

Cheryl R. Boyer, Ph.D.

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EDUCATION AND TRAINING

Oklahoma State University	Landscape Architecture	B.L.A.	2003
Oklahoma State University	Horticulture, Nursery Crop Production	M.S.	2005
Auburn University	Horticulture, Nursery Crop Production	Ph.D.	2008

PROFESSIONAL EXPERIENCE

2003 – 2005	Graduate Research Assistant, Department of Horticulture & Landscape Architecture (OSU) Advisor: Dr. Janet Cole
2005 – 2008	Graduate Research Assistant, Department of Horticulture (AU). Advisor: Drs. Charles Gilliam & Glenn Fain
2008 – 2014	Assistant Professor and Extension Specialist (Ornamental Nursery Crops), Dept. of Horticulture, Forestry & Recreation Resources Kansas State Univ. <i>Appointment:</i> 75% Extension, 25% Research
2014 – 2022	Associate Professor and Extension Specialist (Ornamental Nursery Crop Production and Marketing), Dept. of Horticulture & Natural Resources, Kansas State Univ. <i>Appointment:</i> 75% Extension, 25% Research
2022 – present	Professor and Extension Specialist (Ornamental Nursery Crop Production and Marketing), Dept. of Horticulture & Natural Resources Kansas State Univ. <i>Appointment:</i> 75% Extension, 25% Research
2015 – present	Co-Founder, Center for Rural Enterprise Engagement
2019 – present	Extension State Leader/Program Director , Dept. of HNR
2020 – present	Agriculture and Natural Resources Program Leader Coordinator , K-State Research and Extension
2020 – 2021	Interim Kansas Extension Master Gardener State Coordinator

EXTENSION OUTREACH

Extension Publications and Factsheets

2022

Boyer, C.R., L.M. Baker, H.H. Peterson, C. Court, G. Digiacomio, A. Lindsey, K. Myhre, N. Bloedorn, M. Kandzer, A. Morrison, M. Hockert, G. Olivera, L. Zhang, A. Zagonel, X. Qiao, M. Oglesby, M. Miller, A. Stevens, and L. Farnsworth. 2022. Lessons from COVID-19: Positioning regional food supply chains for future pandemics, natural disasters and human-made crises [Executive Summary, Conference]. Retrieved from: <https://ruralengagement.org/lessons-from-covid-19-toolkit/> 29 Nov 2022.

Baker, L.M., **C.R. Boyer** and R.P. Boyer. 2022. *Selling Safely: Cybersecurity Best Practices for Small, Rural Ag Businesses*. University of Florida Institute of Food and Agricultural Sciences Extension Electronic Data Information Source. #AEC755 <https://edis.ifas.ufl.edu/publication/WC416>

2021

Shellhouse, J.A., L.M. Baker, A. Zagonel, P. Stokes, and **C.R. Boyer**. 2021. *Don't Fake it, Make it! Technology and Tools for Virtual Hosts*. University of Florida Institute of Food and Agricultural Sciences Extension Electronic Data Information Source. #AEC729 <https://doi.org/10.32473/edis-wc391-2021>

2020

Baker, L.M., M. Bengé, A. A. Zagonel, J.A. Shellhouse, **C.R. Boyer** and P. Stokes. 2020. *Introduction to the Don't Fake it, Make it! Thriving in Virtual Conferences and Meetings EDIS Series*. University of Florida Institute of Food and Agricultural Sciences Extension Electronic Data Information Source. #AEC702 <https://doi.org/10.32473/edis-wc365-2020>

2018

Boyer, C.R. May 2018. Prairie Star Annual Flowers. Kansas State University Research and Extension Publication MF-2769.

2017

Boyer, C.R., and R.L. Ruether. January 2017. Prairie Star Annual Flowers. Kansas State University Research and Extension Publication MF-2769.

2016

Boyer, C.R., and R.L. Ruether. January 2016. Prairie Star Annual Flowers. Kansas State University Research and Extension Publication MF-2769.

2014

Rivard, C., C. Lavis, **C. Boyer**, and W. Upham. October 2014. Drip irrigation for community gardens. Kansas State University Research and Extension Publication MF-3124.

Prelse, D. and **C. Boyer**. April 2014. Crop residues: Abundance and considerations for alternative uses. Kansas State University Research and Extension Publication MF-3165.

Boyer, C. February 2014. Deciduous shrubs for Kansas. Kansas State University Research and Extension Publication MF-3116.

Boyer, C. February 2014. Evergreen shrubs for Kansas. Kansas State University Research and Extension Publication MF-3117.

2013

Boyer, C., E. Blythe, J. Griffin and B. Morales. December 2013. Use of root-promoting products for vegetative propagation of nursery crops. Kansas State University Research and Extension Publication MF-3105.

Bilderback, T., **C. Boyer**, M. Chappell, G. Fain, D. Fare, C. Gilliam, B. Jackson, J. Lea-Cox, A. LeBude, A. Niemiera, J. Owen, J. Ruter, K. Tilt, S. Warren, S. White, T. Whitwell, R. Wright, and T. Yeager. Southern Nursery Association. 2013. Best management practices: Guide for Producing Nursery Crops. 3rd Ed. SNA, Acworth, GA. [*Authorship is listed alphabetically*]

2011

Boyer, C. and E. Nolting. August 2011. Water gardening: Disappearing fountains. Kansas State University Research and Extension Publication MF-2925.

Boyer, C., W. Upham, C. Barden, and J. Griffin. 2011. How to prune shrubs. Kansas State University Research and Extension Publication MF-2998.

2010

Nolting, E. and **C. Boyer**. October 2010. Landscape design. Kansas State University Research and Extension Publication MF-2925.

Websites (Recent)

- RuralEngagement.org
 - K-State site and resource blog for the Center for Rural Enterprise Engagement
- KansasRoots.org
- KansasCommunityGardens.org

Speaker at Public Extension Meetings

I speak on a variety of topics at venues across the state and nationally including Extension trainings, workshops, informational meetings, public events and research field days. Industry-related presentations take place with local and national organizations and trade shows. Since August 2008 until July 2021, I have delivered more than 360 presentations as primary speaker with a total in-person audience outreach of approximately 16,000. Below are topics I speak about.

- New-Media Marketing and e-Commerce for Agriculture and Extension
- Youth Programming
- Nursery Industry
- Transdisciplinary Work
- Recommended Landscape Plants for Kansas
- Extension Excellence
- Professional Topics and Research Updates

Online Courses

- Center for Rural Enterprise Engagement Insight Summit Course (Fall 2022)
 - Mixed methods: asynchronous (Rise platform) + synchronous (Zoom)
- Agri-food Supply Chain Resilience Course (Spring 2023)

TEACHING EXPERIENCE

- Kansas State University
 - Courses (guest lectures):
 - HORT 575, Nursery Management
 - HORT 350, Plant Propagation
 - HORT 201, Introduction to Horticultural Science
 - HORT 374, Landscape Plants I
 - HORT 190, Internship and Careers
- Graduate Teaching Assistant, Auburn University
 - Course: Intermediate Landscape Design
- Graduate Teaching Assistant, Oklahoma State University
 - Business and Practice of Arboriculture, Plant Propagation, Indoor Plants and Interior Landscaping, Landscape Plants II, Principles of Horticultural Science

E-BOOK CHAPTERS

Boyer, C.R. (2013). Kansas Healthy Yards and Communities. In T. Rhodus (Ed.), *Changing the Pace - Adopting a Pecha Kucha Approach to Presentations* [iBooks 3.0 or later] (pp. 25-27). Retrieved 1/31/2013 from <https://itunes.apple.com/us/book/changing-pace-adopting-pecha/id594201341?ls=1>

WEBINARS

2022

Peterson, H.H., L.M. Baker, **C.R. Boyer**, G. DiGiacomo, C.D. Court, A.B. Lindsey, G. De L.T. Oliveira, L. Zhang, M. Miller, A. Stevens, and L.D. Farnsworth. April 21, 2022. *Grant Webinar Series (#4)—Lessons from COVID-19: Positioning Regional Food Supply Chains for Future Crises.*

2021

Peterson, H.H., L.M. Baker, **C.R. Boyer**, G. DiGiacomo, C.D. Court, A.B. Lindsey, G. De L.T. Oliveira, L. Zhang, M. Miller, A. Stevens, and L.D. Farnsworth. November 18, 2021. *Grant Webinar Series (#3)—Lessons from COVID-19: Positioning Regional Food Supply Chains for Future Crises.*

Peterson, H.H., L.M. Baker, **C.R. Boyer**, G. DiGiacomo, C.D. Court, A.B. Lindsey, G. De L.T. Oliveira, L. Zhang, M. Miller, A. Stevens, and L.D. Farnsworth. June 17, 2021. *Grant Webinar Series (#2)—Lessons from COVID-19: Positioning Regional Food Supply Chains for Future Crises.*

Boyer, C.R. April 16, 2021. *Planning and Facilitating Online and Hybrid Meetings.* KSRE Every Third Friday Professional Development training.

