

ASSOCIATE PROFESSOR AND EXTENSION SPECIALIST

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APPOINTMENT

58% Extension, 25% research, 12% teaching, 5% service

EDUCATION

DOCTOR OF PHILOSOPHY, 2000

University of Connecticut - Storrs, Connecticut
Department of Plant Science: Agronomy (Turfgrass Science)

MASTER OF SCIENCE, 1996

University of Connecticut - Storrs, Connecticut
Department of Natural Resource Management and Engineering: Hydrology

BACHELOR OF SCIENCE, 1991

Texas A&M University - College Station, Texas
Interdisciplinary Degree: Natural Resource Conservation, Soil Science emphasis

EXPERIENCE

- Director, Utah State University [Center for Water Efficient Landscaping](#)**
Utah State University. 2011-present
- Assoc. Professor/Extension Water Conservation and Turfgrass Specialist**
Dept. of Plants, Soils and Climate. Utah State University. 7/07-present
- Assist. Professor/Extension Water Conservation and Turfgrass Specialist**
Dept. of Plants, Soils and Climate. Utah State University. 1/01-7/07
- Research Assistant/Teaching Assistant**
Dept. of Plant Science. University of Connecticut. 5/94-12/00
- Research Assistant**
Dept. of Natural Resource Man. and Engineering. University of Connecticut. 7/91-5/94
- Research Technician**
Dept. of Plant Science. University of Connecticut. 9/92-5/93

AWARDS AND RECOGNITION

As USU Faculty Member

Innovative Program Award, Utah State University Extension Specialist's Association. "In recognition of the recipient's development of non-traditional program delivery methods and non-traditional resources in support of Cooperative Extension role." 2014.

Recognized by Golf Course Industry magazine as one of the "[Not So Dirty Dozen](#)." One of a dozen academicians of a "new generation of scientific wunderkind getting ready to set the (turfgrass research) standards," and, "...a new crop of talented young agronomists who will soon be changing our world". Golf Course Industry magazine provides new ideas, innovative techniques, practical tips, and proven research information across print, digital and social media platforms. It is considered the number-one independent media source in the golf turf market. 2013.

Nation's Top Trendsetter Award by Public Works Magazine. Awarded to "professionals who stand out among their peers by making a national impact on the public works sector, thereby influencing the public's quality of life on a daily basis". Public Works magazine is the only magazine focused solely on the information needs of city, county, and state employees who plan, build, operate, and maintain their community's infrastructure assets. Received by Fred Liljegren, Mike Stuver, Larry Rupp, Roger Kjelgren, and **Kelly Kopp**. 2007.

United States Secretary of the Interior Cooperative Conservation Award. Awarded in recognition of accomplishments to research, educate, and facilitate water conservation techniques in the urban landscapes of the western United States. Received by Fred Liljegren, Mike Stuver, Larry Rupp, Roger Kjelgren, and **Kelly Kopp**. 2006.

Extension Vice President's Award for Excellence. Presented to the Utah State University Extension Water Issues Team (Teresa Cerny, Bob Hill, Rich Koenig, **Kelly Kopp**, and Nancy Mesner). 2003.

Outstanding New Extension Specialist Award, Utah State University Extension Specialist's Association. "In recognition of the development of effective programs as well as positive interactions within recipient's academic unit and with county-based faculty." 2003.

Travel Awards

Center for Women and Gender Travel Award. \$500. Awarded to support travel for the presentation of research findings at the 12th International Turfgrass Research Conference, Beijing, China. 2013.

Women and Gender Research Institute Travel Award. \$500. Awarded to support travel for the presentation of research findings at the annual meetings of the Agronomy Society of

America/Crop Science Society of America/Soil Science Society of America. Houston, TX. 2008.

Women and Gender Research Institute Travel Award. \$1000. Awarded to support travel for the presentation of research findings at the 10th International Turfgrass Research Conference, Llandudno, Wales, United Kingdom. 2005.

Utah State University College of Agriculture Travel Award. \$500. Awarded to support travel for the presentation of research findings at the 10th International Turfgrass Research Conference, Llandudno, Wales, United Kingdom. 2005.

Women and Gender Research Institute Travel Award. \$1000. Awarded to support travel for the presentation of research findings at the 4th International Crop Science Congress, Brisbane, Queensland, Australia. 2004.

Utah State University College of Agriculture Travel Award. \$500. Awarded to support travel for the presentation of research findings at the 4th International Crop Science Congress, Brisbane, Queensland, Australia. 2004.

Gardner Junior Faculty Travel Fellowship Award. \$2000. Awarded to support travel for the presentation of research findings at the 4th International Crop Science Congress, Brisbane, Queensland, Australia. 2004.

As Graduate Student

Northeast Branch American Society of Agronomy Meetings. Student research paper award. "Hydraulic Head Effects on Solute Transport Through Large Intact and Packed Soil Columns." 1995.

GRANTS AND FUNDING

GRAND TOTAL, 2001-2013: \$4,603,392 (\$2,008,678 under my administration)

External Extension Funding

Water Conservation for Lawn and Landscape Community of Practice support funds. 2013-2014. **Kopp (PI)** and Rupp. The Board of Regents of the University of Nebraska, Lincoln, NE. Amount: \$10,000 (\$5000).

Landscape water check program. 2013. **Kopp (PI)** and Endter-Wada. Metropolitan Water District of Salt Lake and Sandy. Sandy, UT. Amount: \$50,947 (\$40,947).

Landscape water check program. 2013. **Kopp (PI)**. Central Utah Water Conservancy District. Orem, UT. Amount: \$93,553 (\$93,553).

Landscape water check program. 2012. **Kopp (PI)** and Kjelgren. Metropolitan Water District of Salt Lake and Sandy. Sandy, UT. Amount: \$46,505 (\$34,879).

Landscape water check program. 2012. **Kopp (PI)** and Kjelgren. Central Utah Water Conservancy District. Orem, UT. Amount: \$64,042 (\$48,032).

Landscape water check program. 2011. **Kopp (PI)** and Kjelgren. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$62,717 (\$37,466).

Landscape water check program. 2011. **Kopp (PI)** and Kjelgren. Central Utah Water Conservancy District. Orem, UT. Amount: \$94,025 (\$70,519).

Landscape water check program. 2011. **Kopp (PI)** and Kjelgren. Metropolitan Water District of Salt Lake and Sandy. Sandy, UT. Amount: \$49,954 (\$58,556).

Landscape water check program. 2010-2011. **Kopp (PI)** and Kjelgren. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$52,904 (\$39,678).

Landscape water check program. 2010-2011. **Kopp (PI)** and Kjelgren. Central Utah Water Conservancy District. Orem, UT. Amount: \$90,764 (\$68,073).

Landscape water check program. 2010-2011. **Kopp (PI)** and Kjelgren. Metropolitan Water District of Salt Lake and Sandy. Sandy, UT. Amount: \$47,311 (\$35,483).

Water Conservation for Lawn and Landscape: An eXtension Community of Practice. 2009-2012. **Kopp (PI)** and Rupp. The Board of Regents of the University of Nebraska, Lincoln, NE. Amount: \$60,000 (\$30,000).

Landscape water check program. 2009-2010. **Kopp (PI)** and Kjelgren. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$83,586 (\$62,689).

Landscape water check program. 2009-2010. **Kopp (PI)** and Kjelgren. Central Utah Water Conservancy District. Orem, UT. Amount: \$83,652 (\$62,739).

Landscape water check program. 2008-2009. **Kopp (PI)** and Kjelgren. Jordan Valley Water Conservancy District. Amount: \$118,580 (\$83,006).

Water savings partnership: leveraging water district, state and university resources to improve landscape water conservation programs in the Weber Basin Water Conservancy District. 2008. Kjelgren and **Kopp (Co-PI)**. Weber Basin Water Conservancy District. Amount: \$20,000 (\$10,000).

Landscape water check program. 2007-2008. **Kopp (PI)**, Kjelgren, Johnson, and Rupp. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$82,330 (\$57,631).

Large water user workshop program. 2007. **Kopp (PI)**, Kjelgren, Johnson, and Rupp. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$15,500 (\$13,950).

Landscape water check program. 2006-2007. **Kopp (PI)** and Kjelgren. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$103,027 (\$51,514).

