CURRICULUM VITAE

MARK THORNE, PhD
Department of Crop and Soil Sciences
Washington State University
Pullman, Washington 99164-6420
Cell phone: (740) 707-5449; email: mthorne@wsu.edu

EDUCATION

Ph.D.	Environmental Science, Disturbed land revegetation The Ohio State University, Columbus	2010
M.S.	Natural Resource Sciences, Disturbed land revegetation Washington State University, Pullman	1996
B.S.	Crop Science, Crop production Oregon State University, Corvallis	1989

RESEARCH INTERESTS

My primary research goal is to understand mechanisms and develop strategies to increase quality, productivity, and sustainability in disturbed and managed ecosystems. Previous research focused on weed and crop management in dryland cropping systems in the Pacific Northwest, and in increasing diversity and productivity of native vegetation on surface-mined landscapes. Currently, I am researching ecology and management of scouringrush (*Equisetum* sp.) and rush skeletonweed (*Chondrilla juncea*) in Pacific Northwest dryland cropping systems. In addition, I am studying timing of Italian ryegrass seed retention and shatter when occurring with winter wheat in the Palouse region of Eastern Washington, and Italian ryegrass management in spring canola on the Palouse.

PROFESSIONAL AND WORK EXPERIENCE

Washington State University, Department of Crop and Soil Science, Pullman	
Associate of Research – Weed ecology and management	*2016-present*
Technical Assistant (part-time) - Data analysis and writing	*2001-07*
Agricultural Research Technologist - Weed ecology and management	*1998-99*
Associate of Research - Dryland cropping systems	*1996-97*
Agricultural Research Technologist – Weed science	*1990-94*
Wheat, cattle, and horse production in eastern Oregon - Pendleton	*1970-86*

CURRICULUM VITAE

PUBLICATIONS

Peer-reviewed Journal Articles

Thorne, M.E., D.J. Lyon. 2021. Rush skeletonweed (*Chondrilla juncea* L.) control in fallow. Weed Technology, First View, pp. 1-7.

Lyon, D.J., J. Barroso, M.E. Thorne J.A. Gourlie, and L.K. Lutcher. 2020. Russian-thistle (*Salsola tragus* L.) control with soil-active herbicides in no-till fallow. Weed Technology 35(4):547-553.

San Martín, C., M.E. Thorne, J.A. Gourlie, D.J. Lyon, and J. Barroso. 2020. Seed retention of grass weeds at wheat harvest in the Pacific Northwest. Weed Science 69(2):238-246.

Fischer, J.W., M.E. Thorne, and D.J. Lyon. 2020. Weed-sensing technology modifies fallow control of rush skeletonweed (*Chondrilla juncea*). Weed Technology 34(6):857-862 doi.org/10.1017/wet.2020.76.

Thorne, M.E. 2019. Rush skeletonweed management in Pacific Northwest winter wheat–fallow cropping systems. Crops and Soils 52(3) doi.org/10.2134/cs2019.52.0304

Lyon, D.J., M.E. Thorne, P. Jha, V. Kumar, and T. Waters. 2019. Volunteer buckwheat control in wheat. Crop, Forage, and Turfgrass Management 5:0033. doi:10.2134/cftm2019.05.0033.

Spring, J.F., M.E. Thorne, I.C. Burke, and D.J. Lyon. 2018. Rush skeletonweed (*Chondrilla juncea* L.) control in Pacific Northwest winter wheat. Weed Technology 32:360-363.

Thorne, M., L. Rhodes, and J. Cardina. 2013. Soil compaction and arbuscular mycorrhizae affect seedling growth of three grasses. Open Journal of Ecology 3:455-463.

Thorne, M., L. Rhodes, and J. Cardina. 2013. Effectivity of arbuscular mycorrhizal fungi of reclaimed calcareous surface mine soil and native tallgrass prairie soil on growth of prairie grasses. Open Journal of Ecology 3:224-233.

Thorne, M. and J. Cardina. 2011. Prairie grass establishment on calcareous reclaimed mine soil. Journal of Environmental Quality 40:1824-1834.

Thorne, M.E., F.L. Young, J.P. Yenish. 2007. Cropping systems alter weed seed banks in Pacific Northwest semi-arid wheat region. Crop Protection 26:1121-1134.