Baker, L.M. and **C.R. Boyer**. March 10, 2021. *Social Media Marketing and Online Selling.* University of Florida Marketing for Your Small Farm Short Course.

Boyer, C.R. and S. Keeley. February 5, 2021. Department Spotlight: Horticulture and Natural Resources. Friday KSRE Update.

Peterson, H.H., L.M. Baker, **C.R. Boyer**, G. DiGiacomo, C.D. Court, A.B. Lindsey, G. De L.T. Oliveira, L. Zhang, M. Miller, A. Stevens, and L.D. Farnsworth. January 28, 2021. *Grant Webinar Series (#1)—Lessons from COVID-19: Positioning Regional Food Supply Chains for Future Crises.*

Boyer, C.R. January 21, 2021. *Managing Shocks and Disruptions to the Industry: COVID-19 and Beyond Panel—Changing Marketing Practices in the Nursery and Landscape Industry: Amazon Plant Store, Millennial Plant Consumers, Facebook Marketing, and Agricultural Storytelling.* Georgia Green Industry Association Wintergreen Conference.

2020

Miller, F. and **C.R. Boyer**. December 4, 2020. *Innovative Program Spotlight: Online Pesticide Credits.* First Friday KSRE Update.

Baker, L.M. and **C.R. Boyer**. September 25, 2020. *Social Media Marketing & Online Selling.* Marketing for Your Small Farm short course, North Florida Research & Education Center.

Boyer, C.R., B.M. Garcia, T. Buller, and F. Miller. August 20, 2020. *K-State Garden Hour.* State Extension Advisory Council.

Boyer, C.R. July 29, 2020. *How to Choose Potting Media for Gardening Success*. K-State Garden Hour webinar series.

Boyer, C.R., B.M. Garcia, T. Buller, and F. Miller. July 17, 2020. *Horticulture Garden Hour and Digital Delivery Development for KSRE*. KSRE Every Third Friday webinar series.

Boyer, C.R. June 4, 2020. *Managing Customer Conflict During COVID-19*. Kansas Nursery and Landscape Association Mastermind Sessions webinar series.

Initiated the webinar series to build community and membership in KNLA. Coordinated, hosted, set up, managed Zoom meetings, Facebook events, registration, etc.

Boyer, C.R. June 5, 2020. *E-commerce Essentials*. KSRE Community Vitality monthly webinar series.

Boyer, C.R., L.M. Baker, and H.H. Peterson. May 21, 2020. *Touchless Transactions*. Center for Rural Enterprise Engagement. <https://youtu.be/paygHY1q4MI>

KSRE Horticulture Program Focus Team. May - December 2021. *K-State Garden Hour Webinar Series* (weekly).

Hosted, set up, and managed Zoom meetings, Facebook events, registration, Zoom licenses (we needed more and more room), fielded questions from participants, created and managed web page housing recordings, handouts, upcoming webinars, worked closely with PFT leadership team to plan, implement, organize, prepare each week's team with scripts, and communicate. The team shared responsibility during webinars for speaking, moderating, hosting, and managing comments within the webinar and on social media.

Peterson, H.H., L.M. Baker, and **C.R. Boyer**. March 2, 2020. *Center for Rural Enterprise Engagement: Introduction to our Work, Philosophy, and Stakeholder Engagement*. Univ. of Minnesota Extension Economics Team.

2016

Boyer, C.R. and S. Stebner. February 11, 2016. *Social Media Engagement*. The Western Nursery & Landscape Association Education Series.

Baker, L.M., **C.R. Boyer** and H.H. Peterson. April 21, 2016. *The State of New-Media Marketing in the Green Industry and Implications for Small, Rural Businesses*. North Central Regional Center for Rural Development. https://youtu.be/k6zQFkrip_s

Boyer, C.R. July 21, 2016. *Lunch and Learn: 5 Questions to Ask Your Social Media Manager*. The Virginia Nursery and Landscape Association Webinar Series.

Boyer, C.R. November 2, 2016. *Online Marketing and Social Media for Small Producers*. South Dakota Hops Conference, Mitchell, South Dakota.

2015

Boyer, C.R., L.M. Baker, and H.H. Peterson. 2015. *Supporting rural business success through new media marketing research*. North Central Regional Center for Rural Development. 12 May 2015. <https://youtu.be/IEvhqTbOgPI>

CONFERENCES AND TRAINING EVENTS HOSTED/FACILITATED

- **Positioning Regional Food Supply Chains** for Future Pandemics, Natural Disasters and Human-made Crises **Conference**, 2022 [online]
- International Plant Propagator's Society **North American Summit**, Fall 2020 [online]
- International Plant Propagator's Society Southern Region North America Charlie Parkerson **Graduate Student Competition**, Fall 2020, Fall 2021 [online]
- KSRE **Master Gardener Basic Training**, Fall 2020, Fall 2021 [online]
- **Digital Delivery Development** for KSRE course, launched Spring 2020 [online, ongoing]
- Center for Rural Enterprise Engagement **Insight Summit**, 2019 to present
- Center for Rural Enterprise Engagement **New-Media Marketing Bootcamp**, 2017-2018
- KSRE *Commercial Pesticide Applicator Training*, 2017-present
- KSRE *Bedding Plant/Prairie Star Flowers Field Day*, 2015-2018
- KSRE *Turfgrass and Ornamentals Field Day*, 2010-present
- Kansas Nursery and Landscape Association *Summer Meeting*, 2011-present
- *Kansas Turfgrass Conference in conjunction with the Kansas Nursery and Landscape Association*, 2010 to present
- Kansas Community Garden Conference (2013, 2014)
- KSRE *RetailWorks*, 2012-2017
- KSRE *NurseryWorks*, 2011-2016
- KSRE Horticulture Program Focus Team, 2009-present
 - *June Training*
 - *Annual Conference*
 - *December Training*
- KSRE *Spring Training for Garden Centers*, 2009-2011
- State Horticulture Judging Contests, 2009-present
 - FFA, 4-H

REFEREED PUBLICATIONS

*indicates graduate student as lead author

2022

Rihn, A.L., M.J. Knuth, B.J. Peterson, A.P. Torres, J.H. Campbell, **C.R. Boyer**, M.A. Palma, and H. Khachatryan. 2022. Investigating drivers of native plant production in the

United States green industry. Sustainability 14(11): 6774 (p 1-17).
<https://doi.org/10.3390/su14116774>; KAES #22-287-J.

McLeod-Morin, A., L.M. Baker, **C.R. Boyer**, A. Zagonel, and A.B. Lindsey. 2022. Rewarding relationships: A Quasi-experimental design evaluating the impact of an Extension public relations seminar. J. of Human Sci. and Extension (In Press)

2021

*Schneck, K.K., **C.R. Boyer**, and C.T. Miller. 2021. Supraoptimal root-zone temperatures influences *Dahlia* (*Dahlia xhybrida* Hort.) growth and development. HortTechnology 31(6): 667-678; <https://doi.org/10.21273/HORTTECH04896-21>; KAES #21-146-J.