Large water user workshop program. 2006. **Kopp (PI)**, Kjelgren, Johnson, and Rupp. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$23,480 (\$21,132).

Development of web-based instructional modules for pesticide safety. 2004-2006. Beard and **Kopp (Co-PI)**. Utah Department of Agriculture and Food. Amount: \$68,000 (\$6800).

Development of a landscape water check program. 2004. **Kopp (PI)** and Kjelgren. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$101,587 (\$50,794).

Revision of the pest control study guides structural and health related pest control and right-of-way pest control and development of category exam questions for licensed pesticide applicators of Utah. 2003. Beard and **Kopp (Co-PI)**. Utah Department of Agriculture and Food. Amount: \$17,000 (\$1700).

Water use workshop series and water-wise plant marketing program. 2003. **Kopp (PI)**. Marriner S. Eccles Foundation. Amount: \$5000 (\$5000).

Large water user workshop program. 2002-2005. **Kopp (PI)**. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$40,000 (\$40,000).

Internal Extension Funding

Landscape water conservation: getting the message out there. 2012-2013. Buffler, **Kopp (Co-PI)** and Rupp. Utah State University Cooperative Extension. Amount: \$10,000 (\$5000).

Central Iron County Water Conservancy District/Iron County Cooperative Extension water check program. 2010. Schaible and **Kopp (Co-PI)**. Utah State University Cooperative Extension Service. Amount: \$5200 (\$0).

Water-wise landscaping online curriculum development for Utah water districts, eXtension, and USU Extension. 2010. Rupp and **Kopp (Co-PI)**. Utah State University Cooperative Extension Service. Amount: \$6000 (\$3000).

A team approach to developing horticulture education. 2003. Cerny and **Kopp (Co-PI)**. Utah State University Cooperative Extension Service. Amount: \$10,000 (\$3000).

Extension Water Issues Team funding. 2002-2003. Cerny, Hill, Koenig, **Kopp (Co-PI)**, and Messner. Utah State University Cooperative Extension Service. Amount: \$10,000 (\$2500).

External Research Funding

Salt Lake City Parks and Public Lands: Parks auditing project. 2013-2014. **Kopp (PI)**. Siemens, Inc. Amount: \$60,654 (\$60,654).

Insect-attacking nematodes and water conservation practices as alternatives to insecticides for billbug control in Intermountain West turfgrass. 2012-2015. Ramirez, Salaiz, Johnson, Bechinski, and **Kopp (Co-PI)**. Amount: \$125,697 (\$3000).

Turf mix study. 2012-2013. **Kopp (PI)**. W.R. Henderson Construction, Inc. Amount: \$22,590 (\$22,590).

Salt Lake City Parks and Public Lands: Golf auditing project. 2012-2013. **Kopp (PI)**. Siemens, Inc. Amount: \$25,720 (\$25,720).

The real deal: Determining actual water use in irrigated landscapes by mining water billing data. 2010-2012. Kjelgren and **Kopp (Co-PI)**. United States Bureau of Reclamation. Amount: \$95,539 (\$47,770).

Value landscape engineering. 2009. Rosenberg, **Kopp (Co-PI)**, Kratsch, Rupp, Johnson, Kjelgren. Central Utah Water Conservancy District. Amount: \$51,028 (\$7230).

Developing a landscape water check program to generate usable data. 2004-2005. Kjelgren and **Kopp (Co-PI)**. Jordan Valley Water Conservancy District, West Jordan, UT. Amount: \$101,587 (\$50,794).

2003 National fineleaf fescue test. 2003-2008. Johnson and **Kopp (Co-PI)**. National Turfgrass Evaluation Program. Amount: \$12,000 (\$3000).

2003 National bentgrass (putting green) test. 2003-2008. Johnson and **Kopp (Co-PI)**. National Turfgrass Evaluation Program. Amount: \$12,000 (\$3000).

Maximum length of summer dormancy in Kentucky bluegrass with or without minimal irrigation. 2003-2005. Johnson and **Kopp (Co-PI)**. International Turf Producers Foundation. Amount: \$7,000 (\$2100).

Eddy covariance measurements of turfgrass water use in the Intermountain West. 2003. **Kopp (PI)**, Kjelgren, Johnson, and Hipps. United States Bureau of Reclamation. Amount: \$20,000 (\$6000).

Improving water loss estimates for Kentucky of bluegrass in the Mountain West using advanced micrometeorological techniques. 2002. **Kopp (PI)**, Kjelgren, Hipps, and Johnson. United States Bureau of Reclamation. Amount: \$25,000 (\$7500).

Improving water loss estimates for Kentucky bluegrass in Utah using advanced micrometeorological techniques. 2002. **Kopp (PI)**, Kjelgren, Hipps, and Johnson. Utah Division of Water Resources. Amount: \$15,000 (\$4500).

Internal Research Funding

Evaluation of climate-based controllers for landscape irrigation. 2013-2014. **Kopp (PI)**. Utah State University Cooperative Extension. Amount: \$8,100 (\$8,100).

Utah Agricultural Experiment Station. 2012-present. **Kopp (PI)**. Sustainable urban landscapes: Water and nutrient conservation (UTA01099). Amount: \$18,000 or \$9000/yr (\$18,000).

Replacement of essential equipment for the analysis of nitrate, ammonium, and phosphate in soils and water. 2010. Norton, Reeve, Stark and **Kopp (Co-PI)**. Utah Agricultural Experiment Station. Amount: \$23,520 (\$5880).

Extension water-wise intern support. 2010. Kjelgren and **Kopp (Co-PI)**. Utah Agricultural Experiment Station. Amount: \$6000 (\$3000).

Xeric or conservation landscapes: how knowledge and familiarity influence perceptions of different types of landscapes. 2007-2008. Marquardt-Pyatt and **Kopp (Co-PI)**. ADVANCE-NSF (Program for the Recruitment and Retention of Female Faculty in the Sciences and Engineering). Utah State University. Amount: \$8410 (\$2523).

Rooting dynamics and competition of turfgrasses in competition with trees. 2005. **Kopp (PI)**, Johnson, Kratsch, and Kjelgren. Community/University Research Initiative. Utah State University. Amount: \$33,000 (\$23,100).

Gray water irrigation: constituent uptake, leaching, and persistence. 2005. **Kopp (PI)** and Mesner. NSF-ADVANCE (Program for the Recruitment and Retention of Female Faculty in the Sciences and Engineering). Utah State University. Amount: \$7900 (\$3950).

Evaluation of Intermountain West native and adapted grass species and their management for turfgrass applications. 2004. Johnson and **Kopp (Co-PI)**. Community/University Research Initiative. Utah State University. Amount: \$14,000 (\$4200).

Demonstrating the water and nutrient use of turfgrass and ornamental landscapes. 2003-2005. **Kopp (PI)**. Utah State University Cooperative Extension Service. Amount: \$10,000 (\$10,000).

Evaluation of water use efficiency and carbon isotopic composition in turfgrass species for use in the Intermountain West. 2002. **Kopp (PI)**. New Faculty Research Grant. Utah State University. Amount: \$15,000 (\$15,000).

Utah Agricultural Experiment Station. 2001-2011. **Kopp (PI)**. Turfgrass management in the Intermountain West: Conservation of water and nutrients (UTA00359). Amount: \$99,000 or \$9000/yr (\$99,000).

Best management practices for low-water use turfgrass for the Intermountain West region. 2001. Johnson and **Kopp (Co-PI)**. Community/University Research Initiative. Utah State University. Amount: \$10,000 (\$3000).

Teaching Funding

Redevelopment of PSC 3420-Landscape Irrigation Design. 2013. **Kopp (PI)**. USU Regional Campuses and Distance Education. Amount: \$600 (\$600).

Online course development for horticulture classes. 2008-2009. Rupp, Roper, **Kopp (Co-PI)**, Aston, Varga and Kratsch. USU Regional Campuses and Distance Education. Amount: \$20,000 (\$2000).

Federal Appropriations Funding (USDA/CSREES)

Drought Management Initiative. Funding to support Department of Plants, Soils & Climate landscape water conservation research and outreach programs. 2008-2011. Johnson, Kjelgren, **Kopp (PI of portion under my administration)**, and Kratsch. United States Department of Agriculture. Amount: \$230,938 (\$46,188).