Young, F.L., M.E. Thorne, and D.L. Young. 2006. Nitrogen fertility and weed management critical for continuous no-till wheat in the Pacific Northwest. Weed Technology 20:658-669.

Young, F.L. and M.E. Thorne. 2004. Weed-species dynamics and management in no-till and reduced-till fallow cropping systems for the semi-arid agricultural region of the Pacific Northwest, USA. Crop Protection 23:1097-1110.

Thorne, D., A. Tickamyer, and M. Thorne. 2004. Poverty and income in Appalachia. Journal of Appalachian Studies, Special Issue: Appalachian Counts: The Region in the 2000 Census. 10(3):341-358.

Thorne, M.E., F.L. Young, W.L. Pan, R. Bafus, and J.R. Alldredge. 2003. No-till spring cereal cropping systems reduce wind erosion susceptibility in the wheat/fallow region of the Pacific Northwest. Journal of Soil and Water Conservation 58(5): 250-257.

CURRICULUM VITAE

Thorne, M.E., B.A. Zamora, and A.C. Kennedy. 1998. Sewage sludge and mycorrhizal effects on Secar bluebunch wheatgrass in mine spoil. Journal of Environmental Quality 27:1228-1233.

Progress reports

Thorne, M., and D. Lyon. 2021. Smooth scouringrush control with glyphosate and an organosilicone surfactant no-till fallow. *Submitted for publishing in the Research Progress Report of the* Western Society of Weed Science.

Thorne, M., and D. Lyon. 2021. Control of smooth scouringrush with sulfonylurea herbicides and non-ionic surfactants. *Submitted for publishing in the Research Progress Report of the* Western Society of Weed Science.

Thorne, M., J. Fischer, H. Wetzel, and D. Lyon. 2021. Precision and broadcast spray applications of picloram for rush skeletonweed control in fallow. *Submitted for publishing in the Research Progress Report of the* Western Society of Weed Science.

Thorne, M. E., Fischer, J., Appel, D. P., Whaley, D. K., Lyon, D. 2020. Long-term control of smooth scouringrush with glyphosate in no-till fallow. In *Research Progress Report of the* Western Society of Weed Science. Available at http://www.wsweedscience.org/publications/research-reports/

Thorne, M.E., J.W. Fischer, and D.J. Lyon. 2019. Rush skeletonweed control in winter wheat fallow. 2019. In *Research Progress Report of the* Western Society of Weed Science. Available at http://www.wsweedscience.org/publications/research-reports/

Thorne, M., J. Spring, H. Wetzel, I. Burke, and D. Lyon. 2018. Rush skeletonweed control in winter wheat. In *Research Progress Report of the* Western Society of Weed Science. Available at http://www.wsweedscience.org/publications/research-reports/

Thorne, M., D. Appel, H. Wetzel, and D. Lyon. 2017. Smooth scouringrush control with fallow-applied herbicides in a winter wheat/spring wheat/fallow rotation. In *Research Progress Report of the* Western Society of Weed Science. Available at http://www.wsweedscience.org/publications/research-reports/

Thorne, M., H. Wetzel, and D. Lyon. 2017. Rush skeletonweed control in winter wheat following CRP takeout. In *Research Progress Report of the* Western Society of Weed Science. Available at http://www.wsweedscience.org/publications/research-reports/

Thorne, M., D. Appel, H. Wetzel, and D. Lyon. March, 2017. Smooth scouringrush difficult to control with fallow-applied herbicides in winter wheat/spring wheat/fallow rotation. Poster session at the annual meeting of the Western Society of Weed Science, Coeur d'Alene, Idaho.

