topic	Average Rating 1=poor, 3=average, 5 = excellent
Wheat Variety Selection and Planting Date/Rate	4.5
Wheat Growth and Development	4.6
OSU Wheat Breeding Program and Variety Development	4.3
Soil Fertility and Management for Wheat	4.0
Wheat Quality and End Uses	4.0
Diseases of Wheat and Their Management	4.5
Insect Pests of Wheat and Their Management	4.5
Weed Management Options in Wheat	4.5
Herbicide Resistance Management	4.5

Overall Workshop Evaluation

1) I found this workshop useful and informative.	Strongly Agree/Agree
2) The hands on portion/demonstrations within the presentations were useful and improved my understanding of the topic	Agree/Strongly Agree
3) I would recommend this workshop to my co-workers and colleagues.	Strongly Agree/Agree
4) The CCA and ODA credits were important factors in deciding to attend this workshop.	Neutral/Agree
5) The information and materials I gained from the workshop was worth the fee I paid to attend.	Agree/Strongly Agree

Team members: A. Hulting and M. Flowers. *Role: Co-organizer and instructor.*

OSU Extension/USFS/ODF/ODA/NRCS Vegetation Management Workshops for Riparian Planting Projects. A team approach to increase knowledge of principles and successful vegetation management techniques as well as foster development of new connections between practitioners and governmental agencies working in the field of riparian vegetation management. A total of three, 2-day workshops were completed throughout Oregon in 2007 in cooperation with both statewide and local partners and focused on topic areas including site preparation and invasive weed control, native plant selection, animal damage, and long-term maintenance of riparian planting. Team members: A. Hulting, G. Ahrens, C. Bubl, B. Kelpsas, M. Bennett, and B. Withrow-Robinson. *Role: Co-organizer and provided instruction at each workshop location on general weed management principles and specific invasive plant management techniques.*

vi. International Teaching

Prior to Present Position

Weed Ecology Workshop, University of the West Indies, Mona, Jamaica, November 9-10, 2004. A 2-day, invited workshop on weed ecology and management was delivered to university students enrolled in agricultural degree programs at the UWI near Kingston, Jamaica. Instruction involved classroom lectures and labs accompanied by field trips to local farms organized by university facilitators. Team members: A. Hulting, D. Mortensen, N. Reid, J. Cohen and J. Dauer. *Role: Co-organizer and provided specific weed management instruction during workshop on topics related to weed seedbank ecology and the role of crop rotation, the use of cover crops/mulches, and weed seed predation in development of reduced-herbicide input weed management systems.*

2. Student and Participant/Client Evaluation

i. Credit Courses

Course	Term	# of Students	SET 1 Score [*]	SET 2 Score [*]	CSS SET 1 Score [†]	CSS SET 2 Score [†]	CAS SET 1 Score [‡]	CAS SET 2 Score [‡]
CROP 418	Fall 2014							
CROP 407	Fall 2014							
CROP 480/580	Spring 2014							
CROP 418	Winter 2014	2						
CROP 407	Fall 2013	15	5.2	5.5				
CROP 418	Spring 2013	7	4.8	4.8				
CROP 418	Winter 2013	7	4.5	4.5				
CROP 407	Fall 2012	17	5.5	5.5	5.7	5.7		
CSS 418	Winter 2012	8	5.6	5.3				
CSS 407	Fall 2011	10	5.6	5.2	4.9	5.1		
CSS 418	Fall 2011	5	5.5	5.5	4.9	5.1		
CSS 418	Winter 2011	7	5.0	5.0	5.1	5.4	5.1	5.3
CSS 418	Fall 2010	5	5.5	5.0	4.4	4.7	5.0	5.3
CSS 407	Fall 2010	15	4.8	5.0	4.4	4.7	5.0	5.3
CSS 418	Fall	4	5.5	5.5	4.2	4.6	4.8	5.0

	2009							
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*SET scores reflect the students overall impression of the course (SET 1) and the instructors contribution (SET 2).

†CSS SET scores are the mean SET 1 and SET 2 scores for all 400 level courses taught in the Crop and Soil Science department during that particular term.

‡CAS SET scores are the mean SET 1 and SET 2 scores for all 400 level courses taught in the College of Agricultural Sciences during that particular term.

Selected comments provided by two students in CSS/HORT 407 Fall 2010.

“Thought you did a good job, Andy. I was worried about this course and am glad you were teaching it.”

“Instructor was great help! Spent time one-on-one to improve presentation skills. Course was great for quick 101 learning about topics (crops) otherwise missed in my (soil) education.”

3. Peer Teaching Evaluations

These evaluations were compiled by OSU faculty observing non-credit courses and educational programs I presented.

Evaluation was compiled by OSU faculty member and CSS Department Head Russ Karow observing a 50 minute educational workshop I presented titled: Weed Management Extension for the Seed Industry in OR. The audience was comprised of 45 grass seed growers and industry representatives attending the Oregon Seed Growers League Meeting in December, 2006.

Overall rating of teacher’s performance: 3.5 (scale of 1 to 4).

Evaluation was compiled by OSU Extension faculty member Melissa Fery observing a 60 minute educational workshop I presented titled: What to Do about Weeds? The audience was 35 small-acreage landowners participating in the Benton County Living on the Land Weed Class-Stewardship for Small Acreages in February, 2007.

“Good discussion on invasive plants. Nice explanation of weed spread mechanisms. Gave complete section on control measures-good relationship with management strategies. Andy is very knowledgeable, maybe a bit too scientific for this small farm audience? Very good educator, extremely knowledgeable.”

Overall rating of teacher’s performance: 4.0 (scale of 1 to 4).

Evaluation was compiled by OSU Extension faculty member Michael Flowers observing a 30 minute educational workshop I presented titled: Spring Weed Control in Grass

and Grain Crops. The audience was 35 growers participating in a Marion County Field Crops Growers Meeting in February, 2007.

“Very good job describing and covering the information. Good clear slides. Excellent presentation, you did a very good job working to get the audience involved. Very good job with the Q and A!”

Overall rating of teacher’s performance: 4.0 (scale of 1 to 4).

Evaluation was compiled by OSU Extension faculty member Richard Roseburg observing a 30 minute educational workshop I presented titled: Emerging Small Grain Weed Management Issues. The audience was 6 wheat growers participating in the KBREC Summer Small Grain Seminar July, 2008.

“Excellent talk. Excellent presentation overall. Very useful information. The handout was ok, the herbicide chart was great. Andy’s talk was great and he also interacted well during the field tour when appropriate.”

Overall rating of teacher’s performance: 4.5 (scale of 1 to 5).

Evaluation was compiled by OSU Extension faculty member Brian Tuck observing my 50 minute 3-year review promotion and tenure departmental seminar designed to update faculty on my research and Extension programs titled: Weed Management Extension Programming in OR-Serving Diverse Clientele. The audience was CSS faculty members and staff and the seminar was presented in March, 2009.

“He gave a good overview of his Extension and Research programs. I have a better appreciation of his work on and off campus. Also really appreciate his support for county programs and willingness to help and provide support when asked.”

Overall rating of teacher’s performance: 5.0 (scale of 1 to 5).

4. Advising

I do not have a formal academic advising role in our Department. However, I do interact with undergraduate students in our Department in that I serve as co-faculty advisor (along with Dr. Mike Flowers) for the OSU Crop Science Club. I have served in this role beginning in 2008. The club has grown to approximately 10 members yearly under our leadership. The club is a good venue to informally recruit students into the Crop Science options within our Department and valuable social outlet for our students to work on important service projects. For example, the club secured funding from the College of Agriculture to construct a weed garden at the Hyslop Crop Science Research Farm. The purpose of the weed garden is to provide an educational and training resource in weed identification for local students and agri-buisnesses. Club members designed, built, maintain, and lead educational/training tours in the weed garden. In addition to being a valuable service project, the weed garden has provided club members the opportunity to interact with potential employers in a professional setting. Club members have expressed interest in more hands-on cropping experience. To meet these needs, the club is currently planning additional service projects, such as constructing a crops garden, to provide club members with these skills.

5. Other Assignments

i. Major Extension Programs

My statewide Extension teaching approaches are informed by the diversity of audiences and agricultural/land management philosophies in Oregon and range from one-on-one consultation with individual growers to large conference-type presentations attended by several hundred clientele. I have participated in single topic workshops to full-day multiple session conferences. Since my appointment I have helped design, organize, and conduct many field days, workshops and statewide conferences. These educational programs generally use participants in program planning and often are the product of both formal and informal ongoing clientele needs assessments. The key to my Extension programs is the ability to respond to these clientele groups with research-based subject matter. Applied research results are provided to clientele through web publications, presentations and Extension publications. Three examples of my Extension education and applied research programs follow. Goals in all program areas have been developed, funding to complete research secured and support has been obtained through collaborative efforts with campus-based research faculty and local Extension educators.

1. Development, Evaluation and Communication of Weed Management Strategies Leading to Adoption

Situation

Weed management challenges continue to be a major production constraint in a variety of seed crops produced in Oregon. Growers continue to seek out information developed by the OSU Weed Science Group that helps them manage weeds in both an environmentally safe and economically viable fashion.

Example Methods/Actions

Traditional Extension publications, hosting tours of small-plot research, development of weed management workshops and classes and participation at agricultural producer meetings that build off the OSU Weed Science Group's applied research all deliver needed weed management information to Extension faculty, agribusinesses, and seed growers.

Impacts

To provide an estimate of the economic impact on the grass grown for seed industry in Oregon of my Extension and research role as part of the OSU Weed Science Group an example of a weed management issue that was improved as a result of our work is provided here.

We documented the effectiveness through field research of several herbicides, including fenoxaprop and mesotrione, which selectively control problem grass weed species growing in grass seed crops. Our program then succeeded in developing the necessary use pattern data that eventually led to the implementation of special-local-needs and Section 3 herbicide labels developed by several companies. This led to the adoption of our recommendations by grass seed growers that were actively promoted through my Extension education efforts and has substantially limited devastating losses for grass seed growers. Without these efforts, annual

losses on perennial ryegrass acreage would amount to millions of dollars from both lost yield due to competition from weeds and increased seed cleaning costs due to the presence of these grass weed seeds in the seed crop. The following illustrates the potentially devastating losses to growers of perennial ryegrass without the use of our recommended control strategies using economic data from 2007, which was near the peak of grass seed production prior to economic conditions that have led to a reduction in grass seed production.

The statewide average yield of perennial ryegrass in 2007 was 1,500 lb/acre, sold at the average price of \$66.59/cwt.

- Initial cleaning costs for this seed are \$235.35/acre.
- If a field is heavily infested with grass weeds, at least 20% yield loss is expected, reducing per acre seed yield to 1,200 lbs/acre, costing \$198/acre.
- Given a heavy grass weed infestation, the seed would likely have to be cleaned a second time to approach certification and industry contract standards. Re-cleaning typically results in an average of 8.5% loss in seed weight worth $(8.5\% \cdot 1,200 \text{ lbs} \cdot \$0.6659 / \text{lb}) = \$67.92/\text{acre}$.
- The cost of this second cleaning operation is 75% of the initial cleaning, or \$177/acre.
- In heavily infested fields, even with a second cleaning, all the weed seeds cannot be removed, so the crop would likely be sold at a price discount of, e.g., \$3.50/cwt, resulting in an additional loss of $1,098 \text{ lbs} \cdot \$0.0035 = \$3.84$.

If the crop is not rejected completely, this brings the potential loss (not counting the initial cleaning cost) to \$446.76/acre. It is probable that around one-fourth of the perennial ryegrass acreage in Oregon could suffer such losses [$\$446.76/\text{acre} \cdot (161,121 \text{ total acres}/4)$] = almost \$18 million.

Thus, a very conservative overall estimate of the net value our Extension and research programs to Oregon grass seed producers and associated industries as illustrated by this example is, perhaps, \$10 million per year.

For examples of related scholarship see Section C. Scholarship and Creative Activity-1. Publications and 2. Presentations to Peers and Clientele.

2. Biology and Ecology of Difficult to Manage Weed Species

Situation

Many weed species persist in Oregon cropping systems for which little information exists related to their biology and ecology. Information on these species must be collected, improved upon and communicated so that more informed management strategies can be developed by growers and land managers.

Example Methods/Actions

Detailed research studies have been conducted to determine the life-history strategies (perennial, biennial, or winter annual), germination periodicity, seedbank dynamics and other traits of several weed species. Recently, these species have included California brome (*Bromus carinatus*), hare barley (*Hordeum murinum* spp. *leporinum*) and rattail fescue (*Vulpia myuros*), all of which can be problematic in various cropping systems throughout Oregon. Based on the

research results, detailed Extension publications and research reports have been produced, often through the support of commodity commission dollars, and distributed to the impacted grower groups.

Impacts

Because the determination of which species to pursue research on is often communicated by or dictated by grower and clientele feedback or funded through commodity-specific organizations, we know that this type of research and extension education is valuable to growers and having an impact on their management practices. This impact is reflected in incremental improved management of the species over time based on a better understanding of how the weed is functioning in a particular cropping system and causing crop losses.

For examples of related scholarship see Section C. Scholarship and Creative Activity-1. Publications and 2. Presentations to Peers and Clientele.

3. Development of Applied Research and Educational Programming on Non-Agricultural Invasive Weed Species

Situation

There is a documented need for applied research and Extension programming related to invasive weed management in Oregon. Oregon State University scientists have the ability to provide credible, science-based information on the biology and management of some of these weed species and are seen as important leaders and members on the team of state-wide public agency personnel currently working on invasive species issues.

Example Methods/Actions

A graduate MS thesis project was initiated in 2007 to develop cultural and chemical control strategies in western Oregon for the invasive weed, Japanese knotweed (*Polygonum cuspidatum*). In addition to management of the Japanese knotweed, experimental methods were designed to explore ways to restore the invaded site with native grasses. This project was completed and research results have been published and communicated to state and local agencies and non-governmental organizations (NGO's) tasked with managing invasive knotweeds. A research tour was held at the site during 2009 and attended by OSU Extension staff and personnel from multiple state and county agencies. Extension publications authored by a group of OSU Extension agriculture and water quality faculty detailing the results of the experiments have been developed.

Impacts

This project has led to increased interaction between OSU Extension and NGO's, such as local watershed councils and the Japanese Knotweed Working Group, a group of researchers and NGO personnel working on Japanese knotweed management in western Oregon. Standardization in the methods that Japanese knotweed is currently being managed with has resulted from the data sharing on effective treatments and is a direct result of our research and Extension education related to this species.

For examples of related scholarship see Section C. Scholarship and Creative Activity-1. Publications and 2. Presentations to Peers and Clientele.

ii. Evaluation of Major Extension Programs

The following are comments and evaluations made by participants in selected educational events that are part of the example Extension Teaching/Major Extension Programs presented above. In all instances, I participated in the development of the content and approach to learning and taught segments of each of the programs. The first are comments and evaluations of typical presentations I have made in workshops where the goal was to update growers on recent research results developed by the OSU Weed Science Program or to provide education on a particular topic such as herbicide resistance in weed species or herbicide mode of action. The second are participant evaluations of workshops where I have presented material on the biology and ecology of weeds focusing on general implications for weed management.

1.) Development, Evaluation and Communication of Weed Management Strategies Leading to Adoption

- a. Perennial Ryegrass Tolerance to Herbicides and Grass Control with PowerFlex in Winter Wheat. 2/4/09. Albany, OR, Wilbur-Ellis Company Grower Meeting (140 growers).