2020

Baker, L.M., K.M. Tully, D.R. Sumners, E.F. Jones, A. E. León-Reyes, **C.R. Boyer**, and H.H. Peterson. 2020. Is it for generation me? A qualitative study exploring marketing and selling plants online to millennial-aged consumers. J. of Applied Comm. 104(2):
<https://doi.org/10.4148/1051-0834.2289>.

2018

*Yao, B.H., A. Shanoyan, H.H. Peterson, **C.R. Boyer**, L.M. Baker. 2018. The use of new-media marketing in the green industry: Analysis of social media use and impact on sales. Agribusiness 1-17; DOI: <https://doi.org/10.1002/agr.21581>.

Peterson, H.H., **C.R. Boyer**, L.M. Baker, and B.H. Yao. 2018. Trends in use of new-media marketing in ornamental horticulture industries. Horticulturae 4(4), 32; DOI: <https://doi.org/10.3390/horticulturae4040032>. KAES #16-338-J.

Baker, L.M., **C.R. Boyer**, H.H. Peterson and A.E.H. King. 2018. Online opportunities: A quantitative content analysis benchmark study of online retail plant sales. HortTechnology 28:516-523; DOI: <https://doi.org/10.21273/HORTTECH03901-17>. KAES #17-250-J.

2017

*Stebner, S., L.M. Baker, H.H. Peterson, and **C.R. Boyer**. 2017. Marketing with more: An in-depth look at relationship marketing with new media in the green industry. J. of Appl. Communications 101:7-18; DOI: <https://doi.org/10.4148/1051-0834.1001>. KAES #17-199-J.

Barton, E.T., E.A. Barton, S. Barton, **C.R. Boyer**, J. Brosnan, P. Hill, J. Hoyle, J. Reid, J. Seger, and E. Stafne. 2017. Using technology to enhance extension education and outreach. HortTechnology 27:177-186; DOI: <https://doi.org/10.21273/HORTTECH03608-16>.

*Stebner, S., **C.R. Boyer**, L.M. Baker, H.H. Peterson. 2017. Relationship marketing: A qualitative case study of new-media marketing use by Kansas garden centers. *Horticulturae* 3(1), 26; DOI:[10.3390/horticulturae3010026](https://doi.org/10.3390/horticulturae3010026). KAES #17-198-J.

Barden, C., **C.R. Boyer**, B. Morales, L. Fisher. 2017. Promoting red elm (*Ulmus rubra* Muhl.) germination with gibberellic acid. *J. of Forestry* 115:393-396. DOI: <https://doi.org/10.5849/jof.16-045>.

2015

*Brock, J.A., J.J. Griffin, and **C.R. Boyer**. 2015. Rooting stem cuttings of herbaceous and woody ornamentals in substrates containing eastern redcedar (*Juniperus virginiana*). *J. Environ. Hort.* 33(4):155-159. DOI: [10.24266/0738-2898-33.4.155](https://doi.org/10.24266/0738-2898-33.4.155).

2014

*Carmichael, T.R., **C.R. Boyer**, J.J. Griffin, S.L. Warren, and C.C. Lavis. 2014. Production and landscape establishment of nursery crops in eastern redcedar-amended substrates. *J. Environ. Hort.* 32:77-83. KAES #14-164-J.

2013

*Pool, J.R., J.J. Griffin, **C.R. Boyer** and S.L. Warren. 2013. Short-term recurring drought affects growth and photosynthetic capacity of four conifer species. *J. Environ. Hort.* 31:39-42.

*Starr, Z.W., **C.R. Boyer**, and J.J. Griffin. 2013. Post harvest processing of eastern redcedar and hedge-apple substrates affect nursery crop growth. *J. Environ. Hort.* 31:7-13. KAES #12-342-J.

2012

*Starr, Z.W., **C.R. Boyer**, and J.J. Griffin. 2012. Eastern redcedar (*Juniperus virginiana*) as a substrate component effects growth of three tree species. *J. Environ. Hort.* 30:189-194.

*Pool, J., J.J. Griffin, **C.R. Boyer** and S.L. Warren. 2012. Establishment and growth of transplanted conifers in the Southern Great Plains. *J. Environ. Hort.* 30:214-218.

Boyer, C.R., T.V. Gallagher, C.H. Gilliam, G.B. Fain, H.A. Torbert, and J.L. Sibley. 2012. Description of clean chip residual forest harvest and its availability for horticultural uses in the southeastern United States. *HortTechnology* 22:381-387.

Boyer, C.R., H.A. Torbert, C.H. Gilliam, G.B. Fain, T.V. Gallagher, and J.L. Sibley. 2012. Nitrogen immobilization in plant growth substrates: Clean chip residual, pine bark, and peatmoss. *Intl. J. Agron.* <<http://www.hindawi.com/journals/ija/2012/978528/>>

2011

Murphy, A.M., C.H. Gilliam, G.B. Fain, H.A. Torbert, T.V. Gallagher, J.L. Sibley and **C.R. Boyer**. 2011. Low-value trees as alternative substrates in greenhouse production of three annual species. *J. Environ. Hort.* 29:152-161.

Markham, J.W. III, D.J. Bremer, **C.R. Boyer**, and K.R. Schroeder. 2011. Effect of container color on substrate temperatures and growth of red maple and redbud. *HortScience* 46:721-726. KAES #11-077-J.

2010

Cochran, D.R., C.H. Gilliam, G.R. Wehtje, G.B. Fain, R.D. Wright and **C.R. Boyer**. 2010. Herbicide efficacy in alternative substrates for container-grown nursery crops. *J. Environ. Hort.* 28:19-26.

2009

Cole, J.C., **C.R. Boyer**, M.E. Payton, and K.E. Conway. 2009. Anthracnose on wintercreeper *Euonymus* is not reduced with polyethylene sheeting or sodium hypochlorite. *J. Environ. Hort.* 27:115-118.

Boyer, C.R., C.H. Gilliam, G.B. Fain, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2009. Production of woody nursery crops in clean chip residual substrate. *J. Environ. Hort.* 27:56-62.

2008

Boyer, C.R., G.B. Fain, C.H. Gilliam, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2008. Clean chip residual as a substrate for perennial nursery crop production. *J. Environ. Hort.* 26:239-246.

Boyer, C.R., G.B. Fain, C.H. Gilliam, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2008. Clean chip residual: A substrate component for growing annuals. *HortTechnology* 18:423-432.

Fain, G.B., C.H. Gilliam, A.L. Witcher, J.L. Sibley and **C.R. Boyer**. 2008. *WholeTree* substrate and fertilizer rate in production of greenhouse-grown petunia (*Petunia x hybrida* Vilm.) and marigold (*Tagetes patula* L.). *HortScience* 43:700-705.

Fain, G.B., C.H. Gilliam, J.L. Sibley and **C.R. Boyer**. 2008. *WholeTree* substrates derived from three species of pine in production of annual vinca. *HortTechnology* 18:13-17.

Fain, G.B., C.H. Gilliam, J.L. Sibley and **C.R. Boyer**. 2008. Establishment of greenhouse-grown *Tagetes patula* and *Petunia hybrida* in 'WholeTree' substrates. *Acta Hort.* 782:387-393.

Boyer, C.R., J.C. Cole, and M.E. Payton. 2008. Survey of cultural practices used in production of wintercreeper euonymus. HortTechnology 18:158-161.

2006

Boyer, C.R., J.C. Cole and K.E. Conway. 2006. Effectiveness of copper sulfate pentahydrate, mancozeb, and hydrogen dioxide in controlling anthracnose on wintercreeper *Euonymus*. J. Environ. Hort. 25(1):21-26.

CONFERENCE PROCEEDINGS AND ABSTRACTS

*indicates graduate student as lead author

**indicates undergraduate student as lead author

2022

Boyer, C.R., L.M. Baker, and H.H. Peterson. 2022. Center for Rural Enterprise Engagement: Online learning resources for horticulture businesses. (poster) Intl. Plant Prop. Soc. Annual conference, Athens, GA.