Drought Management Initiative. Hatch Appropriation to support Department of Plants, Soils & Climate landscape water conservation research and outreach programs. Johnson, Kjelgren, **Kopp (PI of portion under my administration)**, and Kratsch. 2007-2008. United States Department of Agriculture. Amount: \$92,046 (\$18,409).

Drought Management Initiative. Funding to support Department of Plants, Soils & Climate landscape water conservation research and outreach programs. 2006-2007. Kjelgren, Johnson, **Kopp (PI of portion under my administration)**, and Kratsch. United States Department of Agriculture. Amount: \$269,986 (\$53,997).

Drought Management Initiative. Funding to support Department of Plants, Soils, and Biometeorology landscape water conservation research and outreach programs. 2005-2006. Kjelgren, Johnson, **Kopp (PI of portion under my administration)**, and Kratsch. United States Department of Agriculture. Amount: \$210,000 (\$42,000).

Utah Botanical Center. Funding to support comparison of traditional, water-wise, and hybrid landscapes. 2004-2005. **Kopp (PI)**. United States Department of Agriculture. Amount: \$45,000 (\$45,000).

Drought Management Initiative. Funding to support Department of Plants, Soils, and Biometeorology landscape water conservation research and outreach programs. 2004-2005. Kjelgren, Johnson, **Kopp (PI of portion under my administration)**, and Kratsch. United States Department of Agriculture. Amount: \$210,000 (\$42,000).

State of Utah Line Item Funding, 2001-2013

Center for Water Efficient Landscaping. Funding to support landscape water conservation research and Extension programs. Rupp, Kjelgren, Johnson, and **Kopp**. Utah State Legislature. Amount: \$1,274,000 or \$98,000/yr (\$24,500/yr).

EXTENSION PUBLICATIONS AND ACTIVITIES

eXtension* Community of Practice-[Water Conservation for Lawn and Landscape](#)

On July 18, 2012, the Water Conservation for Lawn and Landscape Community of Practice was officially launched within the eXtension learning environment. To date, we have posted 298 information pages, 25 Frequently Asked Questions (FAQs), and 32 news articles. A [Facebook page](#) was launched for the CoP in October 2012 and a [Scoop.it! page](#) was launched in June 2013. We have also built a community comprised of 3 leaders and 98 Cooperative Extension faculty across the country, who are charged with collaborating to produce and review content, generating responses to FAQs, and answering questions posed through the Ask an Expert feature of the site.

*eXtension is an online environment where university content providers gather and produce new educational and information resources on wide-ranging topics. Information is available to students, researchers, clinicians, professors, as well as the general public, at any time from any Internet connection, helping to answer real-life questions in real-time.

Book Chapters

Kopp, Kelly and Jaydee Gunnell. 2011. Practical turfgrass areas. *In* Water-Efficient Landscaping in the Intermountain West. USU Academic Press. Logan, UT.

Kelly Kopp. 2008. Irrigation and plant water needs. *In* Utah Master Gardener Handbook. USU Cooperative Extension. Logan, UT.

Turfgrass Integrated Pest Management Advisories (4628 member listserv as of March 2014)

Kopp, Kelly (Ed.). Winter 2014. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 7 \(1\)](#). Topics included: Winterkill of turfgrasses, snow molds, and upcoming spring management practices. Distributed via listserv to 4471 members.

Kopp, Kelly (Ed.). Fall 2013. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 6 \(3\)](#). Topics included: Late fall fertilization of athletic fields, overseeding, and fall management practices. Distributed via listserv to 4420 members.

Kopp, Kelly (Ed.). Summer 2013. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 6 \(2\)](#). Topics included: "Dog patch", chinch bugs, summer management practices, and new USU Extension fact sheets. Distributed via listserv to 4345 members.

Kopp, Kelly (Ed.). Spring 2013. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 6 \(1\)](#). Topics included: Spring monitoring for insects, voles, and spring management practices. Distributed via listserv to 3914 members.

Kopp, Kelly (Ed.). Winter 2013. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 5 \(4\)](#). Topics included: Buffalograss, new USU Extension fact sheets, and spring management practices. Distributed via listserv to 3685 members.

Kopp, Kelly (*Ed.*). Fall 2012. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 5 \(3\)](#). Topics included: Chinch bugs, sod webworm, Banks grass mite, summer patch, necrotic ring spot and fall management practices. Distributed via listserv to 3598 members.

Kopp, Kelly (*Ed.*). Summer 2012. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 5 \(2\)](#). Topics included: turfgrass and tree competition, billbug update, sod webworm, white grubs and cultural practices. Distributed via listserv to 3535 members.

Kopp, Kelly (*Ed.*). Spring 2012. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 5 \(1\)](#). Topics included: preventive treatments for turf insect pests, white grubs, sod webworm, billbug, necrotic ring spot and cultural practices. Distributed via listserv to 2954 members. Distributed via listserv to 2954 members.

Kopp, Kelly (*Ed.*). Spring 2011. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 4 \(2\)](#). Topics included: pink and gray snow mold, billbugs, and cultural practices. Distributed via listserv to 2687 members.

Kopp, Kelly (*Ed.*). Winter 2011. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 4 \(1\)](#). Topics included: life history and management of white grubs and cultural practices for their management. Distributed via listserv to 1956 members.

Kopp, Kelly (*Ed.*). Fall 2010. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 3 \(2\)](#). Topics included: necrotic ring spot, Ascochyta leaf blight, grubs and introductions to USU's Extension Entomologist and Plant Pathologist. Distributed via listserv to 1645 members.

Kopp, Kelly (*Ed.*). Spring 2010. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 3 \(1\)](#). Topics included: necrotic ring spot, pink and gray snow mold, armyworm, cutworm, cultural practices, and earthworms. Distributed via listserv to 1247 members.

Kopp, Kelly (*Ed.*). Fall 2009. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 2 \(1\)](#). Topics included: take-all patch, pink and gray snow mold, billbugs, grubs, cultural practices, and imidacloprid. Distributed via listserv to 941 members.

Kopp, Kelly (*Ed.*). Fall 2008. USU Extension Turfgrass IPM Advisory. Utah State University. [Vol 1 \(1\)](#). Topics included: necrotic ring spot, pink snow mold, fading out, sod webworm, grubs, and cultural practices. Distributed via listserv to 210 members.

Bulletins/Fact Sheets

Kopp, Kelly, Ryan S. Davis, and Ricardo A. Ramirez. 2013. [Chinch bugs](#). USU Extension Publication No. ENT-169-13PR.

Claudia Nischwitz, **Kelly Kopp**, JayDee Gunnell, Kent Evans, and Erin Frank. 2013. [Necrotic ring spot and summer patch of turfgrass](#). USU Extension Publication No. PLP-019pr.

Kopp, Kelly, Niel Allen and Mark Nelson. 2013. [Simple sprinkler performance testing for Beaver County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-02pr.

Kopp, Kelly, Niel Allen and Mike Johnson. 2013. [Simple sprinkler performance testing for Blanding, Utah](#). USU Extension Publication No. Horticulture/Turfgrass/2013-03pr.

Kopp, Kelly, Niel Allen and Mike Pace. 2013. [Simple sprinkler performance testing for Box Elder County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-03pr.

Kopp, Kelly, Niel Allen and Taun Beddes. 2013. [Simple sprinkler performance testing for Cache County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-04pr.

Kopp, Kelly, Niel Allen and Ron Patterson. 2013. [Simple sprinkler performance testing for Carbon County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-05pr.

Kopp, Kelly, Britney Hunter, and Niel Allen. 2013. [Simple sprinkler performance testing for Davis County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-01pr.

Kopp, Kelly, Niel Allen and Troy Cooper. 2013. [Simple sprinkler performance testing for Duchesne County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-06pr.

Kopp, Kelly, Niel Allen and Dennis Worwood. 2013. [Simple sprinkler performance testing for Emery County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-07pr.

Kopp, Kelly, Niel Allen and Trent Wilde. 2013. [Simple sprinkler performance testing for Fillmore, Utah](#). USU Extension Publication No. Horticulture/Turfgrass/2013-08pr.

Kopp, Kelly, Niel Allen and Kevin Heaton. 2013. [Simple sprinkler performance testing for Garfield County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-25pr.