Comments provided by Steve Salisbury, Field Representative, Wilbur-Ellis Company.
“We would like to extend our thanks to you for helping make our 2009 Grower Meeting a success. We have received numerous positive comments on the agenda, the information provided and the speakers themselves. Overall the growers felt this years meeting was well worth their attendance. We appreciate you taking time from your busy schedule to present at our meeting. We are looking forward to the opportunity of working with you again.”

- b. Role of Weed Ecology in Integrated Weed Management. 12/18/08. NE Oregon Pesticide Applicator CORE Polycom Training Course. Union, Baker and Wallowa Counties (82 growers and industry field reps).

Survey results and impact documentation provided by Tim Stock, IPM Education Specialist, IPPC, OSU.
2008 NE Oregon Private Pesticide Applicator and Pre-License Training: 82 participants attended the 2008 training sessions held in Union, Baker, and Wallowa Co. 34 participants from all 3 counties (or 41% of all participants) completed IRB certified survey designed to evaluate knowledge levels PRE and POST training and overall effectiveness of the sessions. Twelve survey respondents attended the 2008 training session in preparation for taking a state exam and 75% of those participants found the training sessions to be moderately to highly effective in preparing to take a state pesticide license exam. Twenty four survey respondents attended the 2008 training session to obtain pesticide applicator re-certification credit and 100% of those participants found the training sessions to be moderately to highly effective. The group of 34 respondents (29% preparing to take a state exam and 71% attending for re-certification credit)

represented 16 private pesticide applicators, 1 consultant, 5 public pesticide applicators, and 2 commercial applicators.

- c. Herbicide Persistence in the Soil. 2/14/07. Ontario, OR, Eastern OR Weed Short Course (150 attendees, industry/growers).

Mode of Action of Common Herbicides. 2/14/07. Ontario, Or, Eastern OR Weed Short Course (150 attendees, industry/growers).

Comments provided by Lynn Jensen, Professor, Malheur County Extension.
“Thank you for traveling to Ontario to speak at our weed shortcourse. The evaluation forms turned in by participants rated the course at 4.0 out of a possible 5.0 points. Your presentations added greatly to that evaluation and to the way the course was received. Ontario is a long way away, so I appreciate your coming to make our shortcourse a success.”

2.) Biology and Ecology of Problematic Weed Species

- a. Assessing Your Weed Problem and Control Options: Dalmatian Toadflax, Scotch Thistle and Other Thistles. 7/22/09. Klamath Falls, OR, Klamath County Noxious Weed Tour. (35 landowners and USFS, USFW and TNC personnel).

Data summarized from an OSU Extension Evaluation Feedback Form

Did this workshop meet your expectations?

Yes 24 No 0

How would you rank the quality of this program, overall?

Excellent 10 Great 14 Good 0 I Wish I Would Not Have Attended 0

What made you want attend this workshop/comments?

“Networking among other professionals and meet members of the weed control community. Very knowledgeable presenters who know their weeds and patiently answered all questions.”

- b. Weed Biology and Ecology. 10/15/08. Albany, OR, OSU Small Farms Extension Living on the Land Workshops w/Melissa Fery (35 small-acreage landowners).

Weed Management and Identification and Common Poisonous Plants of OR. 8/14/08. Creswell, OR, OSU Small Farms Extension Living on the Land Workshops w/Melissa Fery (55 small acreage landowners).

Data summarized from an OSU Extension Teaching Evaluation Feedback Form

Overall value of the Weeds Class portion of the Living on the Land Series.

Albany: 4.0 (scale of 1 to 5)

Creswell: 4.1 (scale of 1 to 5)

- c. Weed Biology and Ecology. 4/14/07. Redmond, OR, Living on a Few Acres-Idea and Opportunity Expo-Crook County Extension Service (10 small-acreage landowners).

Data summarized from an OSU Extension Teaching Evaluation Feedback Form
 Overall teaching ability of the instructor: 3.3 (scale 1 to 4)
 Level of knowledge on subject matter prior to presentation: 4.4 (scale 1 to 10)
 Level of knowledge on subject matter after the presentation: 6.7 (scale 1 to 10)

iii. Consultation with Clientele and Interaction with Media Outlets

Individual consultations on technical weed management matters via on-farm and office visits, Ask An Expert questions via eXtension, email, text messages or telephone inquiries are an extremely valued and expected role of Extension faculty which I engage in regularly. Topics of these consultations include various agricultural weed and invasive plant management issues coupled with general crop management discussions. From 2006 through the present, these types of contacts have averaged over several hundred per year. I also provide weed management information to media outlets, including newspapers and television stations, upon request.

C. SCHOLARSHIP AND CREATIVE ACTIVITY

1. PUBLICATIONS

Publication Summaries

Year	Peer-Reviewed		
	Refereed Articles	Numbered Regional Extension Publications	Research Reports
2014			
2013	1	2	2
2012	3	2	2
2011	5	3	2
2010	1	6	3
2009	1	4	2
2008		5	2
2007		3	1
2006			
Prior to Present Position 2005-1997	3		2
Total	14	25	16

Year	Other Publications	
	Published Abstracts and Proceedings	Producer Newsletters and Popular Press Publications

2014		
2013	11	2
2012	13	3
2011	8	3
2010	1	2
2009	5	1
2008	5	7
2007	4	2
2006	6	
Prior to Present Position 2005-1997	14	
Total	67	20

a. Peer Reviewed

* indicates graduate student

indicates postdoctoral research associate

i. Refereed Articles

Jongejans, E., O. Skarpaas, M. J. Ferrari, E. S. Long, J. T. Dauer, C. M. Schwarz, E. S. J. Rauschert, R. Jabbour, D. A. Mortensen, S. A. Isard, D. A. Lieb, Z. Sezen, **A. G. Hulting** and K. Shea. 2014. A unifying gravity framework for dispersal. *Theoretical Ecology* (Submitted). *Role: Provided manuscript preparation, editing and technical review.*

Intanon, S., R. L. Reed, J. F. Stevens, **A. G. Hulting** and C. A. Mallory-Smith. 2014. Identification and phytotoxicity of a new glucosinolate breakdown product from meadowfoam (*Limnanthes alba*) seed meal. *J. of Ag. and Food Chem.* (Accepted). *Role: Provided manuscript preparation, editing and technical review.*

Intanon, S., **A. G. Hulting**, D. D. Myrold and C. A. Mallory-Smith. 2014. Short-term effects of soil amendment with meadowfoam seed meal on microbial composition and function. *Applied Soil Ecology* (Submitted). *Role: Provided manuscript preparation, editing and technical review.*

Intanon, S., **A. G. Hulting** and C. A. Mallory-Smith. 2014. Field evaluation of meadowfoam (*Limnanthes alba*) seed meal for weed management. *Weed Science* (Submitted). *Role: Provided manuscript preparation, editing and technical review.*

Martins, B.A.B., E. Sánchez-Olguín, A. Perez-Jones, **A.G. Hulting** and Carol Mallory-Smith. 2014. Alleles contributing to ACCase-resistance in an Italian ryegrass (*Lolium multiflorum* L.) population from Oregon. *Weed Sci.* (Accepted). *Role: Provided manuscript preparation, editing and technical review.*

- Alderman, S.C., S. G. Elias, and **A. G. Hulting**. 2014. Occurrence and trends of weed seed and ergot contaminants in *Poa pratensis* and *Poa trivialis* seed lots in Oregon. *Seed Tech.* (Accepted). *Role: Provided manuscript preparation, editing and technical review.*
- Leslie, T. W., D. J. Biddinger, J. Rohr, **A. G. Hulting**, D. A. Mortensen and S. J. Fleischer. 2014. Examining shifts in Carabidae assemblages across a forest-agriculture ecotone. *Environmental Entomology* 43 (1): 18-28. *Role: Provided data collection, statistical analysis and manuscript editing and technical review.*
- Liu, M., **A. G. Hulting** and C. A. Mallory-Smith. 2013. Characterization of multiple-herbicide-resistant Italian ryegrass (*Lolium perenne* spp. *multiflorum*). *Pest Management Science.* (wileyonlinelibrary.com) DOI 10.1002/ps.3665. *Role: Provided data collection, manuscript preparation, editing and technical review.*
- Alderman, S.C., S. G. Elias, and **A. G. Hulting**. 2012. Occurrence and trends of weed seed contaminants and pathogen contaminants in bentgrass seed lots in Oregon. *Seed Tech.* 34 (2):39-51. *Role: Provided manuscript preparation, editing and technical review.*
- Avila-Garcia, W. V., E. Sanchez, **A.G. Hulting** and C. Mallory-Smith. 2012. Target-site mutation associated with glufosinate resistance in Italian ryegrass (*Lolium perenne* L. ssp. *multiflorum*). *Pest Management Science.* 68(9):1248-1254. *Role: Provided manuscript preparation, editing and technical review.*
- Hulting, A. G.**, J. T. Dauer [#], B. Hinds-Cook, D. Curtis, R. M. Koepke-Hill and C. Mallory-Smith. 2012. Management of Italian ryegrass (*Lolium perenne* ssp. *multiflorum*) in western Oregon with preemergence applications of pyroxasulfone in winter wheat. *Weed Technol.* 26:230-235. *Role: Primary author, responsible for experimental design, implementation, statistical analysis, and manuscript preparation.*
- Intanon, S., A. Perez-Jones, **A. G. Hulting** and C. Mallory-Smith. 2011. Multiple Pro₁₉₇ ALS substitutions endow resistance to ALS inhibitors within and among *Anthemis cotula* populations. *Weed Sci.* 59:431-437. *Role: Provided manuscript preparation, editing and technical review.*
- Felix, J., J. T. Dauer [#], **A. G. Hulting** and C. Mallory-Smith. 2011. Yellow nutsedge (*Cyperus esculentus* L.) growth and tuber production in response to glyphosate and experimental adjuvant. *Weed Technol.* (In Press). doi: 10.1614/WT-D-11-00066.1 *Role: Provided manuscript preparation, editing and technical review.*
- Alderman, S.C., S. G. Elias, and **A. G. Hulting**. 2011. Occurrence and trends of weed seed contaminants in fine fescue seed lots in Oregon. *Seed Tech.* 33 (1):7-21. *Role: Provided manuscript preparation, editing and technical review.*
- Barbercheck, M.E., N.E. Kiernan, **A. G. Hulting**, S. Duiker, J. Hyde, H. Karsten, and E. Sanchez. 2011. Meeting the “multi-” requirements in organic agriculture research: successes, challenges, and recommendations for multifunctional, multidisciplinary,

participatory projects. *Renew. Agr. Food Syst.* doi:10.1017/S1742170511000214. *Role: Responsible for experimental design, implementation of research and manuscript preparation.*

Smith, R.G., M.E. Barbercheck, D.A. Mortensen, J. Hyde and **A.G. Hulting**. 2011. Effects of cover crop and tillage system on crop yields, weed abundance and net returns during the transition to organic feed grain production. *Agron. J.* 103: 51-59. *Role: Responsible for experimental design, implementation, statistical analysis, and manuscript preparation.*

Rudenko, M^{*} and **A.G. Hulting**. 2010. Integration of chemical control with restoration techniques for management of *Fallopia japonica* populations. *Management of Biological Invasions* 1:37-49. *Role: Responsible for experimental design, implementation, statistical analysis, and manuscript preparation.*

Smith, R.G., R. Jabbour, **A.G. Hulting**, M.E. Barbercheck, and D.A. Mortensen. 2009. Effects of initial seed bank density on weed seedling dynamics during the transition to an organic feed grain crop rotation. *Weed Sci.* 57:533-540. *Role: Responsible for experimental design, implementation, statistical analysis, and manuscript preparation.*

Prior to Present Position

Peterson, R.K.D. and **A.G. Hulting**. 2004. A comparative ecological risk assessment for herbicides used on spring wheat: The impact of glyphosate when used within a glyphosate-tolerant wheat system. *Weed Sci.* 52:834-854. *Role: Primary author, provided experimental results and statistical analysis.*

Mickelson, J., A.J. Bussan, E.S. Davis, **A.G. Hulting**, and W.E. Dyer. 2004. Postharvest kochia (*Kochia scoparia*) management with herbicides in small grains. *Weed Technol.* 18:426-431. *Role: Provided experimental results and statistical analysis.*

Hulting, A.G., L.M. Wax, R.L. Nelson, and F.W. Simmons. 2001. Soybean (*Glycine max* (L.) Merr.) cultivar tolerance to sulfentrazone. *Crop Prot.* 20:679-683. *Role: Primary author, responsible for experimental design, implementation, statistical analysis, and manuscript preparation.*

ii. Numbered Regional Extension Publications

Crop Management and OSU Crop Variety Guides

Hart, J. M., D. M. Sullivan, N. P. Anderson, **A.G. Hulting**, D. A. Horneck and N. W. Christensen. 2013. Soil Acidity in Oregon-Understanding and Using Concepts for Crop Production. EM 9061 22 pp. *Role: Secondary author, responsible for weed science portion of publication and technical review and revision of entire document.*
<http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/41199/em9061.pdf>

Hart, J., N. P. Anderson, **A. G. Hulting**, T. G. Chastain, M.E. Mellbye, W. C. Young III, and T. B. Silberstein. 2012. Postharvest Residue Management for Grass Seed Production in Western Oregon. EM 9051. 18 pp. *Role: Secondary author, responsible for weed science portion of publication and technical review and revision of entire document.*

<http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/33454/em9051.pdf>

Hart, J.M., D.M. Sullivan, M.E. Mellbye, **A.G. Hulting**, N.W. Christensen and G.A. Gingrich. 2010. Nutrient Management Guide-Peppermint (Western Oregon), EM 9018-E. 18 pp. *Role: Secondary author, responsible for weed science portion of publication and technical review and revision of entire document.*

<http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/19693/em9018.pdf>

Flowers, M., C.J. Peterson, **A.G. Hulting**, J. Burns, S. Guy, and J. Kuehner. Skiles Soft White Wheat Variety Guide. EM 9004-E 2010. 9 pp.

<http://ir.library.oregonstate.edu/jspui/bitstream/1957/15300/1/em9004.pdf>

Role: Provided manuscript preparation, editing and technical review.

Flowers, M., C.J. Peterson, **A.G. Hulting**, J. Burns, S. Guy, and J. Kuehner. ORCF-103 CLEARFIELD* Soft White Winter Wheat Variety Guide. EM 9006-E 2010. 11pp.

<http://ir.library.oregonstate.edu/jspui/bitstream/1957/15319/1/em9006.pdf>

Role: Provided manuscript preparation, editing and technical review.

Flowers, M., C.J. Peterson, **A.G. Hulting**, J. Burns, S. Guy, and J. Kuehner. Tubbs 06 Soft White Wheat Variety Guide. EM 8993-E 2009. 9 pp.

<http://ir.library.oregonstate.edu/jspui/bitstream/1957/13599/1/em8993.pdf>

Role: Provided manuscript preparation, editing and technical review.

Flowers, M., C.J. Peterson, **A.G. Hulting**, J. Burns, S. Guy, and J. Kuehner. Tubbs Soft White Wheat Variety Guide. EM 8992-E 2009. 6 pp.

<http://ir.library.oregonstate.edu/jspui/bitstream/1957/13598/1/em8992.pdf>

Role: Provided manuscript preparation, editing and technical review.

Flowers, M., C.J. Peterson, **A.G. Hulting**, J. Burns, and J. Kuehner. ORCF-101 CLEARFIELD* Soft White Winter Wheat Variety Guide. EM 8971-E 2008. 11 pp.

<http://extension.oregonstate.edu/catalog/pdf/em/em8971-e.pdf>

Role: Provided manuscript preparation, editing and technical review.