Baker, L.M., **C.R. Boyer**, A. Lindsey, A. Zagonel, M. Kandzer, M. Ogelsby, S. Honeycutt, V. Castano, J. Shellhouse, A. McLeod-Morin, H.H. Peterson, P. Stokes, L.D. Farnsworth, M. Miller, L. Zhang, G. Oliveira, G. Digiacomio, A. Stevens, T. Blare, and F. Balen. 2022. More than a pretty package: Creating online toolkits to amplify outreach efforts, Workshop accepted for presentation at the 2022 Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences Conference, Kansas City, MO.

Boyer, C.R., M. McKernan, and R.P. Boyer. 2022. Making a difference: K-State Garden Hour webinar series improves lives (abstr). HortScience 57(9):S272.
<https://doi.org/10.21273/HORTSCI.57.9S.S1>

Boyer, C.R. and M. McKernan. 2022. K-State Garden Hour webinar series facilitated behavior change and improved quality of life during the COVID-19 pandemic (abstr). HortScience 57(9):S243. <https://doi.org/10.21273/HORTSCI.57.9S.S1>

Baker, L.M., H.H. Peterson, and **C.R. Boyer**. 2022. Changes in consumer purchasing behavior of fresh fruits and vegetables during the COVID-19 pandemic (abstr). HortScience 57(9):S242-243. <https://doi.org/10.21273/HORTSCI.57.9S.S1>

2021

McLeod-Morin, A., A. Lindsey, A.M. Zagonel, **C.R. Boyer**, and L.M. Baker. 2021. Perfect positioning: Applying a public relations approach to position the Extension brand at a state level. Association for Communication Excellence Conference. (Workshop session)

Zagonel, A.M., J.A. Shellhouse, L.M. Baker, H.H. Peterson, and **C.R. Boyer**. 2021. The (right) picture is worth a thousand words: Comparing the engagement rate between stock and natural photos. National Agricultural Communication Symposium. (Poster; **2021 Outstanding Research Poster Award**)

Baker, L.M., A.M. Zagonel, O.K. Doyle, A.R. Poulin, **C.R. Boyer**, and H.H. Peterson. 2021. Visual appeal: The role of visual elements of Facebook posts on consumer engagement and willingness to purchase. National Agricultural Communication Symposium. (Oral)

Boyer, C.R., F.L. Miller, and B.M. Garcia. 2021. Pandemic silver lining: Online training expands access to Extension horticulture programs in Kansas. Proc. Northeastern Plant, Pest, and Soils Conf. 6:5. (Abstr.)

Boyer, C.R., J.R. Pool, and J.J. Griffin. 2021. Development of a screening procedure for identifying new woody landscape shrubs for Kansas. Proc. Northeastern Plant, Pest, and Soils Conf. 6:42. (Abstr.)

2020

Boyer, C.R., B.M. Garcia, T. Buller, F.L. Miller. 2020. Generating positive engagement: K-State Garden Hour webinar series. KSRE Multi-State Virtual Fall Conference.

Boyer, C.R., B.M. Garcia, F.L. Miller. 2020. Remote training: Building team capacity one program at a time. KSRE Multi-State Virtual Fall Conference.

Baker, L.M., **C.R. Boyer**, and H.H. Peterson. 2020. Developing digital delivery: YouTube videos to help Extension professionals develop digital content. Extension Professionals of Florida Conference. (Poster)

Baker, L.M., **C.R. Boyer**, H.H. Peterson, and A.M. Zagonel. 2020. The Center for Rural Enterprise Engagement: Helping agricultural businesses navigate new media marketing. Extension Professionals of Florida Conference. (Poster)

Miller, F., B. Garcia, and **C. Boyer**. 2020. Dealing IPM education: One card at a time. National Association County Agricultural Agents Kansas Conference (*State of Kansas poster winner, accepted to national AM/PIC Conference)
https://www.nacaa.com/posters/poster_list.php?poster_id=1974

Gilmore, J., C. Shoemaker, C. Rivard, **C. Boyer**. 2020. The partnered apprenticeship model: Implications for beginning farmer learning and program development. Proc. of the Urban Food Systems Symposium. (Oral)

Boyer, C.R., F.L. Miller, and B.M. Garcia. 2020. Dealing a winning strategy: An integrated pest management card deck for Extension learning. HortScience 55(9): S393. Abstr. [Oral]

Boyer, C.R., J. Luan, and G. Davis. 2020. Modernizing Extension publications: A case study of U.S. landscape design resources. HortScience 55(9): S393. Abstr. [Oral]

Boyer, C.R., H.H. Peterson, and L.M. Baker. 2020. Transdisciplinary work in horticulture: The Center for Rural Enterprise Engagement. HortScience 55(9): S399. Abstr. [Oral]

Baker, L.M., A.M. Zagonel, **C.R. Boyer**, and H.H. Peterson. 2020. Marketing matters: Interpreting survey-based heatmaps to understand consumer preferences for elements of Facebook posts designed to market petunias online. HortScience 55(9): S398. Abstr. [Oral]

Baker, L.M., **C.R. Boyer**, and H.H. Peterson. 2020. Insight into insights: A workshop developed for adult learners focused on new-media marketing. Proc. Assoc. for Intl. Ag. and Extension Ed.

https://www.aiaee.org/attachments/category/192/AIAEE_2020_programproceedings_finalspreads.pdf

Boyer, C.R., J.R. Pool, and J.J. Griffin. 2020. Development of a screening procedure for identifying new woody landscape shrubs for Kansas. Proc. of the Intl. Soc. Hort. Sci. IV Intl. Symp. on Woody Ornamentals of the Temperate Zone (Abstract accepted, conference rescheduled due to COVID-19 and I could not attend)

2019

*Gilmore, J., C.A. Shoemaker, **C.R. Boyer**, and C. Rivard. 2019. Identifying best practices for apprentice education through a study of the Growing Growers program. HortScience 54(9): S204. Abstr. [Poster]

2018

Johnson, W., B. McCornack, F. Miller, B. Garcia, M. Kennelly, J. Hoyle, W. Upham, and **C. Boyer**. 2018. KSU Integrated pest management team: Getting the word out! K-State Research and Extension Annual Conference [Poster]

Miller, F., B. McCornack, W. Johnson, R. Cloyd, S. Zukoff, M. Kennelly, J. Hoyle, **C. Boyer**, and A. Teeter. 2018. Make a difference? Make an IPM impact graphic. K-State Research and Extension Annual Conference [Poster]

Miller, C.T., **C.R. Boyer**, and A. Teeter. 2018. Undergraduate students and the extension mission of land grant universities: Engagement through course field trips. Intl. Congress of Educational Innovation in Agrarian Issues (Lima, Peru). [Oral]

Baker, L.M., H.H. Peterson, and **C.R. Boyer**. 2018. Engaging the unengaged: Incorporating undergraduate students in community-engaged scholarship. Engagement Scholarship Consortium Proc. p.10 [Abstract]

Boyer, C.R., L.M. Baker, and H.H. Peterson. 2018. Plant purchasing preferences of millennial-aged consumers: A qualitative case study. Proc. Southern Nurs. Assoc. Res. Conf. (In Press)

Miller, F.L., B. McCornack, W. Johnson, S. Zukoff, **C. Boyer**, R. Cloyd, J. Hoyle, M. Kennelly, and A. Teeter. 2018. Make a difference? Make an IPM impact graphic! Proc. 9th Intl. Integrated Pest Mgmt. Symp. p.66
https://ipmsymposium.org/2018/Documents/IPMSymp18_Full_Program_with_Abstracts.pdf

2017

Boyer, C.R., L.M. Baker, and H. H. Peterson. 2017. Current status of E-commerce in the green industry. International Plant Propagator's Society Conference Proceedings (In Press).