Kopp, Kelly, Niel Allen and Mike Johnson. 2013. [Simple sprinkler performance testing for Hanksville, Utah](#). USU Extension Publication No. Horticulture/Turfgrass/2013-09pr.

Kopp, Kelly, Niel Allen and Candace Schaible. 2013. [Simple sprinkler performance testing for Iron County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-24pr.

Kopp, Kelly, Niel Allen and Jeff Banks. 2013. [Simple sprinkler performance testing for Juab County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-10pr.

Kopp, Kelly, Niel Allen and Kevin Heaton. 2013. [Simple sprinkler performance testing for Kane County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-27pr.

Kopp, Kelly, Niel Allen and Trent Wilde. 2013. [Simple sprinkler performance testing for Millard County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-11pr.

Kopp, Kelly, Niel Allen and Mike Johnson. 2013. [Simple sprinkler performance testing for Moab, Utah](#). USU Extension Publication No. Horticulture/Turfgrass/2013-12pr.

- Kopp, Kelly**, Niel Allen and Mike Johnson. 2013. [Simple sprinkler performance testing for Monticello, Utah](#). USU Extension Publication No. Horticulture/Turfgrass/2013-13pr.
- Kopp, Kelly**, Niel Allen and James Barnhill. 2013. [Simple sprinkler performance testing for Morgan County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-14pr.
- Kopp, Kelly**, Niel Allen and Katie Wagner. 2013. [Simple sprinkler performance testing for Salt Lake County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-15pr.
- Kopp, Kelly**, Niel Allen and Matt Palmer. 2013. [Simple sprinkler performance testing for Sanpete County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-16pr.
- Kopp, Kelly**, Niel Allen and Jody A. Gale. 2013. [Simple sprinkler performance testing for Sevier County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-17pr.
- Kopp, Kelly**, Niel Allen and Sterling Banks. 2013. [Simple sprinkler performance testing for Summit County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-18pr.
- Kopp, Kelly**, Niel Allen and Linden Greehalgh. 2013. [Simple sprinkler performance testing for Tooele County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-19pr.
- Kopp, Kelly**, Niel Allen and Boyd Kitchen. 2013. [Simple sprinkler performance testing for Uintah County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-20pr.
- Kopp, Kelly**, Niel Allen and Meredith Seaver. 2013. [Simple sprinkler performance testing for Utah County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-21pr.
- Kopp, Kelly**, Niel Allen and Allan Sulser. 2013. [Simple sprinkler performance testing for Wasatch County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-22pr.
- Kopp, Kelly**, Niel Allen and Rick Heflebower. 2013. [Simple sprinkler performance testing for Washington County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-23pr.
- Kopp, Kelly**, Niel Allen and Jerry Goodspeed. 2013. [Simple sprinkler performance testing for Weber County](#). USU Extension Publication No. Horticulture/Turfgrass/2013-26pr.
- Goodspeed, Jerry, Rick Heflebower, Taun Beddes, and **Kelly Kopp**. 2012. [Bermudagrass in Utah lawns](#). USU Extension Publication No. Horticulture/Turfgrass/2012-03pr.
- Beddes, Taun and **Kelly Kopp**. 2012. [Lawn fertilizers for cool season turf](#). USU Extension Publication No. Horticulture/Turfgrass/2012-02pr.
- Alston, Diane and **Kelly Kopp**. 2010. [Turfgrass cultural practices and integrated pest management](#). USU Extension Publication No. ENT-138-10.
- Kopp, Kelly**, and Paul Johnson. 2006. [Turfgrass cultivation \(Aerification\)](#). Utah State University Extension Publication No. HG/Turf/2006-02.

Kopp, Kelly, Paul Johnson, and Loralie Cox. 2006. [Water-wise landscaping: Practical turfgrass areas](#). Utah State University Extension Publication No. HG/Turf/2006-01.

Kopp, Kelly and Mark Nelson. 2005. [Over hill, over dale: Earthworms in the lawn](#). Utah State University Extension Publication No. HG/Grass/2005/01.

Kopp, Kelly and Jennie Hoover. 2004. [Irrigation System Maintenance](#). Utah State University Extension Publication No. HG/Irrigation/2004/01.

Kopp, Kelly and Paul Johnson. 2004. [Turfgrass cultivars for Utah](#). Utah State University Extension Publication No. HG/Grass/2004/01.

Cerny, Teresa, **Kelly Kopp**, Maggie Wolf, and Debbie Amundsen. 2002. [Designing a low water use landscape](#). Utah State University Extension Publication No. HG 525.

Cerny, Teresa, Mike Kuhns, **Kelly Kopp** and Michael Johnson. 2002. [Efficient irrigation of trees and shrubs](#). Utah State University Extension Publication No. HG 523.

Hill, Robert W. and **Kelly L. Kopp**. 2002. [Turfgrass water use in Utah](#). Utah State University Extension Publication No. ENGR/BIE/WM 36.

Koenig, Rich, **Kelly Kopp** and Chad Reid. 2002. [Water-wise landscaping: Monitoring irrigation with probes](#). Utah State University Extension Publication No. HG520.

Kopp, Kelly L. and Paul Johnson. 2002. [Basic turfgrass care](#). Utah State University Extension Publication No. HG517. (*Revised March 2011*)

Training Materials

Kopp, Kelly. 2006. "Integrated turfgrass management." *In* Utah State University Extension Horticulture In-Service Training CD-ROM. Kaysville, UT.

Kopp, Kelly, Teresa Cerny, and Rich Koenig. 2004. "Landscape irrigation." *In* Landscape Irrigation In-Service Training Manual. Beaver, Kaysville, and Castle Dale, UT.

Beard, Richard, Howard Deer, Alan Roe, **Kelly Kopp**, and Jay Karren. 2003. [Structural and health related pest management](#). Pesticide Applicator Training Study Guide. Utah Department of Agriculture and Food.

Alston, Diane, Alan Roe, Scott Ockey, Howard Deer, Shawn Steffan, **Kelly Kopp**, and Matt Palmer. 2003. "Arthropod pests of turf." *In* Plant Pest Workshop In-Service Training Manual. Kaysville, UT.

Kopp, Kelly, Teresa Cerny, Roger Kjelgren, Paul Johnson, and Larry Rupp. 2002. "Large water user workshop series." *In* Landscape Water Use Workbook. Various UT locations.

Kopp, Kelly. 2001. "Landscape irrigation management." *In* Irrigation In-Service Training Manual. Bob Hill and Rich Koenig, *Coords.* Provo, UT.

Multi-Media Materials

Kopp, Kelly. 2010. Irrigation and Water Quality. A web-based instructional module addressing the irrigation and water quality concerns of golf course superintendents in the Intermountain West. Produced in conjunction with USEPA grant: Reducing pesticide usage on Utah golf courses by promoting Integrated Pest Management and reduced risk pesticides (Dr. Paul Johnson, PI).

Waters, Molly and **Kelly Kopp.** 2006. Water-Wise Landscaping in Utah. A water-wise landscaping CD-ROM directed toward Utah homeowners. Produced in collaboration with Utah's Division of Water Resources Water Conservation Program. Participated in the generation and editing of content. Available through the Utah Division of Water Resources.

Whittaker, Joe, Molly Waters, and **Kelly Kopp.** 2003. Otto Bonn and the Water Detectives. A water conservation video directed toward children. Administered, produced, and written for the US Bureau of Reclamation with their funding support.

Kopp, Kelly, Joe Whittaker, and Molly Waters. 2002. It's Easy to Save Water. A sprinkler system evaluation and water conservation video. Administered, produced, and written for the Utah Water Conservation Forum with funding support from the US Bureau of Reclamation.

Extension Presentations*

	2007	2008	2009	2010	2011	2012	2013	Totals
National or Multi-State	2	2	2	1	-	1	3	11
Statewide	8	7	2	6	6	5	4	39
Multi-County, County	12	9	6	5	4	9	8	53
Inservice Training	-	2	2	1	-	-	-	5
Field Days, Fairs	2	2	1	1	-	-	1	8
Workshops	6	2	-	2	-	3	1	15
Radio Appearances	2	2	3	-	-	-	3	10
Totals	30	24	13	16	10	18	20	131

*Since 2007.