Flowers, M., C.J. Peterson, **A.G. Hulting**, J. Burns, and J. Kuehner. ORCF-102 CLEARFIELD* Soft White Winter Wheat Variety Guide. EM 8972-E 2008. 11 pp.

<http://extension.oregonstate.edu/catalog/pdf/em/em8972-e.pdf>

Role: Provided manuscript preparation, editing and technical review.

Hulting, A.G., B. Brewster, C. Mallory-Smith, R. Affeldt, B. Hinds-Cook, and J. Krenz. Weed Management in Mint. 2008. EM 8774. Tri-fold poster publication. *Role: Primary author, responsible for manuscript preparation and revision.*

Pacific Northwest Weed Management Handbook

Hulting, A.G. PNW Weed Management Handbook–Restricted Use Herbicides, Winter Wheat-West of the Cascades, Grass Seed Crops, Clover Seed, Camelina , Managing Small Pastures and Control of Problem Weeds Chapters. WEED

<http://extension.oregonstate.edu/catalog/pdf/weed/weed.pdf>

Role: Associate Editor for entire handbook and primary author of listed chapters responsible for content, editing and technical review from 2007-2014. Annual revisions are included as 1 citation per year in publication summary tables.

Weed Management in Pasture Publications

Cash, D., **A.G. Hulting**, M. Bohle, and D. Hannaway. 2010. Chapter 12: Health Considerations for Grazing Animals. p.119-132. *In* G.E. Shewmaker and M.G. Bohle (eds.) Pasture and Grazing Management in the Northwest, PNW 614, University of Idaho Extension, Moscow. *Role: Primary author, responsible for manuscript preparation and revision.*

Hulting, A.G. and K. Neff. 2010. Management Strategies for Dealing with Select Poisonous Plants in Oregon. *In* Oregon State University-Beef Cattle Sciences / Beef Cattle Library, BEEF022. 7 pp.

<http://beefcattle.ans.oregonstate.edu/html/publications/documents/BEEF022-PoisonousPlants.pdf>

Role: Primary author, responsible for manuscript preparation and revision.

Publications on Biology/Ecology and Management of Problem Weed Species

Lyon, D. J., **A. G. Hulting**, and D. W. Morishita. Integrated Management of Feral Rye in Winter Wheat. PNW 660. 2014. 7 pp.

<http://cru.cahe.wsu.edu/CEPublications/PNW660/PNW660.pdf>

Role: Primary author, responsible for manuscript preparation and revision.

Mallory-Smith, C., **A. G. Hulting**, D. Thill, D. Morishita, and J. Krenz. Herbicide-Resistant Weeds and Their Management. PNW 437. 2007. Revised by J. Campbell, C. Mallory-Smith, **A. Hulting** and D. Thill in April 2011. 5 pp.

<http://info.ag.uidaho.edu/pdf/PNW/PNW0437.pdf>

Role: Secondary author, responsible for manuscript preparation and revision.

Emanuel, R., **A. G. Hulting** and R. M. Koepke-Hill. 2011. Biology and Management of Knotweeds in Oregon: A Guide for Gardeners, Small Acreage Landowners and Others. EM 9031. 5 pp.

<http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/21809/em9031.pdf>

Role: Primary author, responsible for manuscript preparation and revision.

Ball, D. and **A.G. Hulting**. Rattail Fescue – Biology and Management in Pacific

Northwest Cropping Systems. PNW 613. 2009. 8 pp.
<http://ir.library.oregonstate.edu/jspui/bitstream/1957/12927/1/PNW613.pdf>
Role: Primary author, responsible for manuscript preparation.

Hulting, A.G., K. Neff, E. Coombs, R. Parker, G. Miller, and L.C. Burrill. Scotch Broom Biology and Management in the Pacific Northwest. PNW 103. 2008. 8 pp.
<http://extension.oregonstate.edu/catalog/pdf/pnw/pnw103.pdf>
Role: Primary author, responsible for manuscript preparation and revision.

Hulting, A.G., J. Krenz, and R. Parker. Paterson's Curse (*Echium plantagineum*) in the Pacific Northwest. PNW 602-E. 2007. 4pp.
<http://extension.oregonstate.edu/catalog/pdf/pnw/pnw602-e.pdf>
Role: Primary author responsible for manuscript preparation.

iii. Research Reports

The annual Seed Production Research Report is directed at Oregon's seed industry as an Extension publication focused on summarizing information from the various seed research programs at OSU and USDA-ARS. This report has been published for the last 29 year through a grant from the Oregon Seed Council (OSC), and is distributed to seed growers throughout the state using the OSC mailing list of 1,350 individuals. In addition, the report is distributed to over 60 international seed researchers associated with the International Herbage Seed Group (www.ihsg.org). Lastly, the report is available on line that Oregon Seed Extension Program web site (<http://cropandsoil.oregonstate.edu/seed-ext/publications/research-reports>), and through OSU's ScholarsArchive.

Alderman, S. C., S. Elias and **A.G. Hulting**. 2012. Occurrence and trends of weed seed contaminants in fine fescue seed lots in Oregon. Edited by **A. G. Hulting**, N. Anderson, D. Walenta and M. Flowers. Department of Crop and Soil Science Ext/CrS 143. 6pp.
Role: Primary author, responsible for report preparation and revision.

Curtis D. W. K. C. Roerig, **A.G. Hulting**, and C.A. Mallory-Smith. 2012. Annual bluegrass management with pyroxasulfone and flumioxazin in perennial ryegrass and tall fescue grown for seed. Edited by **A. G. Hulting**, N. Anderson, D. Walenta and M. Flowers. Department of Crop and Soil Science Ext/CrS 143. 3pp. *Role: Primary author, responsible for report preparation and revision.*

Curtis D. W. K. C. Roerig, **A.G. Hulting**, and C.A. Mallory-Smith. 2011. Saflufenacil use in cool season grasses grown for seed. 2011 Seed Production Research at Oregon State University. Edited by William C. Young III. Department of Crop and Soil Science Ext/CrS 131. 5pp. *Role: Primary author, responsible for report preparation and revision.*

Curtis D. W. K. C. Roerig, **A.G. Hulting**, and C.A. Mallory-Smith. 2011. Alternative herbicides to diuron in carbon seeded perennial ryegrass (*Lolium perenne*) grown for seed. 2011 Seed Production Research at Oregon State University. Edited by William C. Young III. Department of Crop and Soil Science Ext/CrS 131. 3pp. *Role: Primary*

author, responsible for report preparation and revision.

Hinds-Cook, B.J., D.W. Curtis, **A.G. Hulting**, and C.A. Mallory-Smith. 2010. Tolerance of teff to herbicides. 2010 Seed Production Research at Oregon State University. Edited by William C. Young III. Department of Crop and Soil Science Ext/CrS 130. 2pp. *Role: Primary author, responsible for report preparation and revision.*

Curtis, D. W., B. J. Hinds-Cook, **A.G. Hulting**, and C.A. Mallory-Smith. 2010. Sharppoint fluvellin biology and management in spring-seeded tall fescue grown for seed. 2010 Seed Production Research at Oregon State University. Edited by William C. Young III. Department of Crop and Soil Science Ext/CrS 130. 4 pp. *Role: Primary author, responsible for report preparation and revision.*

Hinds-Cook, B.J., D.W. Curtis, **A.G. Hulting**, and C.A. Mallory-Smith. 2009. Postemergence grass weed control options in vetch grown for seed. 2009 Seed Production Research at Oregon State University. Edited by William C. Young III. Department of Crop and Soil Science Ext/CrS 129. 1 p. *Role: Primary author, responsible for report preparation and revision.*

Hinds-Cook, B.J., D.W. Curtis, **A.G. Hulting**, and C.A. Mallory-Smith. 2009. Tolerance of teff to herbicides. 2009 Seed Production Research at Oregon State University. Edited by William C. Young III. Department of Crop and Soil Science Ext/CrS 129. 2 pp. *Role: Primary author, responsible for report preparation and revision.*

Hinds-Cook, B.J., D.W. Curtis, **A.G. Hulting**, C.A. Mallory-Smith, K.W. Robb, D.C. Darris and J.J. Williams. 2008. Tolerance of established blue wildrye to herbicides. 2008 Seed Production Research at Oregon State University. Edited by William C. Young III. Department of Crop and Soil Science Ext/CrS 128. 1 p. *Role: Primary author, responsible for report preparation and revision.*

Hinds-Cook, B.J., D.W. Curtis, C.A. Mallory-Smith, **A.G. Hulting**, K.W. Robb, D.C. Darris and J.J. Williams. 2008. Tolerance of carbon-seeded meadow barley and blue wildrye to diuron. 2008 Seed Production Research at Oregon State University. Edited by William C. Young III. Department of Crop and Soil Science Ext/CrS 128. 1 p. *Role: Primary author, responsible for report preparation and revision.*

Hinds-Cook, B.J., D.W. Curtis, C.A. Mallory-Smith, and **A.G. Hulting**. Control of Mannagrass in Grasses Grown for Seed. 2007. Seed Production Research at Oregon State University. Edited by William C. Young III. Department of Crop and Soil Science Ext/CrS 127. 2 pp. *Role: Primary author, responsible for report preparation and revision.*

Weed Management in Pasture Research Report

Peters, A., S. Filley and **A.G. Hulting**. 2010. Forage values of pasture weeds in

southwestern Oregon. Oregon State University-Beef Research Report 2010. 6 pp. *Role: Provided content, editing and technical review.*

Prior to Present Position

Hulting, A.G. Organic Weed Management: Balancing Pest Management and Soil Quality in a Transitional System. Funded by USDA IREECGP-IPM-ORG-112.E 2005 Annual Report.

<http://transtoorg.cas.psu.edu/PDFs/Transition2Organic.pdf>

Role: Primary author, responsible for report preparation and revision.

Hulting, A.G. Organic Weed Management: Balancing Pest Management and Soil Quality in a Transitional System. Funded by USDA IREECGP-IPM-ORG-112.E 2003/2004 Annual Report.

<http://transtoorg.cas.psu.edu/PDFs/Transition2Organic.pdf>

Role: Primary author, responsible for report preparation and revision.

b. Other Publications

i. Published Abstracts and Proceedings

Roerig, K.C., D. W. Curtis, **A.G. Hulting** and C. Mallory-Smith. 2014. Expanding uses for pyroxasulfone: pyroxasulfone and pyroxasulfone + flumioxazin use in peppermint grown for oil. Proc. West. Soc. Weed Sci. Vol.67: (In Press).

Curtis, D., K. C. Roerig, **A. G. Hulting**, and C. Mallory-Smith. 2014. Weed management for western Oregon grass seed crops: two steps forward, one step back. Proc. West. Soc. Weed Sci. Vol.67: (In Press).

Miskella, J., **A.G. Hulting**, and C. Mallory-Smith. 2014. Do hybrids of yellow starthistle and meadow knapweed backcross with parent species? Proc. West. Soc. Weed Sci. Vol.67: (In Press).

Hulting, A. G., K. C. Roerig, D. W. Curtis, C. Mallory-Smith. 2014. Variety, planting date and herbicides affect fiber and oilseed flax biomass and seed yields in the Willamette Valley of Oregon. WSSA Abstracts (In Press).

Jang, S. J., K. R. Kim, Y. B. Yun, K. H. Hyun, D. I. Kim, C. A. Mallory-Smith, **A. G. Hulting** and Y. I. Kuk. 2014. Effect of various organic emulsifiers on crop growth and weed control. WSSA Abstracts (In Press).

Intanon, S., **A. G. Hulting**, J. F. Stevens, R. L. Reed and C. Mallory-Smith. 2014. Identification of a new glucosinolate breakdown product and its phytotoxicity against seed emergence and growth. WSSA Abstracts (In Press).

- Intanon, S., **A. G. Hulting** and C. Mallory-Smith. 2013. Meadowfoam seed meal effects on weed and soil microbial communities. *Proc. West. Soc. Weed Sci.* Vol.66: (In Press).
- Liu, M., **A. G. Hulting** and C. Mallory-Smith. 2013. Multiple-resistance in *Lolium spp. perenne multiflorum*. *Proc. West. Soc. Weed Sci.* Vol.66: (In Press).
- Attarian, A., C. Mallory-Smith and **A. G. Hulting**. 2013. *Arundo donax* response to preemergence and postemergence herbicides. *Proc. West. Soc. Weed Sci.* Vol.66: (In Press).
- Miskella, J., **A.G. Hulting**, and C. Mallory-Smith. 2013. Crossing yellow starthistle and meadow knapweed to determine if hybrids will be produced. *Proc. West. Soc. Weed Sci.* Vol.66: (In Press).
- Curtis, D., **A. G. Hulting**, C. Mallory-Smith and K. C. Roerig. 2013. Advances in control of diuron resistant annual bluegrass (*Poa annua*) in cool season grasses grown for seed. *Proc. West. Soc. Weed Sci.* Vol.66: (In Press).
- Roerig, K.C., D. W. Curtis, **A.G. Hulting** and C. Mallory-Smith. 2013. Management of multiple resistant Italian ryegrass in winter wheat with pyroxasulfone. *Proc. West. Soc. Weed Sci.* Vol.66: (In Press).
- Hulting, A. G.**, K. C. Roerig, D. W. Curtis, C. Mallory-Smith. 2013. What's old is new again: fiber and oilseed flax production in the Willamette Valley of Oregon? *Proc. West. Soc. Weed Sci.* Vol.66: (In Press).
- Liu, M., **A. G. Hulting** and C. Mallory-Smith. 2013. Flufenacet-resistant Italian ryegrass (*Lolium spp. perenne multiflorum*) populations are not pyroxasulfone-resistant. WSSA Abstracts (In Press).
- Mallory-Smith, C., **A. G. Hulting** and B. D. Hanson. 2013. Glyphosate Resistance: Lessons from the West. Environmental Assessment of Herbicide Resistance Symposium. WSSA Abstracts (In Press).
- Hulting, A. G.**, D. W. Curtis, K. C. Roerig and C. Mallory-Smith. 2013. Management of diuron resistant annual bluegrass in grasses grown for seed with pyroxasulfone and pyroxasulfone plus flumioxazin. WSSA Abstracts (In Press).
- Intanon, S., **A. G. Hulting**, D. Myrold and C. Mallory-Smith. 2013. Impacts of meadowfoam seed meal amendment on weeds and soil microbial activity. 4th Tropical Weed Science Conference. Chiang Mai, Thailand.
- Liu, M., **A. G. Hulting** and C. Mallory-Smith. 2012. Multiple-resistance in *Lolium spp. perenne multiflorum*. Proceedings of the 6th International Weed Science Congress: 73. Hangzhou, China.

Mallory-Smith, C., W. Avila-Garcia, E. Sanchez-Olguin and **A. G. Hulting**. 2012. Target-site mutation associated with glufosinate resistance in *Lolium spp. perenne multiflorum*. Proceedings of the 6th International Weed Science Congress: 73. Hangzhou, China.

Hulting, A.G. and C. Mallory-Smith. 2012. Carbon-seeding technology: applications for weed management in seed production and beyond. Proceedings of the 6th International Weed Science Congress: 145. Hangzhou, China.

Miskella, J.J., E. Sanchez-Olguin, and **A. G. Hulting**. 2012. Determining whether a population of Japanese knotweed *s.l.* (*Fallopia japonica*) contains multiple biotypes. Proc. West. Soc. Weed Sci. Vol.65: (In Press).

Curtis, D., **A. G. Hulting**, C. Mallory-Smith and K. C. Roerig. 2012. Saflufenacil use in cool-season grasses grown for seed. Proc. West. Soc. Weed Sci. Vol.65: (In Press).