2016

Boyer, C.R., C.T. Miller, and A. Teeter. 2016. Facilitating exposure and understanding of extension resources to undergraduate students. HortScience 51(9): S266-S267. Abstr. [Poster]

Boyer, C.R., L.M. Baker and H.H. Peterson. 2016. The Center for Rural Enterprise Engagement: Helping green industry businesses navigate new media. HortScience 51(9): S335-S336. Abstr. [Oral]

Thomas, D., C. Craig, S. Capoun, L.M. Baker, A.E.H. King, **C.R. Boyer, and H.H. Peterson. 2016. The e-commerce landscape: An environmental scan of online greenhouse retailing. HortScience 51(9): S336. Abstr. [Poster]

Kruse, N., L.M. Baker, I. Campbell, S. Stebner, H.H. Peterson, and **C.R. Boyer. 2016. Connecting online: Garden center's use of Facebook to market online. Poster presented at the 2016 Gamma Sigma Delta College of Agriculture Undergraduate Research Showcase, Manhattan, KS. Abstr. [Poster]

Thomas, D., C. Craig, S. Capoun, L.M. Baker, A.E.H. King, **C.R. Boyer, and H.H. Peterson. 2016. The e-commerce landscape: An environmental scan of greenhouse online retailing. Poster presented at the 2016 Gamma Sigma Delta College of Agriculture Undergraduate Research Showcase, Manhattan, KS. Abstr. [Poster]

*Pool, J.R., **C.R. Boyer**, and J.J. Griffin. 2016. Drought stress of selected *Viburnum* sp. for Kansas. Proc. of the Intl. Soc. Hort. Sci. 3rd Intl. Symp. on Woody Ornamentals of the Temperate Zone (In Press) Abstr. [Poster]

Miller, C.T., **C.R. Boyer**, and A. Teeter. 2016. Exposing undergraduate students to the extension mission of land grant universities using a course field trip. J. of N. Amer. Colleges and Teachers of Ag. 60: 117. Abstr. [Poster]

2015

*Stebner, S., L.M. Baker, **C.R. Boyer**, H.H. Peterson, and J. Crow. 2015. Green growth: An exploratory study of garden centers' use of new-media marketing. *Journal of Interactive Marketing* (Abstr.) [Presented at the 2015 Direct/Interactive Marketing Research Summit in Boston, MA on Oct. 4. Program of the MarketingEDGE professional organization] <http://www.marketingedge.org/events/marketing-research-summit/sunday-proceedings-2015> [Oral]

Miller, F., B. McCornack, S. Zukoff, W. Johnson, **C. Boyer**, R. Cloyd, M. Kennelly, and J. Hoyle. 2015. Promoting IPM and enhancing decision-making among Kansas stakeholders through Innovative programming. *Proc. 8th Intl. Integrated Pest Mgmt. Symp.* p.97
<http://www.ipmcenters.org/ipmsymposium15/Documents/IPM_2015_Proceedings-final.pdf> [Poster]

Boyer, C.R., L.M. Baker, H.H. Peterson, and S. Stebner. 2015. Like it, pin it, follow it: Opportunities and challenges for social media marketing in garden centers and nurseries. *HortScience* 50:S77. (Abstr.) [Oral]

*Stebner, S., **C.R. Boyer**, L.M. Baker, and H.H. Peterson. 2015. Green growth: An exploratory study of metro and non-metro garden centers' use of new media marketing. *HortScience* 50:S289. (Abstr.) [Poster]

Khachatryan, H., A. Rihn, B. Campbell, B. Behe, C.R. Hall, and **C.R. Boyer**. 2015. State promotional campaign awareness and visual attention. *HortScience* 50:S77. (Abstr.) [Oral]

Boyer, C.R., E. Neier, C.L. Rivard, F. Miller, C. Marr. 2015. Funding Kansas community gardens: Lessons from a mini-grant project. *HortScience* 50:S232. (Abstr.) [Poster]

2014

*Stebner, S., A. Holderness, L.M. Baker, **C.R. Boyer**, and H.H. Peterson. 2014. Social growth: Evaluating Kansas garden centers social media presence. [Poster presented at the 2014 Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences Conference, Portland, OR.]

*Brock, J.A., J.J. Griffin, and **C.R. Boyer**. 2014. Chipped *Juniperus virginiana* as a perlite substitute in stem cutting propagation. *Proc. Southern Nurs. Assoc. Res. Conf.* 59:254-257.

Hoyle, J.A., J. McCurdy, and **C.R. Boyer**. 2014. Use of non-traditional data management tools for extension impact reporting. *HortScience* 49(9):S313. (Abstr.) [Poster]

Ashmore, L., L.M. Baker, S. Stebner, A. Holderness, **C. Boyer, and H. Peterson. 2014. Expanding the marketing mix for garden centers through social media. Poster presented

at the 2014 Gamma Sigma Delta College of Agriculture Undergraduate Research Showcase, Manhattan, KS.

Hannigan, K., L.M. Baker, S. Stebner, **C. Boyer, and H. Peterson. 2014. Social media marketing in the garden center industry. Poster presented at the 2014 Gamma Sigma Delta College of Agriculture Undergraduate Research Showcase, Manhattan, KS.

Swanson, B., H.H. Peterson, **C.R. Boyer, and L.M. Baker. 2014. Social media marketing for locally owned independent garden centers. HortScience 49(9):S18. (Abstr.) [Oral]

Boyer, C.R., L.M. Baker, and H.H. Peterson. 2014. Social media marketing by garden centers: Findings from a pilot study. HortScience 49(9):S29. (Abstr.) [Oral]

2013

Boyer, C.R., L.M. Baker, and H.H. Peterson. 2013. Opportunities for social media marketing in retail garden centers. Proc. Southern Nurs. Assoc. Res. Conf. 58:46-51. [Oral]

*Carmichael, T.R., **C.R. Boyer**, S.L. Warren, C.C. Lavis and J.J. Griffin. 2013. Cyclic irrigation does not overcome low water holding capacity of *Juniperus virginiana*-based substrates for greenhouse production of *Rudbeckia*. HortScience. 48(9):S300. (Abstr.) [Poster]

*Carmichael, T.R., **C.R. Boyer**, J.J. Griffin and S.L. Warren. 2013. Transplant establishment of container-grown plants produced in Eastern Redcedar substrate. HortScience. 48(9):S353-S345. (Abstr.) [Poster]

2012

Boyer, C.R., J. Smith, D. Pryor, R. St. John, and A. Stevens. 2012. Kansas healthy yards and communities. HortScience 47(7): S26. Abstr.

Boyer, C.R. 2012. Infographics: A novel way to communicate program impact. HortScience 47(7): S3. Abstr.

Boyer, C.R. 2012. Incorporating social media into the conference experience. HortScience 47(7): S55. Abstr.

*Carmichael, T.R., **C.R. Boyer**, and J.J. Griffin. 2012. Growth of containerized nursery crops in a cedar amended substrate. HortScience 47(7): S166. Abstr.

*Morales, B.M., C.J. Barden, and **C.R. Boyer**. 2012. Improving germination of red elm (*Ulmus rubra*) seeds with gibberellic acid. Proc. Kansas Natural Resources Conference. p. 21. < <http://www.kansasnrc.org/>> KAES #12-344-A.

*Carmichael, T.R., **C.R. Boyer**, and S.L. Warren. 2012. Effect of irrigation frequency on *Sedum* grown in alternative substrates. Proc. Southern Nurs. Assoc. Res. Conf. 57:2-5.

*Pool, J., J.J. Griffin, **C.R. Boyer**, S.L. Warren. 2012. Growth comparison of two conifer species in the Great Plains. Proc. Southern Nurs. Assoc. Res. Conf. 57:173-176.

*Brock, J., J.J. Griffin, and **C.R. Boyer**. 2012. Rooting stem cuttings of woody ornamentals in a cedar amended substrate. Proc. Southern Nurs. Assoc. Res. Conf. 57:284-286.

*Morales, B., C. Barden, **C. Boyer**, J. Griffin, L. Fisher and J. Thompson. 2012. Improving germination of Red Elm (*Ulmus rubra*), Gray Alder (*Alnus incana*) and Buffaloberry (*Shepherdia canadensis*) seeds with giberellic acid. Proc. Natl. Intertribal Nurs. Council. USDA Forest Service, Proc. RMRS-P-68.
<http://www.fs.fed.us/rm/pubs/rmrs_p068/rmrs_p068_093_095.pdf> KAES #12-346-A.