Selected National or Multi-State Educational Presentations or Classes

“10 years down the drain: long term evaluation of landscape irrigation systems.” November 15, 2013. Southwest Turfgrass Association Recreational Landscape Conference and Expo. Ruidoso, NM. (*invited*).

“Global water issues: Implications for the green industry.” October 28, 2010. Professional Grounds Management Society Annual Meetings. Louisville, KY. (*invited*).

“Case study: Water savings through auditing.” July 23, 2009. Irrigation Association Water Conference. Park City, UT. (*invited*).

"Turfgrass water use relations." May 19, 2008. American Society of Irrigation Consultants Annual Meetings. Napa, CA. *(invited)*.

Selected Statewide Educational Presentations or Classes

"Artificial turf vs. natural grass." March 12, 2013. Utah Recreation and Parks Association/Intermountain Sports Turf Management Association Joint Annual Meetings. *(invited)*.

"Turfgrass care: Best practices and trouble shooting." March 1, 2013. Utah Nursery and Landscape Association New Employee Workshop. Thanksgiving Point, Lehi, UT. *(invited)*.

"USEPA's WaterSense program update: Implications for the Intermountain West." January 20, 2012. Idaho Nursery and Landscape Association Annual Green Conference. Boise, ID. *(invited)*.

"Costs and benefits of water efficient landscapes." January 19, 2011. Nevada Green Conference. Reno, NV. *(invited)*.

"Golf course irrigation efficiency: findings from the West." November 18, 2008. Wisconsin Golf Course Superintendent's Association Annual Meetings. Kohler, WI. *(invited)*.

"Landscape preference and drought tolerance study." January 23, 2007. Utah Nursery and Landscape Association Green Conference. Sandy, UT. *(invited)*.

Selected Multi-County, County, or Community Educational Presentations or Classes

"Basic turfgrass management for Salt Lake County." April 23, 2013. Salt Lake County Master Gardener Seminar. Salt Lake City, UT. *(2 presentations)*.

"Turfgrass management and irrigation." April 19, 2012. Summit/Wasatch Counties Master Gardener Seminar. Kimble Junction, UT.

"Water check program report and analysis." June 19, 2009. Sandy City Public Utilities Advisory Committee Meeting. Sandy, UT. *(invited)*.

"Water check program report and analysis." April 23, 2009. Salt Lake City Public Utilities Advisory Committee Meeting. Salt Lake City, UT. *(invited)*.

"Landscaping with limited water resources." October 4, 2007. Utah State University Senior University Program. Logan, UT. *(invited)*.

"Hitting the ground running as a new USU undergraduate." August 23, 2007. Utah State University Connections Program. Logan, UT.

"Water conserving landscapes." February 20, 2007. Southeast Idaho Green Industry Workshop. Pocatello, ID. *(invited)*.

RESEARCH PUBLICATIONS

Book Chapters

Kopp, Kelly L. and Yiwei Jiang. 2013. Turfgrass water use and physiology. *In* Turfgrass: Biology, Use, and Management. Agronomy Monograph No. 56. American Society of Agronomy, Soil Science Society of America, Crop Science Society of America. Madison, WI.

*Refereed Journal Articles (*indicates graduate student co-author)*

Sun*, Hongyan and **Kelly Kopp**. 2013. Identifying high-risk areas of N leaching in the Salt Lake Valley. *International Turfgrass Society Research Journal*. 12:39-46.

Sun*, Hongyan, **Kelly Kopp**, and Roger Kjelgren. 2012. Water efficient urban landscapes-Integrating different water use categorizations and plant types. *HortScience*. 47:254-263.

Johnson, Paul, Adam Van Dyke, Erin Hodgson, Marion Murray, and **Kelly Kopp**. 2012. Interest, incentives, and education towards organic golf course management: A study of Utah golf course superintendents. Online. *Applied Turfgrass Science*. doi:10.1094/ATS-2012-0320-01-TT.

Rosenberg, David, **Kelly Kopp**, Heidi Kratsch, Larry Rupp, Paul Johnson, and Roger Kjelgren. 2011. Value landscape engineering: Identifying costs, water use, labor, and impacts to support landscape choice. *Journal of the American Water Resources Association*. 47:635-649.

Kopp, Kelly L. and Karl Guillard. 2009. Quantifying turfgrass-available N from returned clippings using anion exchange membranes. *International Turfgrass Research Journal*. 11:41-54.

Bunderson*, Landon D., Paul G. Johnson, **Kelly L. Kopp**, Adam Van Dyke. 2009. Tools for evaluating native grasses as low maintenance turf. *HortTechnology*. 19:626-632.

McCammon*, Tony A., Sandra T. Marquardt-Pyatt, **Kelly L. Kopp**. 2009. Water-conserving landscapes: An evaluation of homeowner preference. *Journal of Extension*. 47 (2). <http://www.joe.org/joe/2009april/rb5.php>.

Kopp, Kelly L., Teresa Cerny-Koenig, and Rachel Lopez. 2007. [Educating large landscape water users](#). *Journal of Extension*. 45 (1).

Zollinger*, Nickolee, Roger Kjelgren, Teresa Cerny-Koenig, **Kelly Kopp**, and Rich Koenig. 2006. Drought responses of six ornamental herbaceous perennials. *Scientia Horticulturae*. 109:267-274.

Kopp, Kelly, and Karl Guillard. 2005. Clipping contributions to nitrate leaching from creeping bentgrass under varying irrigation and N rates. *In* Thorogood et al. (eds.) International Turfgrass Society Research Journal. 10:80-85.

Ebdon, J.S., and **K. L. Kopp**. 2004. Relationships between water use efficiency, carbon isotope discrimination, and turf performance in genotypes of Kentucky bluegrass during drought. *Crop Science*. 44:1754-1762.

Guillard, Karl, and **Kelly L. Kopp**. 2004. Nitrate leaching from lawn turf receiving different nitrogen fertilizers. *Journal of Environmental Quality*. 33:1822-1827.

Koenig, Richard, Teresa Cerny, Rick Heflebower, Nancy Mesner, **Kelly Kopp**, and Bob Hill. 2004. [A team approach enhances statewide water issues programming](#). *Journal of Extension*.

Johnson, P.G., R.T. Koenig, and **K.L. Kopp**. 2003. Nitrogen, phosphorous, and potassium responses and requirements in calcareous sand greens. *Agronomy Journal*. 95:697-702.

Kopp, Kelly L., and Karl Guillard. 2002. Clipping management and nitrogen fertilization of turfgrass: growth, nitrogen utilization, and quality. *Crop Science*. 42:1225-1231.

Kopp, Kelly L., and Karl Guillard. 2002. Relationship of turfgrass growth and quality to soil nitrate desorbed from anion exchange membranes. *Crop Science*. 42:1232-1240.

Guillard, Karl, Thomas F. Morris, and **Kelly L. Kopp**. 1999. The pre-sidedress soil nitrate test and nitrate leaching from corn. *Journal of Environmental Quality*. 28:1845-1852.

Guillard, Karl, Glenn S. Warner, **Kelly L. Kopp**, and Jonathan D. Stake*. 1999. Leaching of broadcast and banded Atrazine from maize plots. *Journal of Environmental Quality*. 28:130-137.

Peer-Reviewed Proceedings

Kopp, Kelly, and Karl Guillard. 2004. Decomposition and nitrogen release rates of turfgrass clippings. *Proceedings of the 4th International Crop Science Congress*. Brisbane, Queensland, Australia. 26 September – 1 October, 2004.

In Preparation for Journal Article Submission

Sun*, Hongyan, **Kelly L. Kopp**, and Scott Jones. Numerical simulation of water and nitrogen transport in three turf species. *Under revision for resubmission to Journal of Environmental Quality*.

Kopp, Kelly L., Paul G. Johnson, Eric Klotz, and Craig Miller. Golf course water use efficiency in Utah. *In preparation for submission to Applied Turfgrass Science*.

Urzagaste*, Paúl and **Kelly L. Kopp**. Physiological turfgrass responses to climate-based irrigation scheduling. *In preparation for submission to Crop Science*.

Urzagaste*, Paúl, **Kelly L. Kopp** and Niel Allen. Comparison of evapotranspiration among climate-based irrigation controllers. *In preparation for submission to Journal of Irrigation Drainage and Engineering*.