Mallory-Smith, C., **A.G. Hulting**, D. W. Curtis, K. C. Roerig and M. Liu. 2012. Herbicide resistant Italian ryegrass: Any options left? Proc. West. Soc. Weed Sci. Vol.65: (In Press).

Hulting, A.G., J. L. Haavisto and G. Pirelli. 2012. Biology and management of hare barley in cool-season grass pastures. Proc. West. Soc. Weed Sci. Vol.65: (In Press).

Intanon, S., **A.G. Hulting**, J. Kling and C. Mallory-Smith. 2012. Evaluation of meadowfoam seed meal as a potential bioherbicide. WSSA Abstracts (In Press).

Peters, A., C. Bouska and **A. G. Hulting**. 2012. Control of Pacific Rhododendron (*Rhododendron macrophyllum*) in recently harvested coastal Oregon forests. WSSA Abstracts (In Press).

Mallory-Smith, C., **A.G. Hulting**, D. W. Curtis, and M. Liu. 2012. Flufenacet resistant Italian ryegrass populations are not resistant to pyroxasulfone. WSSA Abstracts (In Press).

Avila, W.V., E. Sanchez-Olguin, **A. G. Hulting** and C. Mallory-Smith. 2012. Target site mutation associated with glufosinate resistance in Italian ryegrass (*Lolium spp. perenne multiflorum*). WSSA Abstracts (In Press).

Hulting, A. G., D. W. Curtis and C. Mallory-Smith. 2012. Management of diuron resistant annual bluegrass in grasses grown for seed with alternative herbicides including pyroxasulfone and indaziflam. WSSA Abstracts (In Press).

Martins, B. A. B., E. Sanchez-Olguin, A. Perez-Jones, **A. G. Hulting** and C. Mallory-Smith. 2012. ACCase cross-resistance in Italian ryegrass (*Lolium multiflorum*) sub-populations from Oregon, USA. 25th German Conference on Weed Biology and Control. Braunschweig, Germany.

Mallory-Smith, C. and **A. G. Hulting**. 2011. Gene flow from herbicide resistant crops: Will it revive non-chemical weed management tactics? Nonchemical Tactics in Herbicide Resistance Management Symposium. WSSA Abstracts (In Press).

Hulting, A.G., B. Hinds-Cook, D. W. Curtis and C. Mallory-Smith. 2011. Evaluation of pyroxasulfone for grass weed management in winter wheat in western Oregon. WSSA Abstracts (In Press).

Hulting, A.G., D. W. Curtis, B. Hinds-Cook and C. Mallory-Smith. 2011. Annual bluegrass (*Poa annua*) management in established grasses grown for seed with indaziflam, pyroxasulfone and methiozolin. Proc. West. Soc. Weed Sci. Vol.64: (In Press).

Curtis, D.W., B. Hinds-Cook, B. Brewster, **A.G. Hulting**, and C. Mallory-Smith. 2011. Alternative herbicides for diuron in carbon seeded perennial ryegrass (*Lolium perenne*) grown for seed. Proc. West. Soc. Weed Sci. Vol.64: (In Press).

Intanon, S., **A. G. Hulting**, C. Mallory-Smith, F. Stevens, J. Kling and R. Reed. 2011. The use of meadowfoam seed meal as a soil amendment to suppress seed germination. Proc. West. Soc. Weed Sci. Vol.64: (In Press).

Hinds-Cook, B., D. W. Curtis, C. Mallory-Smith and **A. G. Hulting**. 2011. Weed management in peppermint grown for oil-efficacy and crop safety of experimental herbicides. Proc. West. Soc. Weed Sci. Vol.64: (In Press).

Haavisto, J. L., G. Pirelli and **A. G. Hulting**. 2011. Management of hare barley (*Hordeum murinum* ssp. *leporinum*) in cool season grass pastures with aminopyralid and imazamox. Proc. West. Soc. Weed Sci. Vol.64: (In Press).

Peters, A., S. Filley and **A. G. Hulting**. 2011. Nutritive value of pasture weeds in Oregon. Proc. Soc. Range Management Vol.64: (In Press).

Hulting, A.G., D. Curtis, B. Hinds-Cook, B. Brewster, and C. Mallory-Smith. 2010. Broadleaf weed management in seedling grasses grown for seed. Proc. West. Soc. Weed Sci. Vol.63:70.

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Rudenko, M., **A.G. Hulting**, and C. Mallory-Smith. 2009. Integrating chemical control and restoration of sites invaded by Japanese knotweed. Proc. West. Soc. Weed Sci. Vol.62:75.

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- Yenish, J., **A.G. Hulting**, A. Kniss, D. Lyon, and P. Westra. 2009. WERA-077 Managing invasive weeds in wheat. *Proc. West. Soc. Weed Sci.* Vol. 62:31.
- Rudenko, M., **A.G. Hulting**, and A. Perez-Jones. 2009. Efficacy of KJM-44 for Japanese Knotweed management. *Proc. West. Soc. Weed Sci.* Vol. 62:26.
- Hulting, A.G.**, K. Neff, and C. Mallory-Smith. 2008. California Brome biology and management in grass seed cropping systems. *Proc. West. Soc. Weed Sci.* Vol. 61:47
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- Hinds-Cook, B., D. Curtis, B. Brewster, C. Mallory-Smith, and **A.G. Hulting**. 2008. Weed control possibilities for native grasses. *Proc. West. Soc. Weed Sci.* Vol. 61:19.
- Hulting, A. G.**, D. A. Mortensen, M. E. Barbercheck. 2008. Fate of weed seedbank pools during the transition to an organic feed grain crop rotation in Pennsylvania. *WSSA Abstracts* 48:298.
- Jabbour, R., **A.G. Hulting**, C.A. Mullen, and M.E. Barbercheck. March 9-11, 2008. Soil management effects on entomopathogenic fungi during the transition to organic agriculture. 79th Annual Entomology Society of America Eastern Branch Meeting, Liverpool, NY.
- Barbercheck, M., D. Mortensen, **A. G. Hulting**, R. Jabbour, H. Karsten, E. Sanchez, S. Duiker, J. Hyde, and N.E. Kiernen. 2007. Balancing pest management and soil quality in a transitional system. *Entomological Society of America 55th Annual Meeting*, San Diego, CA.
- Jabbour, R., **A.G. Hulting**, and M.E. Barbercheck. 2007. Effect of the method of transition to organic agriculture on naturally occurring soil-dwelling entomopathogenic fungi. *Ecological Society of America*. August, 2007, San Jose, CA.
- Curran, W. S., **A. G. Hulting**, R. J. Hoover, M. E. Barbercheck, C. Reberg-Horton and E. R. Gallandt. 2007. Ecologically based weed management principles: integrating research and education. *WSSA Abstracts* 47:62.
- Skarpass, O., J.T. Dauer, C.M. Schwarz, E.J. Rauschert, E. Jongejans, R. Jabbour, D.A. Mortensen, D.A. Lieb, Z. Sezen, **A.G. Hulting**, M.J. Ferrari, K. Shea, and E. S. Long.

2007. Dispersal: Toward unification across organisms and research traditions. Ecological Society of America, August, 2007, San Jose, CA.

Miller, P., D. Buschena, C. Jones, R. Smith, and **A. Hulting**. Agroecologic analyses of organic and no-till diversified cropping systems in the northern Great Plains. Ecological Society of America. August, 2006, Memphis, TN.

Hulting, A. G. Co-organizer w / Fabián D. Menalled, and Katie L. Monsen. 2006. Ecological Society of America, Agroecology Symposium entitled: Beyond labeling—Comparing the sustainability of conventional and certified alternative farming systems. August 2006, Memphis, TN.

Hulting, A.G., D.A. Mortensen, and M. Barbercheck. 2006. Managing weed seed bank pools during the transition to an organic feed grain rotation in Pennsylvania. WSSA Abstracts 46:183.

Mortensen, D.A., A.R. Martin, M.R. Ryan, **A.G. Hulting**, and B. Hartman. 2006. An experiential approach to understanding germination periodicity. WSSA Abstracts 46:226.

Kozak, J., **A.G. Hulting**, and D.A. Mortensen. 2006. Impact of *Microstegium vimineum* on growth of Northeastern hardwood tree species. WSSA Abstracts 46:74.

Ryan, M.R., D.A. Mortensen, **A.G. Hulting**, K.M. Grube, D.O. Wilson, and P.R. Hepperly. 2006. The influence of management systems on weed tolerance. WSSA Abstracts 46:290.

Prior to Present Position

Hulting, A.G., B. Maxwell, and A.J. Bussan. 2005. Quantifying weed population temporal dynamics in low-external-input cropping systems. Ecological Society of America, August, 2005, Montreal, Canada.

Hulting, A.G., C. Nardozzo, B.P. Jones, M. Barbercheck, and D. Mortensen. 2005. Fate of seedbank pools during the transition to an organic feed grain rotation in PA. NEWSS Proceedings:14. Washington D.C.

Leslie, T., **A.G. Hulting**, J. Kozak, S. Fleischer, and D. Mortensen. 2005. Agriculture and forest mosaic effects on epigeal coleopteran species assemblages. NEWSS Proceedings:76. Washington D.C.

Ryan, M.R., D.A. Mortensen, **A. G. Hulting**, D.O. Wilson, R.M. Siedel, and P.R. Hepperly. 2005. Corn and soybean weed interactions in a long term farming system trial. NEWSS Proceedings:128. Washington D.C.

Maxwell, B., **A.G. Hulting**, C. Repath, and L. Rew. 2004. Linking spatial and temporal dynamics to estimate invasiveness of non-indigenous plant populations. Ecological Society of America, August, 2004, Portland, Oregon.

Hulting, A.G., P.R. Miller, and B.D. Maxwell. 2003. Weed population dynamics in the transition period to organic and no-till diversified cropping systems in the northern Great Plains. Organic Agriculture Research Symposium. Agronomy Abstracts CD-Rom (Unpaginated) American Society of Agronomy, Madison, WI.

Hulting, A.G., B.D. Maxwell, A.J. Bussan, and P.R. Miller. 2003. Can the processes that determine weed metapopulation spatial patterns be identified? WSSA Abstracts 43:44.

Hulting, A.G., A. J. Bussan, and B.D. Maxwell. 2002. Development of a spatial simulation model for evaluating potential patterns of spread of an invasive grass in a diversified cropping system. WSSA Abstracts 42:62.

Hulting, A.G., B.D. Maxwell, and A.J. Bussan. 2002. Spatial pattern and rate of spread of Persian dandelion and wild oat in a diversified cropping system. Proc. West. Soc. Weed Sci. 55:27.

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Hulting, A.G., L.M. Wax, R. Nelson, and F.W. Simmons. 1999. Soybean varietal response to sulfentrazone. Proc. Illinois Crop Prot. Conference:59-63. Urbana, IL.

Hulting, A.G., F.W. Simmons, and L.M. Wax. 1998. Corn response to imazethapyr soil residues and selected ALS herbicides. Proc. North Cent. Weed Sci. Soc. 53:117.

Hulting, A.G., F.W. Simmons, and L.M. Wax. 1997. Corn response to simulated imazethapyr carryover and selected ALS herbicides. Proc. North Cent. Weed Sci. Soc. 52:121.

Hulting, A.G., L.M. Wax, and F.W. Simmons. 1997. Tolerance levels of soybean cultivars to sulfentrazone. Proc. North Cent. Weed Sci. Soc. 52:37.

ii. Other OSU Extension Publications and Press Releases

Robison, D. 2014. Oregon State University experts answer questions on pest management. Source: **A. Hulting** and G. Langelotto-Rhodaback. OSU Extension News and Garden Archives. *Role: Provided editing and technical review of article.*

Floyd, M. 2011. After three decades, invasive tansy ragwort once again threatening Oregon. Source: **A. Hulting** and E. Coombs. University Relations and Marketing-News and Research Communications. *Role: Provided editing and technical review of article.*

Scott, J. 2011. Noxious knotweed resists conventional management techniques. Source: **A. Hulting** and R. Emmanuel. OSU Extension News and Garden Archives. *Role: Provided editing and technical review of article.*

Scott, J. 2010. Oregon State University experts answer questions on pest management. Source: **A. Hulting** and G. Langellotto-Rhodaback. OSU Extension News and Garden Archives. *Role: Provided editing and technical review of article.*

Scott, J. 2010. Reduce your blackberry thicket to a few stragglers. Source: **A. Hulting**. OSU Extension News and Garden Archives. *Role: Provided editing and technical review of article.*

Savonen, C. 2008. Gorgeous Yellow Iris is Ecological Threat to PNW Wetlands. Source: **A. Hulting**. OSU Extension News and Garden Archives. *Role: Provided editing and technical review of article.*

Scott, J. 2008. Bidding Farewell to the Dreaded Bindweed. Source: **A. Hulting**. OSU Extension News and Garden Archives. *Role: Provided editing and technical review of article.*

Scott, J. 2008. Scotch Broom is Beautiful, But Noxious. Source: **A. Hulting**. OSU Extension News and Garden Archives. *Role: Provided editing and technical review of article.*

iii. Producer Newsletter and Popular Press Publications

Plumer, M., M. Mellbye, D. Towery and **A. G. Hulting**. 2014. Annual Ryegrass Cover Crop Management for Corn and Soybean Production-2014 Management Recommendations. Published by Oregon Ryegrass Growers Association.

Hulting, A.G., Weed Research and Extension. In, *Oregon Seed Magazine*, Spring 2014.

Hulting, A.G., C. Mallory-Smith, and D.A. Ball. Weed Management in Winter Wheat In, *Oregon Wheat*, December 2013.

Plumer, M., M. Mellbye, D. Towery and **A. G. Hulting**. 2013. Annual Ryegrass Cover Crop Management for Corn and Soybean Production-2013 Management Recommendations. Published by Oregon Ryegrass Growers Association.

Hulting, A. and M. Kadell. Management of Hare Barley in Pastures and Update on Canter R + P Herbicide. *Update*, Linn County Extension Newsletter, October, 2012.

Hulting, A.G., C. Mallory-Smith, and D.A. Ball. Winter Annual Grass Weed Control in Oregon Wheat Production Systems. In, *Oregon Wheat*, October 2012.

Hulting, A.G., Weed Research and Extension. In, *Oregon Seed Magazine*, Spring 2012.

Angima, S. and **A. G. Hulting**. 2011. Aminopyralid residues in compost. *Oregon Small Farms News* Vol. 6 No. 1 pp 14-15.

Hulting, A.G., C. Mallory-Smith, and D.A. Ball. The OSU Weed Science Group: Enhancing Control of Winter Annual Grasses in Winter Wheat with Preemergence Herbicides. In, *Oregon Wheat*, August 2011.

Hinds-Cook, B.J., C.A. Mallory-Smith, **A.G. Hulting**, D.W. Curtis and B.Brewster. Weed Control in Peppermint. In, *Oregon Mint Commission Update*, Spring 2011.

Hulting, A.G., C. Mallory-Smith, and D.A. Ball. The OSU Weed Science Group: Developing Weed Management Solutions for Oregon's Wheat Growers. In, *Oregon Wheat*, August 2010.

Hinds-Cook, B.J., C.A. Mallory-Smith, **A.G. Hulting**, D.W. Curtis and B.Brewster. Weed Control in Peppermint. In, *Oregon Mint Commission Update*, Spring 2010.

Hulting, A.G., C. Mallory-Smith, and D.A. Ball. The OSU Weed Science Group: Developing Weed Management Solutions for Oregon's Wheat Growers. In, *Oregon Wheat*, August 2009.

Ciesinski, T. Weed Control in Ornamentals. Source: **A. Hulting**. In, *Organic Gardening Magazine*, Feb-March 2009, pp38-39. *Role: Provided editing and technical review.*

Hulting, A. and M. Rudenko. Japanese knotweed—An aggressive riparian invader. *Update*, Linn County Extension Newsletter, December, 2008.