2011

Boyer, C.R., J.E. Altland, J.S. Owen, Jr. 2011. SustainableSubstrates.com: An extension outreach tool. HortScience 46(9):S377. Abstr.

*Starr, Z.W., **C.R. Boyer**, and J.J. Griffin. 2011. Propagation of chrysanthemum and ivy geranium in redcedar substrate. HortScience 46(9):S395. Abstr.

*Starr, Z.W., **C.R. Boyer** and J.J. Griffin. 2011. Alternative nursery substrates for the Great Plains: *Maclura pomifera*. HortScience 46(9): S326-S327. Abstr.

*Pool, J., J.J. Griffin, **C.R. Boyer**, and S.L. Warren. 2011. Root and shoot growth of four field grown conifer species. HortScience 46(9):S322. Abstr.

*Pool, J., J.J. Griffin, **C.R. Boyer**, and S.L. Warren. 2011. Irrigation frequency affects growth and photosynthetic capacity of four conifer species. Proc. Southern Nurs. Assoc. Res. Conf. 56:374.1-374.4.

*Starr, Z.W., **C.R. Boyer**, and J.J. Griffin. 2011. Cedar substrate particle size affects growth of container-grown *Rudbeckia*. Proc. Southern Nurs. Assoc. Res. Conf. 56:236-240.

2010

*Morales, B.M., **C.R. Boyer**, C.J. Barden, and J.J. Griffin. 2010. Improving germination of red elm (*Ulmus rubra*) seeds with gibberellic acid. Proc. Intl. Plant Prop. Soc. 60:535-537.

*Starr, Z.W., **C.R. Boyer**, and J.J. Griffin. 2010. Growth of *Pistacia chinensis* in a cedar amended substrate. Proc. Intl. Plant Prop. Soc. 60:602-606. KAES #11-149-A.

*Starr, Z.W., **C.R. Boyer**, and J.J. Griffin. 2010. Growth of containerized *Acer saccharinum* from seed in a cedar-amended substrate. HortScience 45:3971. Abstr.

Boyer, C., J. Owen and J. Altland. 2010. Development of sustainable and alternative substrates for nursery container crops. Proc. Southern Nurs. Assoc. Res. Conf. 55:410-412. KAES #12-343-A.

*Starr, Z., **C. Boyer**, and J. Griffin. 2010. Growth of containerized *Taxodium distichum* in a cedar-amended substrate. Proc. Southern Nurs. Assoc. Res. Conf. 55:344-348. KAES #12-345-A.

2009

Boyer, C.R., T.V. Gallagher, C.H. Gilliam, G.B. Fain, H.A. Torbert, and J.L. Sibley. 2009. Availability of clean chip residual as a growth substrate in the Southeast United States. Proc. Southern Nurs. Assoc. Res. Conf. 54:208-211.

2008

Boyer, C.R., H.A. Torbert, C.H. Gilliam, G.B. Fain, T.V. Gallagher, and J.L. Sibley. 2008. Physical properties and microbial activity in forest residual substrates. Proc. Southern Nurs. Assoc. Res. Conf. 53:42-45.

Boyer, C.R., G.B. Fain, C.H. Gilliam, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2008. Growth of woody plants in clean chip residual substrate. Georgia Green Industry Assoc. Journal 19:18-22.

Boyer, C.R., T.V. Gallagher, C.H. Gilliam, G.B. Fain, H.A. Torbert, J.L. Sibley. 2008. Survey of forest residual availability for nursery production in the southeast. HortScience 43: 1126. Abstr.

2007

Boyer, C.R., G.B. Fain, C.H. Gilliam, J.L. Sibley, T.V. Gallagher, and H.A. Torbert. 2007. Performance of container-grown *Loropetalum* grown in clean chip residual substrate. Proc. Intl. Plant Prop. Soc. 57:685-691.

Boyer, C.R., G.B. Fain, C.H. Gilliam, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2007. Forest residuals: New substrates for container-grown crops. HortScience 42:861. Abstr.

Ingram, D.M., G.B. Fain, C.H. Gilliam, **C.R. Boyer**, P.M. Hudson, and K.K. Crouse. 2007. Comparison of organic and inorganic substrates in greenhouse tomato production. HortScience 42: 989. Abstr.

Fain, G.B., C.H. Gilliam, J.L. Sibley, and **C.R. Boyer**. 2007. Production of hardy garden mums in *WholeTree* substrate. Proc. Southern Nurs. Assoc. Res. Conf. 52:498-501.

Boyer, C.R., G.B. Fain, C.H. Gilliam, H.A. Torbert, T.V. Gallagher, and J.L. Sibley. 2007. Production of *Buddleia davidii* and *Verbena canadensis* in clean chip residual. Proc. Southern Nurs. Assoc. Res. Conf. 52:489-491.

Boyer, C.R., C.H. Gilliam, G.B. Fain, T. V. Gallagher, H.A. Torbert, and J.L. Sibley. 2007. Clean chip residual amended with composted poultry litter as a substrate for *Lantana camara*. Proc. Southern Nurs. Assoc. Res. Conf. 52:485-488.

Boyer, C.R., G.B. Fain, C.H. Gilliam, H.A. Torbert, T. V. Gallagher, and J.L. Sibley. 2007. *WholeTree* as a substrate for *Lantana camara*. Proc. Southern Nurs. Assoc. Res. Conf. 52:481-484.

Boyer, C.R., C.H. Gilliam, G.B. Fain, J.L. Sibley, H.A. Torbert, and T. V. Gallagher. 2007. Lime and micronutrient use in clean chip residual substrate amended with composted poultry litter or peat for use in annual production. Proc. Southern Nurs. Assoc. Res. Conf. 52:76-79.

Boyer, C.R., G.B. Fain, C.H. Gilliam, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2007. Evaluation of clean chip residual and composted poultry litter as a growth substrate for container-grown *Lantana camara*. HortScience 42:454-455. Abstr.

Boyer, C.R., G.B. Fain, C.H. Gilliam, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2007. Clean chip residual (CCR) substrate for container-grown perennials: Effect of supplemental nitrogen rates. HortScience 42:439. Abstr.

2006

Boyer, C.R., G.B. Fain, C.H. Gilliam, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2006. A new substrate for container-grown plants: Clean Chip Residual. Proc. Intl. Plant Prop. Soc. 56:553-559.

Fain, G.B., C.H. Gilliam, J.L. Sibley, **C.R. Boyer**. 2006. Establishment of greenhouse-grown herbaceous ornamental plants in '*WholeTree*' substrates. Proc. 4th Intl. Symp. on Seed, Transplant, and Stand Establishment of Horticultural Crops. 782:387-393. Abstr.

Boyer, C.R., G.B. Fain, C.H. Gilliam, H.A. Torbert, T.V. Gallagher, and J.L. Sibley. 2006. A new substrate for container-grown plants: Clean Chip Residual. 33rd Annual Hort. Field Day MSU CREC. 33:23. Abstr.

Fain, G.B., C.H. Gilliam, J.L. Sibley and **C.R. Boyer**. 2006. Suitability of processed whole pine tree as a substrate component for production of greenhouse crops. Proc. Intl. Plant Prop. Soc. 56:180-187.

Boyer, C.R., G.B. Fain, C.H. Gilliam, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2006. Alternative substrates for bedding plants. Proc. Southern Nurs. Assoc. Res. Conf. 51:22-25.

Fain, G.B., C.H. Gilliam, J.L. Sibley, and **C.R. Boyer**. 2006. Evaluation of an alternative, sustainable substrate for use in greenhouse crops. Proc. Southern Nurs. Assoc. Res. Conf. 51:651-654.

Boyer, C.R., G.B. Fain, C.H. Gilliam, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2006. Evaluation of freshly chipped pine tree substrate for container-grown *Lantana camara*. HortScience 41:1027. Abstr.