Abstracts and Scholarly Presentations

Sun*, Hongyan and **Kelly Kopp**. 2013. Identifying high-risk areas of N leaching in the Salt Lake Valley, Utah, USA. 12th International Turfgrass Research Conference. Beijing, China. July 14 – 19. (*abstract for oral presentation*).

Kopp, Kelly. 2012. EPA's WaterSense program: questions from turfgrass scientists and managers. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for oral presentation*).

Urzagaste*, Paúl and **Kelly Kopp**. 2012. Evaluation of climate-based controllers for landscape irrigation. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for oral presentation*).

Wolfarth, Ron, **Kelly Kopp**, Brent Mecham, Brian Vinchesi, and David Zoldoske. 2012. Green code implications for irrigation manufacturers and other stakeholders. WaterSmart Innovations Conference and Expo. Las Vegas, NV. (*abstract for panel presentation/participation*).

Kopp, Kelly, Heidi Kratsch, and Tony McCammon*. 2011. Physiological responses of ornamental landscape plants to drought. *HortScience* 46(9):S391. (*abstract for poster presentation*).

Urzagaste*, Paúl and **Kelly Kopp**. 2011. Evaluation of climate-based controllers for landscape irrigation. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for oral presentation*).

Sun*, Hongyan, **Kelly Kopp**, and Scott Jones. 2010. Simulating water and nitrogen transport in turf with Hydrus-1D. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for oral presentation*).

Sun*, H. and **K. Kopp**. 2010. Developing water balances of ornamental landscapes. *HortScience* 45(8): S263. (*abstract for oral presentation*).

Sun*, H., **K. Kopp**, Dietz, M., Jones, S., and J. Fan. 2010. A comprehensive research method to investigate the environmental issues of urban landscapes—Water use and nitrogen leaching of urban landscapes on community water quantity and quality. *HortScience* 45(8): S97. (*abstract for poster presentation*).

Kopp, Kelly and Tony McCammon*. 2009. Landscape preference and drought tolerance in the Intermountain West. American Water Works Association Water Conservation Workshop. Portland, OR. *(abstract for oral presentation)*.

Hardman, Nancy, Fred Liljegren, **Kelly Kopp**, and David Rosenberg. 2009. Value Landscape Engineering: spreadsheet and web tools for planning cost-effective, water-efficient, and resource-conserving landscapes. WaterSmart Innovations Conference. Las Vegas, NV. *(abstract for oral presentation)*.

Kopp, Kelly and Karl Guillard. 2009. Quantifying turfgrass-available N from returned clippings using anion exchange membranes. International Turfgrass Society Meetings. Santiago, Chile. July 27 – 31. *(abstract for poster presentation)*.

Rupp, L., R. Kjelgren, and **K. Kopp**. 2009. Graduate Studies in Landscape Water Conservation at Utah State University. WaterSmart Innovations Conference and Expo. Las Vegas, NV. *(abstract for poster presentation)*.

Kopp, Kelly, Roger Kjelgren, and Molly Waters*. 2008. Mining billing data to assess the effectiveness of a landscape irrigation system evaluation program in Utah. WaterSmart Innovations Conference. Las Vegas, NV. *(abstract for oral presentation)*.

Sun*, Hongyan, **Kelly Kopp**, and Heidi Kratsch. 2008. Tolerance and response of ornamental landscape plant species to drought. HortScience 43(4): 1296. *(abstract for poster presentation)*.

Kopp, Kelly, Roger Kjelgren, Molly Waters*, Paul Johnson, Heidi Kratsch, Nancy Mesner, Tony McCammon*, James Gregory*, and Helen Sun*. 2008. USU's Drought Management Project: Landscape water conservation. USU Water Initiative's Spring Runoff Conference. March 31-April 1. Logan, UT. *(abstract for oral presentation)*.

Hendrickson*, Christopher, Heidi Kratsch, and **Kelly Kopp**. 2008. Evaluation of competition in the rootzone of the landscape of the Intermountain West. USU Water Initiative's Spring Runoff Conference. March 31-April 1. Logan, UT. *(abstract for poster presentation)*.

Kopp, Kelly, Roger Kjelgren, Molly Waters*, Jennie M. Hoover*, and Earl Jackson. 2008. Mining billing data to assess the effectiveness of a landscape irrigation system evaluation program in Utah. American Water Works Association Water Sources Conference, Reno, NV. *(abstract for oral presentation)*.

Waters*, Molly, **Kelly Kopp**, Roger Kjelgren, and Cathy Myers-Roche*. 2008. A new cross-disciplinary Master's degree program in landscape water conservation at Utah State University. American Water Works Association Water Sources Conference, Reno, NV. *(abstract for oral presentation)*.

Hendrickson*, Christopher, **Kelly Kopp**, and Heidi Kratsch. 2007. Evaluation of competition between trees and turfgrass in the landscape: comparison of rooting dynamics. HortScience 42(4):1004. *(abstract for poster presentation)*.

Van Dyke*, Adam, Paul Johnson, Paul Grossl, and **Kelly Kopp**. 2007. Influence of humic substances on moisture retention and phosphorous uptake of putting greens. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for oral presentation*).

Walker*, John, Paul Johnson, **Kelly Kopp**, and Joseph Robins. 2007. Native and adapted species sod production for the Intermountain West. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Bunderson*, Landon, Paul Johnson, and **Kelly Kopp**. 2006. Evaluation of native and adapted grass species and their management for turfgrass applications in the Intermountain West. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Van Dyke*, Adam, Paul Johnson, Paul Grossl, and **Kelly Kopp**. 2006. Influence of humic substances on moisture retention and phosphate absorption of creeping bentgrass putting greens. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Dougher, Tracy, Toby Day*, Paul Johnson, **Kelly Kopp**, and Mark Majerus. 2006. Intermountain West native and adapted grass species and their management for turfgrass applications. *HortScience* 41(4):1037. (*abstract for poster presentation*).

Kopp, Kelly L., Roger Kjelgren, Joanna Endter-Wada, Jennie M. Hoover*, Diana Glenn*, and Earl Jackson. 2006. Landscape water conservation for Utah homeowners. Association of Natural Resource Extension Professionals Annual Conference. May 14-17. Park City, UT. (*abstract for oral presentation*).

Kratsch, Heidi A., **Kelly Kopp**, Paul Johnson, and Roger Kjelgren. 2006. Native and adapted plants for water-efficiency in urban Utah landscapes. *HortScience* 41(4):909. (*abstract for poster presentation*).

Gregory*, James, David Chandler, and **Kelly Kopp**. 2006. A comparison of soil water potentials between traditional, non-native and native landscapes during a 3-Week dry down. USU Water Initiative's Spring Runoff Conference. March 27-28. Logan, UT. (*abstract for poster presentation*).

McCammon*, Tony, **Kelly Kopp**, and Roger Kjelgren. 2006. Water conserving landscapes: An evaluation of landscape drought response and homeowner preference. USU Water Initiative's Spring Runoff Conference. March 27-28. Logan, UT. (*abstract for oral presentation*).

Kopp, Kelly. 2006. Turfgrass water use efficiency and quality. Plants, Soils, and Biometeorology Departmental Seminar Series. February 27. Logan, UT. (*oral presentation without abstract*).

Kopp, K.L. and Karl Guillard. 2005. Clipping contributions to nitrate leaching from creeping bentgrass under varying irrigation and N rates. 10th International Turfgrass Research Conference. Llandudno, Wales, United Kingdom. July 10 – 15. (*abstract for poster presentation*).

Kopp, Kelly L. and J. Scott Ebdon. 2005. Evaluation of water use efficiency and carbon isotopic composition of tall fescue cultivars. *In Annual Meetings Abstracts CD-ROM*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Zollinger, Nickolee*, Teresa Cerny-Koenig, Roger Kjelgren, Rich Koenig, and **Kelly Kopp**. 2005. Salinity tolerance of eight ornamental herbaceous perennials. *HortScience* 40(4):1034. (*abstract for poster presentation*).

Zollinger, Nickolee*, Roger Kjelgren, Teresa Cerny-Koenig, Rich Koenig, and **Kelly Kopp**. 2005. Drought responses of ornamental herbaceous perennials. *HortScience* 40(4):1035. (*abstract for poster presentation*).