Hulting, A. Problem Grass Weed Species in Pastures and Forage. *The Smallholding*, Jackson County-SW OR Small Farms Extension Newsletter, July-September 2008.

Hulting, A. 2008. All things Clearfield Wheat. *CSS News and Notes*. Vol. 22, No.5.

Neff, K., **A. Hulting**, and M. Bohle. 2008. Poisonous plants and weeds in pastures-Part 2. *CSS News and Notes*. Vol. 22, No.4.

Neff, K., **A. Hulting**, and M. Bohle. 2008. Poisonous plants and weeds in pastures-Part 1. *CSS News and Notes*. Vol. 22, No.3.

Hulting, A. 2008. Herbicide resistant weeds publication. *CSS News and Notes*. Vol. 22, No.2.

Hulting, A. 2008. Glyphosate resistance information-National glyphosate stewardship forum II. *CSS News and Notes*. Vol. 22, No.1.

Hulting, A. Problem Grass Weed Species in Pastures and Forage. *Update*, Linn County Extension Newsletter, September 2007.

Hulting, A. Problem Grass Weed Species in Pastures and Forage. *Extension Express*, Benton County Extension Newsletter, September/October 2007.

iv. Websites and Online Extension Material (selected examples)

Henke, Jodi (Radio Writer). 2010. Winter Pasture Management Series-Weed Management. Source: **A. Hulting**. Radio Interview. *Living the Country Life*. <http://www.livingthecountrylife.com/property-planning/winter-pasture-management-weeds/>

High Plains IPM Wiki (online crop and pest management guides and tools). 2009-Present. http://wiki.bugwood.org/HPIPM:Main_Page Role: Primary author and on-going editor for the following six fact sheets on management of problem weeds in the Northern Plains and Inland PNW: Common Bedstraw, Wild Carrot, Persian Speedwell, Mayweed Chamomile, Coast Fiddleneck and Italian ryegrass.

Oregon State University Extension Willamette Valley Field Crops Website. 2009-Present. (Ongoing Development). <http://oregonstate.edu/valleyfieldcrops/> Role: Primary author of content for Weed Management links for various field crops including Cereal Grain, Grass Seed, Legume Seed and Oil Seed.

Oregon State University Extension Small Farms Program Website. (Ongoing Development). 2008-Present. <http://smallfarms.oregonstate.edu/> Role: Primary author of documents populating Poisonous Plants Commonly Found in Pastures link.

2. PRESENTATIONS TO PEERS AND CLIENTELE

Year	Invited		Volunteered
	International/National	Regional	Regional
2014			
2013	1	3	22
2012		1	29
2011	1	3	16
2010		3	26
2009		1	33
2008		2	20
2007		8	17
2006	2	1	5
Prior to Present Position			3

2005-1997			
Total	4	22	171

i. Regional Invited Presentations

These invited presentations include presentations or training events that were made to scientific peers at regional events. I was the primary author and speaker for each presentation unless otherwise noted.

Weed Management Considerations for Pastures. 10/23/13. Dallas, OR, 2013 WSARE Pasture Management Professional Development Workshop. (40 USDA NRCS Specialist and OSU county-based Extension faculty).

Weed Control and Herbicide Update. 10/17/13. Prineville, OR, 2013 OAEA Professional Development Workshop. (12 OSU county-based Extension faculty).

Conventional and Organic Weed/Brush Management in Pastures. 1/26/13. Salem, OR, NRCS/SWCD Pasture Workshop (25 USDA NRCS Specialists).

Mode of Action: CBI Herbicides Review. 10/30/12. Hood River, OR, Oregon Society of Weed Science 2012 Annual Meeting (85 research and Extension faculty and agribusiness professionals).

Strategies for Characterizing and Managing Herbicide Resistant Populations of Italian Ryegrass. 11/3/11. Yakima, WA, Washington State Weed Association 2011 Weed Conference (120 PNW research and Extension faculty and agribusiness professionals).

Sharppoint Fluvellin Biology and Management. 10/19/11. Hood River, OR, Oregon Society of Weed Science 2011 Annual Meeting (85 research and Extension faculty and agribusiness professionals).

Weed Seed Identification and Weed Management Field Tour. 7/28/11. Corvallis, OR, OSU Seed Services/Laboratory Hyslop Field Tour (23 OSU Seed Laboratory Seed Analysts).

Mode of Action: Acetolactate Synthase Inhibitors Review. 10/19/10. Hood River, OR, Oregon Society of Weed Science 2010 Annual Meeting (85 research and Extension faculty and agribusiness professionals).

Quality Starts in the Field: Prevention and Control of Crop/Weed Contaminants in Seed Production Fields. 2/4/10. Corvallis, OR, 2010 Seed Quality Workshops-Oregon State University Seed Laboratory (25 OSU Seed Laboratory Seed Analysts, growers, seed cleaners/dealers and agribusiness professionals).

Quality Starts in the Field: Prevention and Control of Crop/Weed Contaminants in Seed Production Fields. 1/28/10. Corvallis, OR, 2010 Seed Quality Workshops-Oregon State University Seed Laboratory (25 OSU Seed Laboratory Seed Analysts, growers, seed cleaners/dealers and agribusiness professionals).

Introduction to the use of pyroxasulfone for use in winter wheat and grasses grown for seed. 10/20/09. Hood River, OR, Oregon Society of Weed Science 2009 Annual Meeting (80 research and Extension faculty and agribusiness professionals).

Oregon Wheat Production West of the Cascades. 11/19/08. Denver, CO. Dow AgroSciences Research Exchange Meeting (20 public and private research/Extension scientists).

Identification, Biology and Management of Invasive Weeds in Western OR Workshop. 11/6/08. Eugene, OR, OWEB 10th Biennial Conference (2 part workshop, repeated, 45 mostly Watershed Council members and local Agency employees).

Managing Italian Ryegrass in Cereals in the PNW. 11/8/07. Yakima, WA. Washington State Weed Association Annual Weed Conference (50 PNW research and Extension faculty and agribusiness professionals).

Unweaving the Weed Web (w/Ed Peachey). 10/17/07. Hood River, OR, Oregon Society of Weed Science Annual Meeting (100 research and Extension faculty and agribusiness professionals).

Herbicide Resistance Challenges and Profitable Grass Seed Production. 10/16/07. Hood River, OR, Oregon Society of Weed Science Annual Meeting (100 research and Extension faculty and agribusiness professionals).

Principles of Integrated Pest Management. 5/8/07. La Grande, OR, Vegetation Management in Riparian Planting Projects Workshop (50 participants from ODF, NRCS, SWCD, Watershed Councils).

Principles of Integrated Pest Management. 4/24/07. Forest Grove, OR, Vegetation Management in Riparian Planting Projects Workshop (39 participants from ODF, NRCS, SWCD, Watershed Councils).

Principles of Integrated Pest Management. 4/11/07. Roseburg, OR, Vegetation Management in Riparian Planting Projects Workshop (35 participants from ODF, NRCS, SWCD, Watershed Councils).

Identifying Plants/Seeds of Important Crops and Weeds (w/ Maria Zapiola, Jen Krenz and Barbara Hinds-Cook). 2/15/07. Corvallis, OR, 2007 Grass Seed Conditioners Workshop at OSU Seed Lab (25 OSU Seed Laboratory Seed Analysts, growers, seed cleaners/dealers and agribusiness professionals).

Identifying Plants/Seeds of Important Crops and Weeds (w/ Maria Zapiola, Jen Krenz and Barbara Hinds-Cook). 2/9/07. Corvallis, OR, 2007 Grass Seed Conditioners Workshop at OSU Seed Lab (25 OSU Seed Laboratory Seed Analysts, growers, seed cleaners/dealers and agribusiness professionals).

Utilization of Weed Ecology in Cropping Systems: A Vision for Weed Science Extension in Oregon. 10/17/06. Oregon Society of Weed Science Annual Meeting. Hood River, OR. (100 research and Extension faculty and agribusiness professionals).

ii. International/National Invited Presentations

Mallory-Smith, C., A. G. Hulting and B. D. Hanson. 2013. Glyphosate Resistance: Lessons from the West. Environmental Assessment of Herbicide Resistance Symposium. WSSA Abstracts (In Press).

Mallory-Smith, C. and A. G. Hulting. 2011. Gene flow from herbicide resistant crops: Will it revive non-chemical weed management tactics? Nonchemical Tactics in Herbicide Resistance Management Symposium. WSSA Abstracts (In Press).

Maxwell B. and A. Hulting. 2006. PopDyn_Spatial_1.0. Cellular Automata Simulation Model for Annual Weed Populations in Cropping Systems. EWRS Workshop on Modelling Weed Population Dynamics. Research Centre, Flakkebjerg, Denmark. 10/25/06.

Maxwell B., L. Rew, F. Menalled, A. Hulting, B. Bauer, and E. Lehnhoff. 2006. Linking Spatial and Temporal Population Dynamics. EWRS Workshop on Modelling Weed Population Dynamics. Research Centre, Flakkebjerg, Denmark. 10/26/06.

iii. Regional Volunteered Presentations

These volunteered presentations to clientele include ongoing educational programs I have developed either with a team of Extension faculty or with graduate students and staff that I advise. I was the primary author and speaker for each presentation unless otherwise noted.

Weed Management in Grain and Seed Crops. 1/8/14. Salem, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers, Marquardt and Anderson (100 growers and industry field reps).

Weed Management in Grain and Seed Crops. 1/8/14. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers, Marquardt and Anderson (85 growers and industry field reps).

Weed Management in Grain and Seed Crops. 1/7/14. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers, Marquardt and Anderson (85 growers and industry field reps).

Weed Management in Winter Wheat and Seed Crops. 9/13/13. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers, Marquardt and Anderson (70 growers and industry field reps).

Weed Management in Winter Wheat and Seed Crops. 9/12/13. Salem, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers, Marquardt and Anderson (60 growers and industry field reps).

Weed Management in Winter Wheat and Seed Crops. 9/12/13. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers, Marquardt and Anderson (50 growers and industry field reps).

Alternatives to Diuron for Carbon-Seeding. 5/29/13. Corvallis, OR, Hyslop Farm Field Day Presentation (100 growers and agribusiness professionals).

Making Spring Weed Management Decisions. 1/9/13. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers and Anderson (85 growers and industry field reps).

Making Spring Weed Management Decisions. 1/9/13. West Salem, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers and Anderson (110 growers and industry field reps).

Making Spring Weed Management Decisions. 1/8/13. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers and Anderson (85 growers and industry field reps).

Weed Management in Grass Seed and Other Field Crops. 9/13/12. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers and Anderson (50 growers and industry field reps).

Weed Management in Grass Seed and Other Field Crops. 9/13/12. West Salem, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers and Anderson (45 growers and industry field reps).

Weed Management in Grass Seed and Other Field Crops. 9/13/12. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers and Anderson (80 growers and industry field reps).

Weed Management Options in Fall and Spring-Planted Flax. 5/30/12. Corvallis, OR, Hyslop Farm Field Day Presentation (100 growers and agribusiness professionals).

Spring Weed Management In Winter Wheat. 1/6/12. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers and Anderson (80 growers and industry field reps).

Spring Weed Management In Winter Wheat. 1/5/12. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers and Anderson (70 growers and industry field reps).

Spring Weed Management In Winter Wheat. 1/6/12. Mt. Angel, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers and Anderson (50 growers and industry field reps).

Fall Weed Management In Winter Wheat. 9/15/11. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers, Anderson, Mellbye, and Silberstein (40 growers and industry field reps).

Fall Weed Management In Winter Wheat. 9/14/11. West Salem, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers, Anderson, Mellbye, and Silberstein (35 growers and industry field reps).

Fall Weed Management In Winter Wheat. 9/14/11. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Flowers, Anderson, Mellbye, and Silberstein (50 growers and industry field reps).

Advances in Carbon-Seeding of Grasses: Alternatives to Diuron. 5/25/11. Corvallis, OR, Hyslop Farm Field Day Presentation (150 growers and agribusiness professionals).

Spring Weed Management In Winter Wheat. 1/7/11. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Mundt, Anderson, Mellbye, and Silberstein (120 growers and industry field reps).

Spring Weed Management In Winter Wheat. 1/6/11. Mt. Angel, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Mundt, Anderson, Mellbye, and Silberstein (50 growers and industry field reps).

Spring Weed Management In Winter Wheat. 1/6/11. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Mundt, Anderson, Mellbye, and Silberstein (90 growers and industry field reps).

Fall Weed Management In Winter Wheat. 9/17/10. West Salem, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Mundt, Anderson, Mellbye, and Silberstein (50 growers and industry field reps).

Fall Weed Management In Winter Wheat. 9/17/10. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Mundt, Anderson, Mellbye, and Silberstein (80 growers and industry field reps).

Fall Weed Management In Winter Wheat. 9/16/10. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Mundt, Anderson, Mellbye, and Silberstein (70 growers and industry field reps).

Rattail Fescue Management in Winter Wheat. 5/26/10. Corvallis, OR, Hyslop Farm Field Day Presentation (150 growers and agribusiness professionals).

Summary of Research results of J. Haavisto/G. Pirelli/Hulting Hare Barley Mangement Field Trials. 5/20/10. Molalla and Scotts Mills, OR. Co-Organizer with Haavisto and Pirelli (20 and 17 beef producers and pasture owners and industry field reps).

Spring Weed Management In Winter Wheat. 1/14/10. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Fisher, Anderson, Mellbye, and Silberstein (60 growers and industry field reps).

Spring Weed Management In Winter Wheat. 1/13/10. Salem, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Fisher, Anderson, Mellbye, and Silberstein (90 growers and industry field reps).

Spring Weed Management In Winter Wheat. 1/13/10. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Fisher, Anderson, Mellbye, and Silberstein (150 growers and industry field reps).

Fall Weed Management In Winter Wheat: Focus on Economical Annual Ryegrass Control and Herbicide Selection. 9/3/09. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Fisher, Anderson, Mellbye, and Silberstein (30 growers and industry field reps).

Fall Weed Management In Winter Wheat: Focus on Economical Annual Ryegrass Control and Herbicide Selection. 9/2/09. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Fisher, Anderson, Mellbye, and Silberstein (150 growers and industry field reps).

Fall Weed Management In Winter Wheat: Focus on Economical Annual Ryegrass Control and Herbicide Selection. 9/2/09. Aurora, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Fisher, Anderson, Mellbye, and Silberstein (20 growers and industry field reps).

Knotweed Management Research Update and Plot Tour. 8/18/09. Tillamook, OR, Co-Organizer with Melody Rudenko (20 landowners, OSU Extension and invasive weed NGO participants).

Hare Barley Research Update and Plot Tour. 6/30/09. Canby, OR, Co-Organizer with Gene Pirelli (20 OSU Extension and livestock producers/pasture land owners).

Weed Management in Wheat. 5/27/09. Corvallis, OR, Hyslop Farm Field Day Presentation (150 growers and agribusiness professionals).

Weed control options in wheat: winter and spring. 1/15/09. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings Part II. Co-Organizer with Hart, Flowers, Mellbye, and Silberstein (40 growers and industry field reps).

Weed control options in wheat: winter and spring. 1/15/09. Rickreall, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings Part II. Co-Organizer with Hart, Flowers, Mellbye, and Silberstein (40 growers and industry field reps).

Weed control options in wheat: winter and spring. 1/13/09. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings Part II. Co-Organizer with Hart, Flowers, Mellbye, and Silberstein (70 growers and industry field reps).