2005

Boyer, C.R. and J.C. Cole. 2005. Anthracnose severity on *Euonymus fortunei* grown on plastic or gravel with or without periodic bleach applications. HortScience 40:875. Abstr.

2004

Boyer, C.R., J.C. Cole, and K.E. Conway. 2004. Effectiveness of copper sulfate pentahydrate and mancozeb in controlling anthracnose on *Euonymus fortunei*. HortScience 39:791-792. Abstr.

TRADE MAGAZINE ARTICLES

Boyer, C.R. 2018. Strategic new-media marketing is worth the investment. Lawn and Garden Retailer Magazine. April 2018.

Neier, E.S. and **C.R. Boyer**. 2014. A unique grant program for new community gardens in Kansas. In: Food Justice, special edition, Community Greening Review. American Community Gardening Association 19:9. <<https://communitygarden.org/wp-content/uploads/2014/10/Greening-Review-2014.pdf>>

Boyer, C.R. 2013. Mixin' it up. Greenhouse Management Magazine. April 2013. P 36-38.

THESES AND DISSERTATIONS

Boyer, C.R. 2008. Evaluation of clean chip residual as an alternative substrate for container-grown plants. Auburn Univ., Auburn, PhD Diss.

Boyer, C.R. 2005. Nursery production of *Euonymus fortunei*: Chemical and cultural practices for controlling anthracnose. Okla. State Univ., Stillwater, MS Thesis.

GRANTS FUNDED

2022

Boyer, C.R. 2022. Kansas shrub trials. Kansas Turfgrass Foundation. \$2,000.

2021

Miller, F., **C. Boyer**, B. McCornack, M. Kennelly, R. Cloyd, S. Lancaster, K. Anderson Onofre, J. Fry, J. Griffin, R. Onofre. **2021-2024**. Optimizing technology to deliver flexible IPM learning experiences to Extension stakeholders. USDA NIFA: Crop Protection and Pest Management Program. 3 years. \$614,336.

Boyer, C.R. 2021. Kansas shrub trials. Kansas Turfgrass Foundation. \$2,000.

2020

Peterson, H.H., L.M. Baker, **C.R. Boyer**, G. DiGiacomo, C.D. Court, A.B. Lindsey, G. De L.T. Oliveira, L. Zhang, M. Miller, A. Stevens, and L.D. Farnsworth. **2020-2022**. Lessons from COVID-19: Positioning regional food supply chains for future pandemics, natural disasters and human-made crises. USDA-NIFA-AFRI Rapid Response to Novel Coronavirus Impacts Across Food and Agricultural Systems. 2 years. \$1,000,000 (Boyer: \$80,000).

2017

Miller, F., B. McCornack, W. Johnson, **C. Boyer**, R. Cloyd, M. Kennelly, W. Upham, S. Zukoff, J. Hoyle, C. Thompson, D. Peterson, C. Rivard, E. DeWolf, S. Duncan, and R. Ruether. **2017-2020**. Merging traditional methods with transformative approaches to enhance stakeholder engagement and IPM adoption. USDA NIFA: Crop Protection and Pest Management Program. 3 years. \$872,099.

2016

Boyer, C.R., L.M. Baker and H.H. Peterson. **2016-2019**. Courting the consumer: Social media marketing of farm products. USDA Agricultural Marketing Service, Federal State Marketing Improvement Program. 3 years. \$123,835.

Hoch, B., C.T. Miller, and **C.R. Boyer**. **2016-2017**. Increasing exposure and understanding of horticulture extension resources to horticulture undergraduate students. Kansas State University College of Agriculture Innovations in Teaching, Learning and Assessment Program. 2 years. \$3,100.

Baker, L.M., **C.R. Boyer** and H.H. Peterson. 2016. New media marketing bootcamp (for green industry businesses). K-State Global Campus New Program Grant. 1 year. \$9,550.

2015

Boyer, C.R. and R.M. Mitchell. 2015. GreenKids: Cultivating sustainability through childhood nature play. Kansas State University Green Action Fund Grant. 6 months. \$10,000.

2014

Miller, F., B. McCornack, E. DeWolf, D. Peterson, **C. Boyer**, R. Cloyd, M. Kennelly, J. Hoyle and W. Upham. **2014-2016**. Promoting IPM and enhancing decision making among Kansas stakeholders through innovative programming. USDA NIFA: Crop Protection and Pest Management Program. 3 years. \$834,000. (Boyer \$61,700).

Rivard, C., E. Pliakoni, C. Shoemaker, **C. Boyer**, and M. Taylor. 2014. Development of an instrument to document economic impact of fruit and vegetable growers in Kansas. Kansas Dept. of Ag. Specialty Crop Block Grant. 1 year. \$30,387.

2013

Boyer, C.R., L.M. Baker, and H.H. Peterson. **2013-2015**. Social media strategies for rural nurseries and garden centers. USDA Agricultural Marketing Service, Federal State Marketing Improvement Program. 2 years. \$107,160.

Miller, F., B. McCornack, E. DeWolf, D. Peterson, **C. Boyer**, R. Cloyd, M. Kennelly and W. Upham. 2013. Innovative programming resources for Kansas stakeholders to enhance IPM decisions. USDA NIFA: Extension IPM Coordination and Support Program. \$289,200.

2011

Boyer, C., C. Rivard, and F. Miller. **2011-2014**. Kansas community gardens. Kansas Health Foundation. 3 years, \$546,030.

Boyer, C.R. and J.J. Griffin. 2011. NurseryWorks. Division of Continuing Education new workshop grant. \$3,000.

Boyer, C.R. 2011. Request to bring Ed Gilman (Univ. of Florida) to participate in the ADVANCE Distinguished Lecture Series (for untenured, tenure-track female faculty members). \$1,200.

2010

Miller, F.L., R.J. Whitworth, E. DeWolf, W. Upham, **C.R. Boyer**, B. McCornack, L.L. Buschman, W.T. Schapaugh Jr., C.M. Smith, and T.W. Phillips. 2010. Extension IPM coordination in Kansas. USDA NIFA: Extension IPM Coordination and Support Program. 3 years. \$273,119. Year 1: \$91,040 (Boyer \$6,000).

2009

Griffin, J., **C. Boyer**, and M. Kennelly. 2009. Rediscovering conifers in Kansas. Kansas Dept. of Ag. Specialty Crop Block Grant. \$44,688.

Murphy, J., M. Fisher, **C. Boyer**, and C. Barden. 2009. Culturally important plants: New propagation techniques for declining populations. USDA Tribal Colleges Research Grant Program. \$149,985, K-State portion: \$78,425.

2008

Boyer, C.R., and J.E. Altland. **2008-13**. Development of alternative substrates for container nursery crops. USDA-ARS Cooperative Agreement via the Floriculture and Nursery Research Initiative. Each year; \$125,000, Boyer portion, Year 1: \$29,270; Year 2: \$29,268; Year 3: \$43,902; Year 4: \$43,902; Year 5: \$43,860.

Gilliam, C.H., G.B. Fain, **C.R. Boyer**, J.L. Sibley, H.A. Torbert, T.V. Gallagher. 2008. Block Grant Alternative Substrates: Effect of fertilizer rate in alternative substrates for container-grown plants; Effect of alternative substrates on production of plants in large containers; On-site demonstration of alternative substrates at nurseries across the Southeast U.S.; Effect of alternative substrate age on woody ornamental plant production. Horticultural Research Institute: 1 year, \$50,000.

Gilliam, C.H., G.B. Fain, **C.R. Boyer**, A. Witicher, E. Blythe, J. Spiers, T.V. Gallagher, H.A. Torbert, J.L. Sibley. 2008. Block Grant with Auburn University, USDA-ARS Southern Horticultural Laboratory and Mississippi State University: Evaluation of Forest Residuals for Use in Nursery Crop Production in the Southeast U.S. and Characterization and Supply of Forest Residuals for Use as Horticultural Growth Substrates. Horticultural Research Institute. 1 year, \$75,000.