CURRICULUM VITAE

Technical Reports

Thorne, M., M. Savic, and D. Lyon 2021. Comparison of RT® 3 and surfactants and for control of smooth scouringrush – one year after treatment. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., M. Savic, and D. Lyon 2021. Comparison of RT® 3 and surfactants and for control of smooth scouringrush during a drought year – 2021. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., M. Savic, and D. Lyon 2021. Efficacy of Silwet® L77 organosilicone surfactant with RT® 3 glyphosate applied in no-till fallow for control of smooth scouringrush – 2 years after treatment. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., M. Savic, H. Wetzel, and D. Lyon 2021. Italian ryegrass control in spring canola combining multiple modes of action. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., M. Savic, and D. Lyon 2021. Italian ryegrass seed shatter in spring wheat. http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., M. Savic, D. Whaley, and D. Lyon 2021. Long-term control of smooth scouringrush control with Finesse® in a no-till winter wheat/fallow rotation – final evaluation. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., M. Savic, and D. Lyon 2021. Rush skeletonweed control with Tordon 22K in no-till fallow is affected by application method, herbicide rate, and field conditions. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., M. Savic, and D. Lyon 2021. Smooth Scouringrush control with Finesse® in winter wheat/spring wheat/no-till fallow rotations – continued. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., M. Savic, and D. Lyon 2021. Long-term control of smooth scouringrush control with RT 3® and Finesse® in wheat/fallow cropping systems. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., M. Savic, and D. Lyon 2021. Long-term control of smooth scouringrush control with RT 3® and Finesse® applied in wheat/fallow cropping systems – replicated in 2021. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., D. Whaley, and D. Lyon. 2020. Smooth scouringrush control with Finesse® in a no-till winter wheat/fallow rotation. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., and D. Lyon. 2020. Smooth Scouringrush control with Finesse® in winter wheat/spring wheat/no-till fallow rotations. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

CURRICULUM VITAE

Thorne, M., and D. Lyon. 2020. Control of smooth scouringrush with sulfonylurea herbicides and non-ionic surfactants. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., J. Fischer, H. Wetzel, and D. Lyon. 2020. Application of the WEED-IT precision sprayer for rush skeletonweed control in fallow. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., and D. Lyon. 2020. Rush skeletonweed control in no-till fallow. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., and D. Lyon. 2020. Comparison of surfactants aiding glyphosate uptake in smooth scouringrush. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., and D. Lyon. 2020. Efficacy of Silwet® L77 organosilicone surfactant with RT® 3 glyphosate applied in no-till fallow for control of smooth scouringrush in the following winter wheat crop. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., and D. Lyon. 2020. Smooth scouringrush control in winter wheat following applications of glyphosate with four surfactants in fallow. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M., and D. Lyon. 2020. Smooth scouringrush control with Glyphosate and Finesse® applied in fallow. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Wetzel, H., M. Thorne, and D. Lyon. 2020. Evaluation of preemergence herbicides for the control of Russian-thistle in chemical fallow. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/weed-control-reports/

Thorne, M. E., Fischer, J., Lyon, D. 2019. Effect of sulfonylurea herbicides and non-ionic surfactants on smooth scouringrush in no-till fallow - Steptoe. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M. E., Fischer, J., Lyon, D. 2019. Efficacy of Silwet L-77 organosilicone surfactant with RT 3 herbicide for control of smooth scouringrush in no-till fallow. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M. E., Fischer, J., Appel, D. P., Whaley, D. K., Lyon, D. 2019. Long-term control of smooth scouringrush with glyphosate in no-till fallow. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M. E., Lyon, D. 2019. Residue removal during winter wheat harvest reduces Italian ryegrass in the following spring wheat crop. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M. E., Fischer, J., Lyon, D. 2019. Rush skeletonweed control in no-till winter wheat fallow - LaCrosse and Hay, WA. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