Mesner, Nancy, **Kelly Kopp**, Rick Heflebower, Robert Hill, John Harrison, and André Walker. 2004. Addressing water-related extension programming with a statewide water issues team. USU Water Initiative's Spring Runoff Conference. March 25-26. Logan, UT. (*abstract for poster presentation*).

Day*, Toby, Tracy Dougher, **Kelly Kopp**, and Paul Johnson. 2004. Evaluation of Intermountain West native and adapted grass species and their management for turfgrass applications. *In Intermountain Native Plant Summit III Abstracts*. p. 6 (*abstract for poster presentation*).

Kopp, Kelly, Teresa Cerny, and Roger Kjelgren. 2003. Educating large, urban landscape water users. *HortScience* 38(5):706. (*abstract for poster presentation*).

Kjelgren, Roger, Amy Croft*, Teresa Cerny, and **Kelly Kopp**. 2003. Production of Intermountain West native perennial wildflowers using pot-in-pot production. *HortScience* 38(5):699. (*abstract for poster presentation*).

Ebdon, J. S. and **K. L. Kopp**. 2002. Relationship between WUE, ¹³C discrimination, and turf performance in genotypes of Kentucky bluegrass during drought. *In Annual Meetings Abstracts CD-ROM*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Kopp, K. L. and K. Guillard. 2002. Decomposition and nitrogen release of turfgrass clippings. *In Annual Meetings Abstracts CD-ROM*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Leinauer, B., **K. L. Kopp**, and G. K. Stahnke. 2002. A survey of turfgrass extension in the west. *In Annual Meetings Abstracts CD-ROM*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Kopp, Kelly and Roger Kjelgren. 2001. Quantifying potential urban landscape water conservation through billing data analysis. AWWA Intermountain Section. Annual Conference. Sept. 11-14. Mesquite, NV. (*abstract for oral presentation*).

Kopp, K. L. and K. Guillard. 2000. Clipping management effects on turfgrass growth, N utilization, and quality responses. p. 161. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Kopp, K. L. and K. Guillard. 1999. Characterizing available N in a turfgrass system using anion exchange membranes. p. 314. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Guillard, K. and **K. L. Kopp**. 1998. Late-season fertilization effects on nitrate leaching from lawns. p. 126. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Guillard, K., T. F. Morris, and **K. L. Kopp**. 1998. Nitrate leaching from maize plots using PSNT recommendations. p. 307. *In Agronomy Abstracts*. American Society of Agronomy. Madison, WI. (*abstract for poster presentation*).

Multi-Media Materials

Rosenberg, David, **Kelly Kopp**, Heidi Kratsch, Roger Kjelgren, Larry Rupp, and Paul Johnson. 2010. [Value landscape engineering](#) web-based tool. A tool to help both landscape professionals and consumers make informed decisions about choices in landscape design and maintenance.

Trade Publications

Kopp, Kelly. 2012. Plant scientist seeks understanding landscape architect for meaningful soil-plant-water relationship. *In* [Notes from the field: Water and the design of resilient communities](#). American Society of Landscape Architecture (ASLA). Delivered to ASLA membership in conjunction with ASLA Annual Meeting and Expo. Phoenix, AZ.

Kopp, Kelly L. 2006. Water conservation programs and the turfgrass industry. *Turf News*. 30:34-38.

Johnson, Paul G., Rich Koenig, and **Kelly L. Kopp**. 2004. How to Retain Nutrients on Calcareous Sand Greens. *TurfGrass Trends Online Research Journal*.

Johnson, Paul G., Rich Koenig, and **Kelly L. Kopp**. 2002. Fertilizing calcareous sand greens. *Golf Course Management*. 70:81-84.

Kopp, Kelly L., and Karl Guillard. 2002. Adjusting nitrogen rates when clippings are returned. *Golf Course Management*. 70:60-64.

ACADEMIC AND RESEARCH MENTORING

Doctoral Students (Major Professor and Dissertation Coordinator)

Hongyan (Helen) Sun Plants, Soils & Climate Ph.D. in Plant Science, 2011

Dissertation Title: Characterizing water and nitrogen dynamics in urban/suburban landscapes (Funded by the Center for Water Efficient Landscaping, the Utah Botanical Center, and US Congressional Appropriation to USU Drought Management Initiative).

Masters Students (Major Professor and Thesis Coordinator)

Paúl Urzagaste Plants, Soils & Climate M.S. in Plant Science,
anticipated 2013

Research topic: Evaluation of climate-based controllers for landscape irrigation. (Funded by the Center for Water Efficient Landscaping and US Congressional Appropriation to USU Drought Management Initiative).

Christopher Hendrickson Plants, Soils & Climate M.S. in Plant Science, 2008

Co-Major Advisor (with Dr. Heidi Kratsch). Thesis title: Evaluation of competition between turfgrass and trees: rooting dynamics and characteristics (Funded by Community/University Research Initiative and Plants, Soils, and Biometeorology departmental monies).

Landon Bunderson Plants, Soils and Biometeorology M.S. in Plant Science, 2007

Co-Major Advisor (with Dr. Paul Johnson). Thesis title: Evaluation of native and adapted grass species and their management for turfgrass applications in the Intermountain West (Funded by US Congressional Appropriation to USU Drought Management Initiative).

Tony McCammon Plants, Soils and Biometeorology M.S. in Plant Science, 2006

Co-Major Advisor (with Dr. Roger Kjelgren). Thesis title: Water conserving landscapes: an evaluation of drought tolerance and homeowner preference (Funded by USU Cooperative Extension, the Center for Water Efficient Landscaping, and the Utah Botanical Center).

Nickolee Zollinger Plants, Soils and Biometeorology M.S. in Plant Science, 2005

Co-Major Advisor (with Dr. Roger Kjelgren). Thesis title: Responses of traditionally grown and Intermountain West native ornamental herbaceous perennials to drought and salinity (Funded by the Center for Water Efficient Landscaping and the Utah Botanical Center).

Rachel Jeppson Plants, Soils and Biometeorology M.S. in Plant Science, 2006

Thesis title: Salt-tolerant native perennial buckwheat (Eriogonum) species for Utah landscapes: Investigation of species responses and physiological mechanisms.

Amy Howa Croft Plants, Soils and Biometeorology M.S. in Plant Science, 2003

Thesis title: The production of native and adapted plants for the Intermountain West using the pot-in-pot nursery production system.

Molly Waters Plants, Soils and Biometeorology M.S. in Plant Science, 2002

Thesis title: Feasibility of implementing water conservation tools in Utah.

Student Supervisory Committee Member for Master of Professional Studies in Horticulture: Water Efficient Landscaping Specialization

Elizabeth Westling	Plants, Soils & Climate	2013
Kyle Frandsen	Plants, Soils & Climate	2013
Bryce Funk	Plants, Soils & Climate	2013
Brandon Brewer	Plants, Soils & Climate	2011
Ruth Bell	Plants, Soils & Climate	2011
Elisabeth Anderson	Plants, Soils & Climate	2010
Samuel Cook	Plants, Soils & Climate	2009
Jesse Carlson	Plants, Soils & Climate	2009
Kristofer Sagars	Plants, Soils & Climate	2007
Dale Roberts	Plants, Soils & Climate	2007
Jeff Petersen	Plants, Soils and Biometeorology	2006
Zachary Versluis	Plants, Soils and Biometeorology	2006
Heather Johnson	Plants, Soils and Biometeorology	2005
Von Isaman	Plants, Soils and Biometeorology	2005
Cable Jones	Plants, Soils and Biometeorology	2005
Kade Turner	Plants, Soils and Biometeorology	2005
Desiree Van Dyke	Plants, Soils and Biometeorology	2005
Mark Guthrie	Plants, Soils and Biometeorology	2004
Sue Robison	Plants, Soils and Biometeorology	2004
Jerry Hunsaker	Plants, Soils and Biometeorology	2004
Talia Buroker	Plants, Soils and Biometeorology	2004
Anne Haueter	Plants, Soils and Biometeorology	2003
Tiffany Graham	Plants, Soils and Biometeorology	2003
Jenny Marshall Hoover	Plants, Soils and Biometeorology	2003
J.J. Stockton	Plants, Soils and Biometeorology	2003
Jalene Hunt	Plants, Soils and Biometeorology	2001
Rachel Morgan Lopez	Plants, Soils and Biometeorology	2001
David Rice	Plants, Soils and Biometeorology	2001
Clifton Smith	Plants, Soils and Biometeorology	2001

TEACHING AND STUDENT ACTIVITIES

Courses Taught

Landscape Irrigation Design (PSC 3420, 2 semester credits, lecture and laboratory). University Studies-Quantitative Intensive (undergraduate, general education). Introduction to the design of sprinkler and drip irrigation systems for residential and commercial landscapes. Taught Spring 2009, 2010, 2011, 2012, 2013. Taught concurrently online Spring 2009, 2010, 2011, 2012, 2013.