Fall Weed Control Options and Research Update: Focus on *Bromus* and Annual Ryegrass Control. 9/3/08. Forest Grove, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Mellbye, and Silberstein (15 growers and industry field reps).

Fall Weed Control Options and Research Update: Focus on *Bromus* and Annual Ryegrass Control. 9/3/08. Aurora, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Mellbye, and Silberstein (30 growers and industry field reps).

Fall Weed Control Options and Research Update: Focus on *Bromus* and Annual Ryegrass Control. 9/2/08. Albany, OR, OSU Extension/OR Wheat Growers League Valley Wheat Production Meetings. Co-Organizer with Hart, Flowers, Mellbye, and Silberstein (60 growers and industry field reps).

Impact of Row Spacing, Fertilizer Timing and Glufosinate (Rely Herbicide) Timing on Annual Bluegrass Control in Perennial Ryegrass. 5/28/08. Corvallis, OR, Hyslop Farm Field Day Presentation (150 growers and agribusiness professionals).

Grass Control in Winter Wheat. 5/30/07. Corvallis, OR, Hyslop Farm Field Day Presentation (150 growers and agribusiness professionals).

These volunteered presentations to clientele include providing educational material to statewide Extension Service programs, agriculture organizations, soil and water conservation districts, NGO's, private industry and commodity organizations among other groups. I was the primary author and speaker for each presentation unless otherwise noted.

Updates on Weed Management in Winter Wheat. 6/11/14. Moro, OR, Sherman Experiment

Station Field Day. (50 growers).

Updates on Weed Management in Winter Wheat. 6/10/14. Pendleton, OR, Pendleton Agricultural Research Center Field Day. (75 growers).

Herbicide Mode of Action and Resistance Management. 6/4/14. North Bend, OR, Practical Applications in Vegetation Management-Society of American Foresters Meeting. (85 foresters).

OSU Updates on Weed Control Trials in Peppermint. 5/22/14. Harrisburg, OR, Annual South Valley Field Crop Tour. (20 growers and agribusiness professionals).

OSU Updates on Weed Control Trials in Established Red Clover Seed Crops. 5/20/14. Cornelius, OR, 5th Annual North Valley Field Crop Tour. (100 growers and agribusiness professionals).

OSU Extension Marion County Master Gardener Weed Management Training. 3/17/14. Salem, OR, Master Gardener Training. (50 participants).

Managing Rattail Fescue in Cereal Grain Production. 3/4/14. Condon, OR, Gilliam County Wheat Growers Spring Workshop. (30 wheat growers).

OSU Extension Yamhill County Master Gardener Weed Management Training. 1/30/14. McMinnville, OR, Master Gardener Training. (60 participants).

Weed Research in Clover Trials Update. 1/24/14. Wilsonville, OR, Clover Growers Annual Meeting. (150 growers.).

Effectively Managing Weeds in Oregon Mint Part 1: Willamette Valley and Statewide Programs. 1/10/14. Gleneden Beach, OR, Oregon Essential Oil Growers League Annual Meeting. (100 growers and agribusiness professionals).

Alternatives to Glyphosate for Annual Ryegrass Cover Crop Burndown Herbicide Applications (Poster presentation w/Dan Curtis). 1/15/14. Albany, OR, 53rd Annual Oregon Ryegrass Growers Association Meeting. (100 growers).

Recommendations for Controlling Problem Weeds in Grass Seed Production and Updates on Other OSU Weed Management Projects. 12/3/13. Salem, OR, 3013 Oregon Seed League Meeting. (150 growers and agribusiness professionals).

Roughstalk Bluegrass Control in Established Tall Fescue and Perennial Ryegrass. 11/21/13. Albany, OR, Crop Production Services Tangent Grower Meeting. (100 growers).

Weed Management Issues in Hay Production. 11/15/13. Central Point, OR, OSU Hay Production and Management Workshop. (30 growers).

Weed Control Options for *Poa* in Grass Seed Crops. 11/14/13. Silverton, OR, Pratum Co-op Fall Grower Meeting. (60 growers).

Herbicide Resistance Management. 11/7/13. Wilsonville, OR, 2013 OACFA Safety and Stewardship Seminars. (250 growers and public/private applicators).

Invasive and Perennial Weeds Workshop. 9/7/13. Oregon City, OR, OSU Small Farms School at Clackamas Community College. (30 small-acreage landowners).

Knotweed: Biology, Distribution, Impacts, Control Research and Management Implications. 7/13/13. Monmouth, OR, Lukiamute Watershed Council Landowner Workshop. (9 landowners).

Statewide Weed Control Update. 5/30/13. Klamath Falls, OR, Klamath Basin Small Grains Spring Meeting and Field Tour. (20 growers).

Roughstalk Bluegrass Management in Tall Fescue. 5/22/13. Tangent, OR, Annual South Valley Field Crop Tour. (80 growers).

Italian Ryegrass Management in Winter Wheat. 5/21/13. Perrydale, OR, 4th Annual North Valley Field Crop Tour. (100 growers).

Managing Herbicide Resistance. 4/18/13. Portland, OR, Portland Parks and Recreation Pesticide License Recertification Class. (140 public applicators).

Quality Starts in the Field: Role of Prevention and Control in the Field and Identification of Problematic Weeds: Hands on ID in the Greenhouse. Spanish Language Version w/Adriel Garay 4/11/13. Corvallis, OR, OSU Seed Lab-Seed Quality Management Workshop. (25 Spanish speaking seed conditioners/fieldmen).

Quality Starts in the Field: Role of Prevention and Control in the Field and Identification of Problematic Weeds: Hands on ID in the Greenhouse. 3/28/13. Corvallis, OR, OSU Seed Lab-Seed Quality Management Workshop. (25 seed conditioners/fieldmen/growers).

Herbicide Resistance in Cranberry Weeds. 2/14/13. Bandon, OR, 2013 Oregon Cranberry School. (75 growers).

Roughstalk Bluegrass Control and Herbicide Resistance Management. 2/13/13. Albany, OR, 2013 Wilbur-Ellis Company Grower Meeting. (100 growers).

Herbicide Resistance in Plants: How it Happens, How to Manage It and Examples in Oregon. 1/23/13. Corvallis, OR, Non-Crop Vegetation Management Course. (100 public/private pesticide applicators).

Preventing Glyphosate Resistance in Ryegrass Seed Production (w/Mark Mellbye). 1/16/13. Albany, OR, 52nd Annual Oregon Ryegrass Growers Association Meeting. (100 growers).

Postharvest Residue Management for Grass Seed Production in Western Oregon. 1/16/13. Poster Presentation-J. Hart, N. P. Anderson, A. G. Hulting, T. G. Chastain, M. E. Mellbye, W.C.

Young III, and T. B. Silberstein. Albany, OR, 52nd Annual Oregon Ryegrass Growers Association Meeting. (100 growers).

The Search for Diuron Replacements in Carbon Seeded Grasses Grown for Seed. 1/16/13. Poster Presentation-D. Curtis, K. Roerig, A. G. Hulting and C. Mallory-Smith. Albany, OR, 52nd Annual Oregon Ryegrass Growers Association Meeting. (100 growers).

Management of Resistant Italian Ryegrass in Winter Wheat. 1/16/13. Poster Presentation- K. Roerig, D. Curtis, A. G. Hulting and C. Mallory-Smith. Albany, OR, 52nd Annual Oregon Ryegrass Growers Association Meeting. (100 growers).

OSU Weed Management Update for Mint Growers-Effectively Managing Weeds in Oregon Mint. 1/11/13. Gleneden Beach, OR, Oregon Essential Oil Growers League Annual Meeting. (75 growers and agribusiness professionals).

Resistance Management. 1/3/13. Salem, OR, Wilco Agronomy U Growers Meeting. (50 growers).

Managing Rattail Fescue in Winter Wheat. 12/13/12. Condon, OR, Gilliam County Extension Service Winter 2012 Pesticide Training. (25 growers).

Grass Weed Biology and Update on Weed Research at OSU. 12/11/12. Salem, OR, 72nd Annual Oregon Seed Growers Meeting. (150 growers).

OSU Weed Management Updates for Willamette Valley Field Crops. 12/7/12. McMinnville, OR, OSU Field Crops Meeting-Polk and Yamhill Counties. (50 growers).

OSU Weed Management Updates for Willamette Valley Field Crops. 12/7/12. Hillsboro, OR, OSU Field Crop Grower's Breakfast Meeting. (30 growers).

Weed Control in Grass Seed. 11/30/12. Hermiston, OR, 39th Annual Hermiston Farm Fair and Trade Show. (75 growers).

Weed Control Options in Wheat. 11/29/12. Hermiston, OR, 39th Annual Hermiston Farm Fair and Trade Show. (75 growers).

Managing Herbicide Resistant Weed Species in the Willamette Valley. 11/27/12. Albany, OR, CPS Tangent Grower Meeting. (90 growers).

Herbicide Resistance Management in Oregon Field Crops. 11/15/12. Albany, OR, Willamette Valley Agriculture Exposition and Equipment Show-CORE Pesticide Training. (100 growers).

Herbicide Resistance Management in Oregon Field Crops. 11/13/12. Albany, OR, Willamette Valley Agriculture Exposition and Equipment Show-CORE Pesticide Training. (150 growers).

Biology and Management of Problem Weed Species. 10/24/12. Corvallis, OR, OSU Small

Farms Extension Living on the Land Workshops w/Melissa Fery (35 small acreage landowners).

OSU Herbicide Trials on Italian Ryegrass in Winter Wheat. 5/31/12. Hillsboro, OR, 3rd Annual North Valley OSU Field Crop Tour. (75 growers).

Wheat Varieties and Rust and Weed Management (w/Mike Flowers and Chris Mundt). 5/23/12. Moro, OR, Sherman County Crop Hop. (25 growers).

Scouring Rush Management and Roadside Vegetation Management. 5/22/12. The Dalles, OR, Wasco County Crop and Conservation Tour. (75 growers).

OSU Research Update, Tank Mixes for Grass Herbicides in Wheat, and Weed Control in Clover Grown for Seed. 2/28/12. Woodburn, OR, Wilbur-Ellis Grower Informational Meetings. (40 growers).

Small Grain Weed Control Update for Oregon (delivered via Polycom). 2/27/12. Klamath Falls, OR, 2012 Klamath Basin Small Grain Winter Research Meeting. (20 growers).

Weed Management in Mint and Environmental Fate of Key Herbicides (delivered via Polycom). 2/23/12. LaGrande, OR, 2012 OSU Extension NE Oregon IPM Workshop. (40 growers).

Hare Barley Group Meeting. 2/20/12. Molalla, OR, OSU Extension Hare Barley Control Research Project Group Meeting. (10 forage/livestock producers).

Weed ID Demonstration and Grass Weed Control in Wheat. 2/17/12. Harrisburg, OR, Wilco Wheat Growers Meeting. (40 growers).

Weed ID Demonstration and Weed Control in Forages. 2/17/12. Harrisburg, OR, Wilco Hay and Forage Producers Meeting. (20 forage/livestock producers).

Herbicide Mode of Action and How Herbicides Work in Plants. 1/25/12. Corvallis, OR, OSU Non-Crop Vegetation Management Course. (200 public/private pesticide applicators).

Herbicide Resistance Management. 1/23/12. Central Point, OR, OSU Extension Southern Oregon Pesticide Recertification Workshop. (150 growers and public/private pesticide applicators).

Herbicide Mode of Action and How Herbicides Work in Plants. 1/23/12. Central Point, OR, OSU Extension Southern Oregon Pesticide Recertification Workshop. (150 growers and public/private pesticide applicators).

OSU Weed Management Update for Mint Growers-Effectively Managing Weeds in Oregon Mint. 1/13/12. Glendon Beach, OR, Oregon Essential Oil Growers League Annual Meeting. (150 growers and agribusiness professionals).

OSU Weed Management Update for Grass Seed Growers. 12/6/11. Salem, OR, 71st Annual

Oregon Seed Growers League Meeting. (150 growers and agribusiness professionals).

OSU Weed Management Updates for Willamette Valley Field Crops. 11/22/11. McMinnville, OR, OSU Field Crops Meeting-Polk and Yamhill Counties. (43 growers).

OSU Weed Management Updates for Willamette Valley Field Crops. 11/22/11. Hillsboro, OR, OSU Field Crop Grower's Breakfast Meeting. (23 growers).

Integrated Pest Management Principles and Strategies. 7/21/11. Rickreall, OR, Helena Chemical Summer Forestry Meeting and Field Tour. (65 private forest landowners and foresters).

Aminopyralid (Milestone Herbicide) Management Considerations When Used in Pastures. 6/23/11. Corvallis, OR, Agriculture and Environment Committees of the Oregon Grange State Conference. (25 participants).

Weed Identification and Management for Organic and Conventional Cereals Production. 5/9/11. Corvallis, OR, OSU Barley Breeding Program Field Day. (40 growers and food processors).

Winter Wheat Herbicides and Resistance Management in Italian Ryegrass. 3/17/11. Yamhill, OR, OSU Extension Plot Tour w/Nicole Anderson (15 agribusiness professionals).

Weed Control in Wheat and Other Small Grains. 2/17/11. Klamath Falls, OR, OSU Extension Klamath Basin Small Grains Seminar (25 growers).

Spring Weed Management Strategies in Wheat. 2/15/11. Harrisburg, OR, Wilco Farmers Wheat and Forage Grower Meeting (25 growers).

Weed Identification and Biology in Forage Production and Weed Identification Lab. 2/15/11. Harrisburg, OR, Wilco Farmers Wheat and Forage Grower Meeting (20 growers).

Weed Control Principles. 2/1/11. Eugene, OR, OSU Extension Weed Short Course at Lane Community College (150 growers and public/private pesticide applicators).

2010-2011 Weed Management Projects in Grasses Grown for Seed. 1/19/11. Albany, OR, 2011 Ryegrass Growers Association Annual Meeting (150 growers and agribusiness professionals).

Herbicide Resistance in Mustards, Beyond Carryover in Wheat Fields and Herbicide Resistance in Russian Thistle (w/Dan Ball). 12/9/10. Condon, OR, Gilliam County OSU Extension, Gilliam County Wheat Growers and Inland Chemical Service Ag Pesticide Applicator Training (25 growers).

Current OSU Weed Update in Grass Seed and Clover Seed Crops. 11/11/10. Hillsboro, OR, OSU Extension Washington County Field Crops Breakfast Meeting (23 growers and agribusiness professionals).

Current OSU Weed Update in Grass Seed and Clover Seed Crops. 11/11/10. McMinnville, OR,

OSU Extension Polk and Yamhill Counties Field Crops Meeting (40 growers and agribusiness professionals).

The Biology, Ecology and Management of Emerging Herbicide Resistant Weed Species in the Willamette Valley. 11/4/10. Springfield, OR, OACFA 2010 Safety and Stewardship Seminars (84 growers and agribusiness professionals).

The Biology, Ecology and Management of Emerging Herbicide Resistant Weed Species in the Willamette Valley. 11/3/10. Wilsonville, OR, OACFA 2010 Safety and Stewardship Seminars (200 growers and agribusiness professionals).

Latest Weed Control Research in Grass Seed Crop-Your Weed Questions. 8/14/10. Shedd, OR, Wilbur-Ellis Company Fall Agronomy Update Meeting (30 growers).

Biology and Management of Problem Weed Species. 5/19/10. Alpine, OR, OSU Small Farms Extension Living on the Land Workshops w/Melissa Fery (28 small acreage landowners).

Poisonous Weeds in Pastures and Strategies for Weed Management in Pastures. 4/8/10. Corvallis, OR, 2010 Oregon Forage and Grassland Council Annual Meeting (15 growers and Extension staff members).