CURRICULUM VITAE

Thorne, M. E., Whaley, D. K., Lyon, D. 2019. Smooth scouringrush control in no-till winter wheat/fallow at Omak, WA - year three. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M. E., Fischer, J., Lyon, D. 2019. Surfactant comparison with RT 3 at 96 oz/A for control of smooth scouringrush - Steptoe. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., J. Fischer, and D. Lyon. 2019. Rush skeletonweed control in winter wheat fallow. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., D. Whaley, D. Appel, and D. Lyon. 2019. Rope wick and broadcast herbicide applications for control of smooth scouringrush in winter wheat fallow. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., D. Whaley, and D. Lyon. 2019. Smooth scouringrush control in no-till winter wheat/fallow at Omak, WA. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., H. Wetzel, D. Lyon, J. Fischer, and T. Waters. 2019. Volunteer buckwheat control in irrigated spring wheat – year three. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., H. Wetzel, D. Lyon, and T. Waters. 2018. Volunteer buckwheat control in irrigated spring wheat – year two. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., J. Spring, H. Wetzel, I. Burke, and D. Lyon. Rush skeletonweed control in winter wheat. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., J. Spring, H. Wetzel, I. Burke, and D. Lyon. Rush skeletonweed control with fall applications in winter wheat stubble. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., H. Wetzel, and D. Lyon. 2017. Rush skeletonweed in winter wheat following CRP takeout. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., D. Appel, H. Wetzel, and D. Lyon. 2017. Smooth scouringrush control with fallow-applied herbicides in a winter wheat/spring wheat/fallow rotation. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M., D. Lyon, and T. Waters. 2017. Volunteer buckwheat control in irrigated spring wheat. 2017. Available at http://smallgrains.wsu.edu/weed-resources/weed-publications/research-reports/

Thorne, M. and F. Young. 1998. Integrated spring cropping systems for the semiarid wheat-fallow region. Technical Report 98-1, Dept. of Crop and Soil Sciences, Wash. State Univ., Pullman, WA.

CURRICULUM VITAE

Boerboom, C.M., and M.E. Thorne. 1993. Eastern Washington Weed Control Report. Technical Report 94-3, Dept. of Crop and Soil Sciences, Wash. State Univ., Pullman, WA.

Boerboom, C.M., and M.E. Thorne. 1992. Eastern Washington Weed Control Report, Technical Report 93-1, Dept. of Crop and Soil Sciences, Wash. State Univ., Pullman, WA.

Boerboom, C.M., and M.E. Thorne. 1991. Eastern Washington Weed Control Report, Dept. of Crop and Soil Sciences, Wash. State Univ., Pullman, WA.

PRESENTATIONS

Smooth scouringrush (*Equisetum laevigatum*) control with glyphosate is affected by surfactant, rate, and timing. Weed Science Society of America, 61st Annual Meeting, Virtual Meeting, February 15-19, 2021.

Rush skeletonweed (*Chondrilla juncea*) control in winter wheat fallow. Western Society of Weed Science, 74th Annual Meeting, Virtual Meeting, March 1-4, 2021.

WSU Weed Research Field Day. 2019. Presented field studies on the control of smooth scouringrush with glyphosate in fallow, and the effect of residue and herbicides on control of Italian ryegrass in spring wheat. June 2019.

CONFERENCES ATTENDED

Weed Science Society of America – 2021

Western Society of Weed Science – 2021

Western Society of Weed Science – 2017

CURRICULUM VITAE

TEACHING EXPERIENCE

The Ohio State University

Teaching Assistant for ENR 201 Intro to Environmental Science	2008
Teaching Assistant for ENR 201 Intro to Environmental Science	2005
Teaching Assistant for ENR 203 Society and Natural Resources	2005
Teaching Assistant for ENR 201 Intro to Environmental Science	2004
Teaching Assistant for HCS 422 Principles of Weed Science	2002

Washington State University

Instructor for CropS 305 Principles of Weed Science	2000
Guest lecturer for SOC 102 Social Problems (Implications of soil erosion on society)	1997
Guest Presenter for Pa-Loots-Pu powwow – Pullman, WA (History and Reclamation Strategies, Midnite Mine, Stevens County, WA)	1996

SERVICE ACTIVITIES

Community:

Moscow Food Co-op Board member	2019-present

Education:

Volunteer tutor with Ohio University Academic Advancement Center	2014
Member Ohio Invasive Plants Council	2003-2015

Project Reviewer:

Prairie Agriculture Demonstration. *the* Wilds, Cumberland, OH	2011, 2013

Pesticide Applicator Training Instructor:

Ohio: Invasive Species and Management, Wilmington, OH	2007
Washington: Weed Control Principles, Spokane, WA; Moses Lake, WA; Pasco, WA; Moscow, ID	2001

FELLOWSHIPS, HONORS, AWARDS

The Ohio State University

Gamma Sigma Delta Honor Society	2008
Mary S. Muellhaupt Presidential Fellowship	2007
Phi Kappa Phi	2007

Oregon State University

Outstanding Senior Award in Crop Science	*1989*