Professional Turf and Urban Landscape Water Management formerly Landscape Irrigation Management (PLSC 5100/6100, 3 semester credits, lecture). Irrigation management and applied water relations of urban landscapes in the arid west. Taught Fall 2006.

Readings in Landscape Water Conservation (PLSC 6230, 1 credit, discussion). Background topics in water development and policy in the West. Current topics on various aspects of water conservation in urban landscapes. Taught Fall 2006.

Guest Lectures

Plants, Soils & Climate 4900-Student Farm Practicum (1), Plants, Soils & Climate 3400-Sustainable Landscapes (8), Plants, Soils & Climate 3800-Turfgrass Management (2), Plants, Soils & Climate 1050-Introduction to Plants, Soils & Climate (3), Landscape Architecture and Environmental Planning 1030-Introduction to Landscape Architecture (6), Landscape Architecture and Environmental Planning-3500-Planting Design (1), Biological and Irrigation Engineering 6860-Research Orientation (1), LAEP 3610-Construction II (1), Landscape Architecture and Environmental Planning 3600-Landscape Materials (1).

OTHER PROFESSIONAL ACTIVITIES AND AFFILIATIONS

PROFESSIONAL SERVICE AND LEADERSHIP

Professional Society Offices and Committees

Crop Science Society of America

2015: Chair, Division C-5 (Turfgrass Science)

2014: Chair-Elect, Division C-5 (Turfgrass Science)

2012-present: Division C-5 (Turfgrass Science) Policy and Engagement Committee

2002, 2003, 2011: Presiding Officer, C5 (Turfgrass Science) Graduate Student Paper Competition

2001-2012: Division C-5/Turfgrass Extension Committee

- Member, Extension Symposia Subcommittee, 2002-2012
- Chair, Extension Symposia Subcommittee, 2006

Editorial Positions

2012-2013: Associate Editor, International Turfgrass Research Society Journal
2008-present: Associate Editor, Applied Turfgrass Science Online Journal
2003-2009: Journal of Extension (US Cooperative Extension System) Peer Reviewer

Regional Research and Coordinating Committees

2011-present: North Central Education Research Activity Committee (NCERA221)-
Turfgrass and the Environment
2002-2005: Member, Western Education Research Activity Committee (WERA202)-
Climatic Data Applications in Irrigation Scheduling and Water Conservation

- Chair, 4H Subcommittee

2001-present: Western Education Research Activity Committee (WERA011)-Turfgrass
Research

Other Professional Activities

2012-present: Member, Jordan Valley Water Conservancy District Education Committee
2012-present: Member, Water Efficiency Action Network-Colorado River Basin Steering
Committee

- Chair, Research Working Group

2012-present: Member, Intermountain Sports Turf Manager's Association Board of
Directors
2009-present: Member, Salt Lake City Water Conservation Master Plan Revision
Committee
2007-present: Member, Alliance for Water Efficiency Board of Directors

- Chair, 2014-present
- Secretary, 2008-2013

2002-present: Member, Salt Lake County Conservation Resource Group
2002-2004: Member, Utah Onsite Wastewater Association

- Chair, Public Relations Committee
- Board of Directors, 2004

2002-2003: Member, Salt Lake City Landscape Ordinance Committee
2001-present: Member, Utah Water Conservation Forum Board of Directors

- Vice-President, 2009
- President, 2003
- Vice-President, 2002

2001-2002: Member, Model Landscape Ordinance Committee (Jordan Valley Water
Conservancy Dist.)
2001-2002: Member, North Logan, Utah Water Conservation Committee
2001: Member, Water Conservation Steering Committee (Envision Utah Coalition for
Quality Growth)
2001: Member, Urban Forestry Steering Committee (Envision Utah Coalition for Quality
Growth)

UNIVERSITY SERVICE AND LEADERSHIP

Utah State University

2011-present: Director, Center for Water Efficient Landscaping

2011: Judge, Intermountain Graduate Research Symposium

2011: Interviewer, Utah State University Undergraduate Research Fellow Program

2010-2013: Member, Utah State University Center for Women and Gender Advisory Board

2009: Member, Search Committee for Director of Analysis, Assessment and Accreditation

2009: Member, Center for Women and Gender Organizational Committee

2009-present: Member, Pre-Tenure Mentoring Committee (Provost's Office)

2007-2009: Utah State University Sustainability Council

- Member, Water Subcommittee, 2007-2009

2007-2008: Focus the Nation Planning Committee (USU climate change program)

2005-2008: Member, NSF-ADVANCE Science and Engineering Recruitment Team

2005-2008: Member, Women and Gender Research Institute Board of Directors

2005-2008: Member, Utah State University Arboretum Committee

2003-2004: Member, University Water Initiative Advisory Committee

- Member, Annual Conference Subcommittee

2003: E.G. Petersen Extension Award Committee

2002-present: Member, Utah State University Extension Water Issues Team

2002-present: Member, Utah State University Extension Horticulture Issues Team

- Member, Turfgrass Subcommittee

2002-2005: Officer, Utah State University Extension Specialists Association

(Secretary/Treasurer)

2002-2003: Member, USU Environmental University Task Force

- Member, Landscape Subcommittee

2001-2003: State Coordinator of the Utah Master Gardener Program

2001-present: Member, Center for Water Efficient Landscaping Board of Directors

College of Agriculture and Applied Sciences

2007-2010: College of Agriculture Representative to Faculty Senate

- Member, Faculty Senate Executive Committee, 2008-2010
- Member and Secretary, Committee for Faculty Development, Diversity, and Equity, 2008-2010

Plants, Soils & Climate Department

2012-present: Member, Departmental Executive Board (elected)

- 2013-2014: Faculty Chair

2009: Member, Faculty Search Committee, Extension Entomology Specialist (Biology)

2008-present: Member, Residential Landscape Design Major Committee

2006: Member, Faculty Search Committee, Soil Chemist

2005: Member, Faculty Search Committee, Extension Entomology Specialist (Biology)

2003: Member, Faculty Search Committee, Extension Ornamental Horticulture Specialist

2002-present: Member, Plants, Soils & Climate Dept. Horticulture Curriculum Committee

2002-2005: Member, Plants, Soils, and Biometeorology Dept. Advisory Committee
2002-2004: Member, Plants, Soils, and Biometeorology Dept. Graduate Seminar
Committee

Faculty Mentoring

2012-present: Member, Promotion Advisory Committee, Mr. D. Craig Aston
2011-present: Member, Promotion Advisory Committee, Ms. Anne Spranger
2010-present: Member, Promotion and Tenure Advisory Committee, Dr. Becki Lawver
2010-present: Member, Promotion and Tenure Advisory Committee, Dr. Earl Creech
2010-present: Member, Promotion and Tenure Advisory Committee, Dr. Ricardo Ramirez
2009-present: Member, Promotion and Tenure Advisory Committee, Dr. Lindsey Shirley
2008-2010: Member, Promotion and Tenure Advisory Committee, Dr. Michael Dietz

Manuscript Reviews

Transactions of the American Society of Agricultural and Biological Engineers
Applied Turfgrass Science
Crop Science
HortTechnology
International Turfgrass Research Journal
Journal of Environmental Engineering
Journal of Extension

Memberships

Alpha Zeta Agricultural Fraternity
American Society of Agronomy/Crop Science Society of America/Soil Science Society of
America
American Society of Horticultural Science
International Turfgrass Society
Gamma Sigma Delta Agricultural Honor Society
Utah Water Conservation Forum
Alliance for Water Efficiency