Grass Weed Control in Winter Wheat – Review and Update. 2/25/10. Albany, OR, 2010 Wilbur-Ellis Company Grower Meeting (200 growers and agribusiness professionals).

Problem Weeds – Review of Biology, Ecology and Management Strategies. 2/25/10. Albany, OR, 2010 Wilbur-Ellis Company Grower Meeting (200 growers and agribusiness professionals).

Marion County Master Gardeners-Weed Management Training (w/Joe Dauer). 2/22/10. Salem, OR (50 Master Gardener Candidates and Veterans).

Polk County Master Gardeners-Weed Management Training (w/Joe Dauer). 2/17/10. Rickreall, OR (25 Master Gardener Candidates and Veterans).

Fundamentals of Weed Management. 2/15/10. Central Point, OR, 2010 Growing Farms Program, Josephine/Jackson County OSU Small Farms Extension Program (33 small acreage landowners/new farmers).

Russian Thistle and China Lettuce Control in Fallow-Based Systems. 2/10/10. Ione, OR, Morrow County OSU Extension Wheat Seminar/Grower Meeting (40 wheat growers).

Invasive and Problem Weeds to Watch For. 2/2/2010. Albany, OR, Helena Chemical Spring Forestry Meeting (75 Christmas tree growers and industry and ODF practicing foresters).

Grass and Broadleaf Control in Wheat. 1/21/10. Harrisburg, OR, Wilco Winter Wheat and Pasture Management Meeting (40 growers).

Control of Problem Weeds in Pastures. 1/21/10. Harrisburg, OR, Wilco Winter Wheat and Pasture Management Meeting (30 growers).

Weed Control Studies in Grasses Grown for Seed 2006-2009 (w/Dan Curtis, Barbara Hinds-Cook, Bill Brewster and Carol Mallory-Smith).1/20/10. Albany, OR, 2010 Oregon Ryegrass Growers Association (305 growers and agribusiness professionals).

Biology and Management of Sharppoint Fluvellin in Spring-Seeded Tall Fescue and OSU Weed Science Group Research Update. 12/8/09. Salem, OR, Oregon Seed Growers League 2009 Annual Meeting (150 growers and agribusiness professionals).

Mode of Action of Herbicides-Implications for Weed Management and Resistance in Annual Ryegrass in the Willamette Valley. 11/17/09. Albany, OR, Willamette Valley Ag Expo CORE Classes 2009 (150 growers and agribusiness professionals).

Herbicide Mode of Action Review: Implications for Resistance Management. 11/4/09. Springfield, OR, Oregon Agricultural Chemical and Fertilizer Association 2009 Safety and Stewardship Seminars (120 growers and agribusiness professionals).

OSU Weed Science Group Research Update for Western OR. 10/21/09. Hood River, OR, Oregon Society of Weed Science 2009 Annual Meeting (80 research faculty and agribusiness professionals).

Hare Biology and Management Update (w/Gene Pirelli). 9/29/09. Corvallis, OR, Pacific Northwest Forage Workers Conference-WERA 1014 Meeting (25 PNW research and Extension faculty).

OSU Weed Research Update in Grass and Clover Seed Crops. 9/25/09. Hillsboro, OR, Washington County Field Crop Growers Meeting (12 growers and NRCS personnel).

OSU Weed Research Update in Grass and Clover Seed Crops. 9/25/09. McMinnville, OR, Yamhill County Field Crop Growers Meeting (20 growers).

Assessing Your Weed Problem and Control Options: Dalmatian Toadflax, Scotch Thistle and Other Thistles. 7/22/09. Klamath Falls, OR, Klamath County Noxious Weed Tour (35 landowners and USFS, USFW and TNC personnel).

Beyond Resistance in Goatgrass. 5/19/09. The Dalles, OR, Wasco County Crops Tour (65 wheat growers and NRCS personnel).

Invasive Weeds-Knowing the Enemy! 3/21/09. Oregon City, OR, Clackamas County Tree School (40 forest land owners).

Fundamentals of Weed Management. 3/4/09. Grants Pass, OR, 2009 Growing Farms Program, Josephine/Jackson County OSU Small Farms Extension Program (35 small acreage landowners/new farmers).

Marion County Master Gardeners-Weed Management Training (w/Joe Dauer). 3/2/09. Salem, OR (55 Master Gardener Candidates and Veterans).

Yamhill County Master Gardeners-Weed Management Training (w/Joe Dauer). 2/26/09. McMinnville, OR (40 Master Gardener Candidates and Veterans).

Jointed Goatgrass and Wheat Hybridization. 2/24/09. Moro, OR, Winter Cereal Growers Workshop (35 wheat growers).

Weeds of Fields/Pastures & Working with the Public. 2/19/09. Corvallis, OR, Benton County "Weed Spotters" Training. Benton Soil and Water Conservation District (35 community volunteers in weed ID and management training group).

Herbicide Resistance in Plants. 2/12/09. Klamath Falls, OR, 2009 Intermountain IPM Seminar (100 growers and industry field reps).

Weed Control in Wheat and Other Small Grains. 2/12/09. Klamath Falls, OR, 2009 Intermountain IPM Seminar (100 growers and industry field reps).

Polk County Master Gardeners-Weed Management Training (w/Joe Dauer). 2/11/09. Rickreall, OR (30 Master Gardener Candidates and Veterans).

Grass Weed Resistance in Clearfield Wheat Fields/Jointed Goatgrass/Wheat Hybridization Update. 2/9/09. Condon, OR, Gilliam SWCD Annual Meeting and Pesticide Training (25 wheat growers).

Weeds: Meet the Bad Guys. 2/7/09. Corvallis, OR, 20th Annual Insights Into Gardening Conference/Benton County Master Gardeners Association (100 home gardeners).

Weed Identification and Biology. 2/5/09. Madras, OR, 2009 Central Oregon Farm Fair and Trade Show (75 wheat and grass seed growers and industry field reps).

Perennial Ryegrass Tolerance to Herbicides and Grass Control with PowerFlex in Winter Wheat. 2/4/09. Albany, OR, Wilbur-Ellis Company Grower Meeting (140 growers).

Herbicide Types and Selection of Herbicides That will Minimize Drift. CORE Pesticide Training. 1/27/09. Pendleton, OR, Columbia Basin Cereal Seminar (30 wheat growers and industry field reps).

Jointed Goatgrass/Wheat Hybridization Update and Beyond/Clearmax Product Stewardship. 1/27/09. Pendleton, OR, Columbia Basin Cereal Seminar (50 wheat growers and industry field reps).

Role of Weed Ecology in Integrated Weed Management. 12/18/08. NE Oregon Pesticide Applicator CORE Polycom Training Course. Union, Baker and Wallowa Counties (82 growers and industry field reps).

Herbicide Resistance Management. 11/4/08. Pendleton, OR, OACFA Safety and Stewardship Seminars (131 growers, field reps, and ag consultants). [Also 2 more presentations using similar material w/Tom Silberstein in Eugene on 5th and Forest Grove on 6th].

Weed Biology and Ecology. 10/15/08. Albany, OR, OSU Small Farms Extension Living on the Land Workshops w/Melissa Fery (35 small acreage landowners ~ 15 women)

Weed Management in Winter Wheat Update-New Herbicide Products Update and Jointed Goatgrass Management Update. 9/10/08. La Grande, OR, Union, Baker and Wallowa County Wheat Growers Production Breakfast Meeting (30 growers and industry field reps).

Weed Management and Identification and Common Poisonous Plants of OR. 8/14/08. Creswell, OR, OSU Small Farms Extension Living on the Land Workshops w/Melissa Fery (55 small acreage landowners ~ 25 women)

Emerging Small Grain Weed Management Issues in Oregon. 7/25/08. Klamath Falls, OR, KBREC Small Grain Summer Seminar (6 wheat growers).

Dalmation Toadflax, Perennial Pepperweed and Scotch Thistle Biology and Management. 7/12/08. Klamath Falls, OR, OSU Extension Klamath County Weed Tour w/Chanda Engel (25 participants).

The Role of Weed Ecology in Integrated Weed Management. 4/24/08. Portland, OR, Portland Parks and Recreation Training/Recertification Meeting (150 public land managers).

Integrated Control of Invasive Knotweeds and Strategies for Restoration (w/Melody Rudenko). 3/19/08. Salem, OR, Knotweed Working Group Spring Meeting (30 participants, federal and state agency employees).

Poisonous Weeds and Your Livestock (w/Tim Deboodt, Mylen Bohle, and Karin Neff). 3/15/08. Redmond, OR, Living on a Few Acres Annual Conference (20 small acreage land owners).

When Bad Weeds Happen to Good Gardeners-ID and Control of Common Garden Plants (w/Karin Neff and Melody Rudenko). 3/13/08. Eugene, OR, Eugene Rhododendron Society Meeting (40 participants).

Update on grass seed and winter wheat weed management. 2/25/08. Salem, OR, OSU Extension Field Crops Special Meeting (35 grass seed growers).

Oregon State University Weed Science Research Update. 2/21/08. Albany, OR, Wilbur-Ellis Company Grower Annual Meeting (85 growers and industry field reps).

The Role of Weed Ecology in Integrated Weed Management. 2/15/08. Bend, OR, Central Oregon Pest Management Short Course (70 participants).

Herbicide Mode of Action. 2/13/08. Ontario, OR, Pesticide Chemistry, Toxicology and Policy Short Course (130 participants).

Herbicide Mode of Action Review. 1/17/08. Corvallis, OR, National Pesticide Information Center Continuing Education Seminar (14 employees).

Herbicides for Use in Camelina Production. 12/14/07. Rickreall, OR, Willamette Biomass Processors, Inc. Grower Meeting and Ground Breaking Ceremony (65 growers).

Herbicide Resistance Management. 11/30/07. Hermiston, OR, 34th Annual Hermiston Farm Fair and Trade Show (50 participants).

Herbicide Mode of Action. 11/30/07. Hermiston, OR, Safe Pesticide Use CORE Program, 34th Annual Hermiston Farm Fair and Trade Show (20 participants).

Herbicide Mode of Action. 11/29/07. Hermiston, OR, Safe Pesticide Use CORE Program, 34th Annual Hermiston Farm Fair and Trade Show (14 participants).

Review of Material for ODA Pesticide Consultant License (w/Garry Stephenson). 11/16/07. Corvallis, OR, Training Session for Small Farms County Extension Faculty (5 Small Farms Educators).

Herbicide Mode of Action Review. 11/6/07. Pendleton, OR, Oregon Agricultural Chemical and Fertilizer Association Safety and Stewardship Seminar (150 participants).

Weed Control Options for Winter Wheat Production. 9/21/07. Salem, OR, Marion County Extension Wheat Production and Marketing Short Course (14 growers and industry field reps).

Weed Management in Wheat production. 9/20/07. Halsey, OR, Willamette Ag Grower Meeting (22 growers).

Potential for Organic Winter Wheat Production in Eastern OR. 6/22/07. Moro, OR Sherman County Crop Tour Organized by Sandy Macnab (20 wheat growers).

Weed Biology and Ecology. 4/14/07. Redmond, OR, Living on a Few Acres-Idea and Opportunity Expo-Crook County Extension Service (10 small acreage landowners).

Weed Population Dynamics-Implications for Pasture Weed Management. 3/30/07. Myrtle Point, OR, Coos County Weed Program (46 landowners/forest products industry).

What To Do About Weeds? 2/27/07. Philomath, OR, Benton County Living on the Land Weed Class-Stewardship for Small Acreages (35 small acreage landowners).

Spring Weed Control in Grass and Grain Crops. 2/20/07. Salem, OR, Marion County Field Crops Growers Meeting (35 growers).

Herbicide Persistence in the Soil. 2/14/07. Ontario, OR, Eastern OR Weed Short Course (150 attendees, industry/growers).

Mode of Action of Common Herbicides. 2/14/07. Ontario, OR, Eastern OR Weed Short Course (150 attendees, industry/growers).

Update on OSU Weed Management and Extension Programs. 1/4/07. Salem, OR, Western Farm Service Grower Meeting (120 growers/industry).

Volunteer Canola Management in No-Till Grass Seed Production. 12/19/06. Moscow, ID, Research Proposal for GSCSSA Review.

Weed Management Extension for the Seed Industry in OR. 12/5/06. Portland, OR, Oregon Seed Growers League Annual Meeting (45 attendees)

Puncturevine: Weed On the Move (w/Carol Mallory-Smith). 12/5/06. Portland, OR, Oregon Seed Growers League Annual Meeting (45 attendees).

Update on Grazing and Feeding Restrictions for Commonly Applied Pesticides. 11/15/06. Adair Village, OR, Western Farm Service Grower Meeting (100 growers/industry).

Update on Grazing and Feeding Restrictions for Commonly Applied Pesticides. 11/14/06. Albany, OR, Willamette Valley Ag Expo (50 growers).

Prior to Present Position

Organic Feed and Forage Production: Where Do We Start? 2/28/06. Virginia Cooperative Extension Producer Meeting. Dayton, VA (w/Dave Mortensen).

Penn State Transition to Organic Cropping Systems Study. 12/8/04. Pennsylvania Certified Organic (PCO) Annual Meeting and Banquet, Lititz, PA.

Weed Population Dynamics in Diversified Cropping Systems of Montana. 1/30/02. Montana Agricultural Business Association/Montana Grain Elevators Association Annual Meeting, Great Falls, MT

3. GRANTS AND CONTRACTS

During my employment at OSU I have led or collaborated on over \$1.9 million in grants and contracts of which over \$800 thousand has come directly to my Extension and research program.

National Grants

Year	Agency	Title	Personnel	Total Grant Dollars	Program Grant Dollars	Duration
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2009	USDA-AFRI Biology of Weedy and Invasive Species in Agroecosystems Postdoctoral Grant	Quantifying Management Success of Japanese Knotweed	PI: J. Dauer with A. Hulting and C. Mallory-Smith	125,000	62,500	9/1/09- 8/31/2011
2008	USDA-Biotechnology Risk Assessment	Gene Flow Matters: Brassica Vegetable Seed Crop Production and Transgenic Canola	Co-PIs: C. Mallory- Smith, J. Meyers, and A. Hulting	389,000	129,000	10/01/2008- 09/30/2012
Total				514,000	191,500	

State and Western Region Grants

Year	Agency	Title	Personnel	Total Grant Dollars	Program Grant Dollars	Duration
2014	Oregon Wheat Commission	Oregon Wheat Statewide Weed Management Research	Co-PIs: C. Mallory-Smith, and A. Hulting	62,150	31,075	7/1/14- 6/30/15
2014	Oregon Mint Commission	Weed Control in Peppermint in Oregon	Co-PIs: C. Mallory-Smith, and A. Hulting	39,780	19,890	7/1/14- 6/30/15
2014	Oregon Clover Commission	Weed Management Research and Extension in Clover Grown for Seed in Oregon	Co-PIs: C. Mallory-Smith, N. Anderson and A. Hulting	14,140	11,140	12/1/13- 6/30/14
2013	Oregon Seed Council	Weed Management in Grass Seed Production	Co-PIs: C. Mallory-Smith and A. Hulting	50,950	25,475	7/1/13- 11/30/14
2013	Oregon Mint Commission	Weed Control in Peppermint in Oregon	Co-PIs: C. Mallory-Smith, G. Sbatella and A. Hulting	39,015	14,507	7/1/13- 6/30/14
2013	Oregon Wheat Commission	Oregon Wheat Statewide Weed Management Research	Co-PIs: C. Mallory-Smith, D. Ball, and A. Hulting	61,070	20,356	7/1/13- 6/30/14
2013	Oregon Clover Commission	Weed Management Research and Extension in Clover Grown for Seed in Oregon	Co-PIs: C. Mallory-Smith, N. Anderson and A. Hulting	11,640	3,880	10/1/12- 6/30/13
2012	Oregon Mint Commission	Weed Control in Peppermint in Oregon	Co-PIs: C. Mallory-Smith, G. Sbatella and A. Hulting	35,666	11,888	7/1/12- 6/30/13
2012	Oregon Seed Council	Weed Management in Grass Seed Production	Co-PIs: C. Mallory-Smith and A. Hulting	50,827	25,413	7/1/12- 11/30/13

2012	Oregon Wheat Commission	Oregon Wheat Statewide Weed Management Research	Co-PIs: C. Mallory-Smith, D. Ball, and A. Hulting	58,740	19,580	7/1/12-6/30/13
2011	Oregon Mint Commission	Weed Control in Peppermint in Oregon	Co-PIs: C. Mallory-Smith and A. Hulting	28,220	14,110	7/1/11-6/30/12
2011	Oregon Seed Council	Weed Management in Grass Seed Production	Co-PIs: C. Mallory-Smith and A. Hulting	49,620	24,810	7/1/11-11/30/12
2011	Oregon Wheat Commission	Oregon Wheat Statewide Weed Management Research	Co-PIs: C. Mallory-Smith, D. Ball, and A. Hulting	52,065	17,355	7/1/11-6/30/12
2010	Oregon Mint Commission	Weed Control in Peppermint in Oregon	Co-PIs: C. Mallory-Smith and A. Hulting	20,000	10,000	7/1/10-6/30/11
2010	Oregon Seed Council	Weed Management in Grass Seed Production	Co-PIs: C. Mallory-Smith and A. Hulting	36,750	18,375	7/1/10-11/30/11
2010	Oregon Wheat Commission	Oregon Wheat Statewide Weed Management Research	Co-PIs: C. Mallory-Smith, D. Ball, and A. Hulting	55,765	18,588	7/1/10-6/30/11
2010	GSCSSA-Special Grants Program	Integration of cultural crop management practices and chemical weed management practices to optimize control of herbicide resistant <i>Poa annua</i> (annual bluegrass) in grass grown for seed.	Co-PIs: C. Mallory-Smith and A. Hulting	29,504	14,752	9/1/10-8/31/11
2009	Oregon Wheat Commission	Oregon Wheat Statewide Weed Management Research	Co-PIs: C. Mallory-Smith, D. Ball, and A. Hulting	54,460	18,153	7/1/09-6/30/10
2009	Oregon Seed Council	Weed Management in Grass Seed Production	Co-PIs: C. Mallory-Smith and A. Hulting	48,000	24,000	7/1/09-6/30/10
2009	Oregon Mint Commission	Weed Control in Peppermint in Oregon	Co-PIs: C. Mallory-Smith and A. Hulting	36,548	18,274	7/1/09-6/30/10
2009	GSCSSA-Special Grants Program	Integration of cultural crop management practices and chemical weed management practices to optimize control of herbicide resistant <i>Poa annua</i> (annual bluegrass) in grass grown for seed.	Co-PIs: C. Mallory-Smith and A. Hulting	23,636	11,818	9/1/09-8/31/10
2008	Oregon Wheat Commission	Oregon Wheat Statewide Weed Management Research	Co-PIs: C. Mallory-Smith, D. Ball, and A. Hulting	49,335	16,445	7/1/08-6/30/09

2008	Oregon Mint Commission	Weed Control in Peppermint in Oregon	Co-PIs: C. Mallory-Smith and A. Hulting	33,744	16,872	7/1/08-6/30/09
2008	Oregon Seed Council	Weed Management in Grass Seed Production	Co-PIs: C. Mallory-Smith and A. Hulting	49,000	24,500	7/1/08-6/30/09
2008	Oregon Seed Council	California brome (<i>Bromus carinatus</i>) biology and management in grass seed production.	PI: A. Hulting	13,000	13,000	7/1/08-6/30/09
2007	Oregon Seed Council	Weed Management in Grass Seed Production	Co-PIs: C. Mallory-Smith and A. Hulting	49,326	24,663	7/1/07-6/30/08
2007	Oregon Seed Council	California brome (<i>Bromus carinatus</i>) biology and management in grass seed production.	PI: A. Hulting	12,877	12,877	7/1/07-6/30/08
2007	Oregon Mint Commission	Weed Control in Peppermint in Oregon	Co-PIs: C. Mallory-Smith, A. Hulting, D. Wallenta, and B. Brewster	35,394	17,697	7/1/07-6/30/08
Total				1,101,222	499,493	

University and Foundation Grants

Year	Agency	Title	Personnel	Total Grant Dollars	Program Grant Dollars	Duration
2012	Agricultural Research Foundation	Herbicide Resistant Italian Ryegrass: Any Options Left?	Co-PIs: C. Mallory-Smith and A. Hulting	12,500	6,250	2/1/12-1/31/14
2010	OSU Organic Production Special Grants Program	Organic Production of Winter Cereal Crops in Western Oregon	Co-PIs: A. Hulting and M. Flowers	26,052	13,026	4/1/2010-12/1/2011
2010	Agricultural Research Foundation	Alternative winter cereal crops for western Oregon	Co-PIs: A. Hulting and M. Flowers	12,500	6,250	3/1/2010-12/1/2011
2009	OSU Forage-Livestock Small Grants Program	Hare Barley (<i>Hordeum murinum</i> ssp. <i>leporinum</i>) Management in Pastures	Co-PIs: A. Hulting and G. Pirelli	1,000	1,000	10/15/2008 - 10/14/2010
2008	Agricultural Research Foundation	Integrating Control and Restoration Practices for Invasive Japanese Knotweed Management	PI: A. Hulting	10,953	10,953	07/01/2008-06/30/2010
2007	Agricultural Research Foundation	Volunteer canola management in grass seed production	PI: A. Hulting	12,177	12,177	7/1/07-6/30/09

2007	Agricultural Research Foundation	California brome (<i>Bromus carinatus</i>) biology and management in grass seed production	PI: A. Hulting	12,377	12,377	7/1/07-6/30/09
Total				87,559	62,033	

Contracts Summary

Industry unrestricted grant in aid dollars are shared equally in an arrangement with C. Mallory-Smith's research program and are used to fund specific herbicide evaluations studies, basic or applied weed ecology studies, FRA personnel, and the travel and Extension activities of the OSU Weed Science Group throughout OR. Both Hulting and Mallory-Smith actively participate in securing contract research dollars. The amounts presented in this table reflect Hulting program dollars.

Fiscal Year	Funding Group	Title	Personnel	Amount
2013-2014	Ag Industry	Weed Management Research in Agronomic Crops	Co-PIs: A. Hulting and C. Mallory-Smith	TBD
2012-2013	Ag Industry	Weed Management Research in Agronomic Crops	Co-PIs: A. Hulting and C. Mallory-Smith	53,000
2011-2012	Ag Industry	Weed Management Research in Agronomic Crops	Co-PIs: A. Hulting and C. Mallory-Smith	35,082
2010-2011	Ag Industry	Weed Management Research in Agronomic Crops	Co-PIs: A. Hulting and C. Mallory-Smith	50,825
2009-2010	Ag Industry	Weed Management Research in Agronomic Crops	Co-PIs: A. Hulting and C. Mallory-Smith	35,575
2008-2009	Ag Industry	Weed Management Research in Agronomic Crops	Co-PIs: A. Hulting and C. Mallory-Smith	43,160
2007-2008	Ag Industry	Weed Management Research in Agronomic Crops	Co-PIs: A. Hulting and C. Mallory-Smith	7,750
2006-2007	Ag Industry	Weed Management Research in Agronomic Crops	Co-PIs: A. Hulting and C. Mallory-Smith	2,500
Total				227,893

D. SERVICE

1. University Service

i. College

Board Member-OSU Seed Certification-Certification, Foundation Seed and Plant Materials Board. 2012-Present.

Board Member-OSU Seed Certification Grass and Legume Advisory Committee. 2012-Present.

Committee Member-Plant Science Farms, Farm Advisory Group. College of Agricultural Sciences. 2012-Present.

Committee Member – Development of Oregon State University, College of Agricultural Sciences Policy for Use and Experimentation with Pesticides. 2008.

Plant Sciences Curriculum Committee Member-Cross-departmental group charged with reviewing plant science-related graduate courses in College of Agriculture. 2007-2008.

ii. Department

Member of Mentoring Committee for tenure-track faculty member in Dept of CSS, 2012-Present

Member of Dept. of CSS Seminar Committee, 2011-2013

Co-Chair and Member of CSS Departmental Hyslop Research Farm Operations Committee, 2010-2011

Chair and Member of CSS Departmental Computing and Web Works Committee, 2007-2010

Co-Advisor, Department of Crop and Soil Science Undergraduate Crops Club, 2008-Present

Member of Search Committee for South Valley Extension Educator Position, 2014

Member of Search Committee for South Valley Extension Educator Position, 2012

Member of Search Committee for North Valley Extension Educator Position, 2008

Peer Teaching Evaluations

CSS Tenured Faculty Member, 2007

CSS Tenure Track Faculty Member, 2008

OSU Department of Hort.-Review of Teaching for Tenure-Track Faculty Member, 2012

2. Service to the Profession

i. Professional Society

Past President (2013), President (2012), Vice President (2011), Board of Directors, Ex-Officio Officer (2006-Present)—Oregon Society of Weed Science

Secretary (2012-13), Student Paper Contest Judge, 2007, 2008, 2009; Member of Student Paper Judging Committee, 2007-2010 and Chair in 2009; Chair of Section 3: Weeds of Agronomic Crops at 2011 Annual Meeting; Member of Education Committee, 2011-Present; Member of Annual Meeting Local Arrangements Committee, 2007-Western Society of Weed Science

Member of Herbicides for Minor Uses Committee, 2013-Present; Member of Outstanding Paper in *Weed Technology* Subcommittee, 2010-Present; Member of Extension Committee, 2013-Present and Chair in 2014-Weed Science Society of America

Chair (2009), Secretary (2008), and Member (2006-Present) —WERA-077 Invasive Weeds in Wheat Discussion Group

ii. Manuscript Reviewer (National/International and Regional Publications)

Crop Science—Review submitted manuscripts, 2013-Present

Weed Research—Review submitted manuscripts, 2012-Present

Crop Management—Review submitted manuscripts, 2012-Present

Weed Science—Review submitted manuscripts, 2006-Present

Weed Technology—Review submitted manuscripts, 2007-Present

Agronomy Journal—Review submitted manuscripts, 2007-Present

Seed Technology—Review submitted manuscripts, 2008-Present

Invasive Plant Science and Management—Review submitted manuscripts, 2009-Present

Biomass and Bioenergy—Review submitted manuscripts, 2011-Present

PNW Extension Weed Management Publications-Review submitted manuscripts from university Extension faculty across PNW 3-state area, 2006-Present

iii. Promotion and Tenure Reviewer

Reviewed promotion package and provided letter for proposed advancement for a Staff Research Associate/Specialist in the University of California, Davis, system. February, 2010.

iv. Member of Grant Reviews and Panels

USDA-NIFA, Extension Integrated Pest Management Coordination and Support Program (EIPM-CS), Washington, D.C. June 4-6, 2013 (Weed Science Panel Member). Carrie Lapaire Harmon, Director of the University of FL-IFAS Extension Plant Diagnostic Center, USDA - NIFA Panel Manager.

USDA-CSREES Small Business Innovation Research (SBIR) Program. Ad-hoc weed science reviewer. 05/2009 (reviewed proposal for potential to commercialize innovative weed management methods). William Goldner, SBIR, National Program Leader.

USDA-CSREES Small Business Innovation Research (SBIR) Program. Ad-hoc weed science reviewer. 02/2009 (reviewed proposal for potential to commercialize innovative weed management methods). William Goldner, SBIR, National Program Leader.

USDA-CSREES Small Business Innovation Research (SBIR) Program. Ad-hoc weed science reviewer. 01/2008 (reviewed proposal for potential to commercialize innovative weed management methods). William Goldner, SBIR, National Program Leader.

USDA-CSREES North Central Region IPM Grant Panel, St. Louis, MO January 22-24, 2008 (Weed Science Panel Member). Michael Gray, Professor, University of Illinois, USDA CSREES Panel Manager.

National Fish and Wildlife Foundation Grants Program. Ad-hoc weed science reviewer. 06/2007.

v. Professional Society Memberships

Member, Weed Science Society of America

Member, Ecological Society of America

Member, American Society of Agronomy

Ex –Officio Officer and Member, Oregon Society of Weed Science

Member, Western Society of Weed Science 2000-2004, 2006-Present

Member, Northeastern Society of Weed Science 2004-2006

Member of Penn State Sustainable Agriculture Working Group 2004-2006

Member, North Central Weed Science Society 1996-1999

3. Service to the Public (professionally related)

Morrow County, OR, Giant Cane (*Arundo donax*) Biomass Project Advisory Committee, Member, 2011-Present

Technical Editor for the following Oregon Department of Agriculture Noxious Weed Policy and Classification System Risk Assessments.

 Weed Risk Assessment for Gold-of-Pleasure (*Camelina sativa*), April 2009.

 Weed Risk Assessment for Rapeseed (*Brassica napus*), March 2009.

Technical Review of WEDPest Software System developed by EPA-Western Ecology Division, Corvallis, OR. January 2009.

E. AWARDS

1. University

George R. Hyslop Endowed Professorship in Crop and Soil Science (CSS). 2013-2018.

2012 Newer Faculty Award-OSU Extension Association, Corvallis, OR.

2006 Rural Studies Faculty Fellow-OSU Rural Studies Program, Corvallis, OR.

2. Professional Society

Miskella, J. 2011. Determining whether a population of Japanese Knotweed (*Fallopia japonica*) contains multiple biotypes. Weed Science Society of America Undergraduate Research Award. Advisor: **A.G. Hulting**.

2010 American Society of Agronomy-Outstanding Paper ASA A4 Educational Material Award-Publications < 16 pages

Ball, D. and **A.G. Hulting**. Rattail Fescue – Biology and Management in Pacific Northwest Cropping Systems. PNW 613. 2009.

2010 American Society of Agronomy-Outstanding Paper ASA A4 Educational Material Award-Publications > 16 pages

G.E. Shewmaker and M.G. Bohle (eds.) Pasture and Grazing Management in the Northwest, PNW 614, University of Idaho Extension, Moscow. 2010

Cash, D., **A.G. Hulting**, M. Bohle, and D. Hannaway. Chapter 12: Health Considerations for Grazing Animals. p.119-132.

F. PROFESSIONAL IMPROVEMENT

1. Formal supplemental training (selected examples)

OSU Extension Mobile Device User Group (October 2012)

OSU Extended Campus

Blackboard Learning Portal System v. 9.0 Training (September 2010)

Extension and Experiment Station Communications

Pachyderm Workshop Training (September 2009)

OSU Extended Campus-Second Annual Ecampus Spring Faculty Forum

Teaching Techniques and Design for Online Courses (May 2009)

2. Attendance and participation in professional meetings related to weed management in agronomic crops and invasive plant management (selected examples)

Western Society of Weed Science Annual Meeting (2007-2014)

Oregon Society of Weed Science Annual Meeting (2006-2013)

Oregon Watershed Enhancement Board Biennial Conference (2008)

International Weed Science Society Meeting (2008, 2012)

Weed Science Society of America Annual Meeting (2006 and 2011-2014)

Ecological Society of America Annual Meeting (2005)