2007

Gilliam, C.H., G.B. Fain, **C.R. Boyer**, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2007. Alternative substrates for nursery and greenhouse production. ACES/AAES. 1 year. \$52,900.

Boyer, C.R., C.H. Gilliam, and G.B. Fain. 2007. Evaluation of clean chip residual as a growth substrate for container-grown woody ornamentals. Center for Applied Nursery Research. 1 year. \$2,000.

Gilliam, C.H., **C.R. Boyer**, G.B. Fain, T.V. Gallagher, H.A. Torbert, and J.L. Sibley. 2007. Evaluation of a forestry in-field harvesting by-product as an alternative substrate in containerized nursery crop production. Horticultural Research Institute. 1 year. \$18,500.

2006

Gilliam, C.H., G.B. Fain, T.V. Gallagher, J.L. Sibley, H. A. Torbert, and **C.R. Boyer**. **2006-2009**. Development of a value-added forestry in-field harvesting by-product as an

alternative media for container nursery crop production. Alabama Agricultural Experiment Station (Ag and Ag-Related Research). Year 1: \$40,000; Year 2: \$40,000; Year 3: \$40,000.

Gilliam, C.H., J.L. Sibley, H.A. Torbert, G.B. Fain and **C.R. Boyer**. 2006. Development of value-added poultry waste products for use in horticultural industries. Alabama Agricultural Initiatives (Poultry Waste). Year 1: \$68,590. Year 2: \$69,450.

GRADUATE STUDENTS ADVISED (MAJOR PROFESSOR)

- **Joshua Pool**. 2019. *Viburnum* spp.: Examining the Relationship Between Greenhouse-Growth Studies for Heat and Drought Tolerance to Determine Correlation to Landscape Survival. Kansas State University, Manhattan, PhD Dissertation.
- **Jianqiao Luan**, 2018. (Co-Advised with Dr. Greg Davis) Modernizing Landscape Design Extension Resource. Kansas State University, Manhattan, MS report.
- **Travis Carmichael**. 2013. Landscape Establishment and Irrigation Management of Ornamental Plants Grown in Eastern Redcedar Substrate. Kansas State University, Manhattan, MS Thesis.
- **Brenda Michelle Rivera Morales**. 2012. (Co-Advised with Dr. Charles Barden) Sexual and Asexual Propagation of Red Elm (*Ulmus rubra*), Grey Alder (*Alnus incana*), and Buffaloberry (*Shepherdia canadensis*). Kansas State University, Manhattan, MS Thesis.
- **Zachariah Starr**. 2011. Growth of Containerized Ornamental Plants in Cedar-Amended Potting Substrates. Kansas State University, Manhattan, MS Thesis.

GRADUATE STUDENTS ADVISED (COMMITTEE MEMBER)

- **Shana Hilgerson**. Fall 2021-present. Agricultural Communications. Kansas State University, Manhattan, MS Thesis. [Dr. Katie Burke]
- **Michael Brunson**. 2021. Plans for the future: An examination of research methodology and education in parks and protected area visitor use management. Kansas State University, Manhattan, PhD Dissertation. [Dr. Ryan Sharp]
- **Marisol Mayorga Castro**. Summer 2018-Summer 2021 [stepped off the committee as the PMC program had enough faculty to support this student]. Parks Management and Conservation. Kansas State University, Manhattan, PhD Dissertation. [Dr. Ryan Sharp]
- **Amila Darshana Emihami Mudiyansele**. 2021. Influence of Windbreaks on Crop Yields in the Great Plains. Kansas State University, Manhattan, MS Thesis. [Dr. Charles Barden]
- **Karen Schneck**. 2020. Studies in Floral Crops Production: Effects of Root-Zone Temperature on *Dahlia* Growth and Optimizing Graphical Tracks for *Poinsettia* Height

Management. Kansas State University, Manhattan, MS Thesis. [Dr. Chad Miller and Dr. Kimberly Williams]

- **Ryan Armbrust.** 2020. Induction of Adventitious Rooting in Stem Cuttings of Eastern Redcedar (*Juniperus virginiana* L.). Kansas State University, Manhattan. MS Report. [Dr. Charles Barden]
- **Ernest Jones.** 2020. Selling a Story: A Survey Investigating the Willingness of Consumers in the Midwest to Acquire Specialty Crops Viewed in an Online Environment. Kansas State University, Manhattan, MS Thesis. [Dr. Lauri Baker]
- **Deanna Reid-Sumners.** 2020. Courting the Consumer: Consumer Preferences and Engagement with Social-Media Marketing and Horticultural Businesses. Kansas State University, Manhattan, MS Thesis. [Dr. Lauri Baker]
- **Jesse Gilmore.** 2019. Evaluation of Training Methods in an Urban Agriculture Apprenticeship Program. Kansas State University, Manhattan, MS Thesis. [Dr. Candice Shoemaker]
- **Anissa Zagonel.** 2019. Signed, Sealed, Delivered: Using Community-based Social Marketing to Advance Extension Communication Services Units in Kansas. Kansas State University, Manhattan, MS Thesis. [Dr. Lauri Baker]
- **Dani Dagan.** 2019. Social Media as a Means of Understanding Park Visitors: An Evaluation of User-Generated Content Related to Two Low Use, Remote National Parks. Kansas State University, Manhattan, MS Thesis. [Dr. Ryan Sharp]
- **Andrés León-Reyes.** Summer 2018-Fall 2019. Parks Management and Conservation. Kansas State University, Manhattan, PhD Dissertation. DNF [Dr. Jeff Skibbins]
- **Lindsay Stucki.** 2017. Prison Landscapes: An Exploration of Therapeutic Landscapes in Women's Prison Facilities. Kansas State University, Manhattan, M.L.A. Thesis. [Dr. Brent Chamberlain]
- **Raul Jefferson Osorio Morillo.** 2017. GIS Approach to Estimate Windbreak Crop Yield Effects in Kansas-Nebraska. Kansas State University, Manhattan. MS Thesis. [Dr. Charles Barden]
- **Molly Fusselman.** Spring 2014-2016. Growing Growers survey. Kansas State University, Olathe, MS Thesis. DNF
- **Matthew Wilson.** 2016. Explorations of Pine Wilt Disease Management in Kansas and Use of Virtual Maps as a Study Tool for Teaching Plant Identification Courses. Kansas State University, Manhattan, PhD Dissertation. [Dr. Jason Griffin]
- **Becatien Yao.** 2016. Adoption of New Media Marketing by Nurseries and Garden Centers. Kansas State University, Manhattan, MS Thesis. [Dr. Hikaru Peterson]
- **Scott Stebner.** 2015. Green Growth: An Exploratory Study of Metro and Non-Metro Garden Centers Use of New-Media Marketing. Kansas State University, Manhattan, MS Thesis. [Dr. Lauri Baker]

- **Justin Brock.** 2014. Rooting Stem Cuttings of Shantung Maple (*Acer truncatum*), Mound Layering Shantung and Caddo Sugar Maples (*Acer saccharum*), and Using Eastern Redcedar (*Juniperus virginiana*) as a Substrate Component in Stem Cutting Propagation. Kansas State University, Manhattan, MS Thesis. [Dr. Jason Griffin]
- **Joshua Pool.** 2012. Growth of Four Conifer Species During Establishment and the Effects of Recurring Short-Term Drought on Growth and Photosynthetic Capacity. Kansas State University, Manhattan, MS Thesis. [Dr. Jason Griffin]
- **John Markham III.** 2010. Color and shading of containers affects root-zone temperatures and growth of nursery plants. Kansas State University, Manhattan, MS Thesis. [Dr. Dale Bremer]

HONORS & AWARDS

- American Society for Horticultural Science Extension Division Award for **Outstanding Book Award (Center for Rural Enterprise Engagement Insight Summit Workbook; 2022;** co-authors **C.R. Boyer**, L.M. Baker and H.H. Peterson)
- Association for Communication Excellence (ACE) **Bronze Award in the “Information Technology: Website” category for the Center for Rural Enterprise Engagement website; 2022;** co-authors M.S. Kandzer, L.M. Baker, **C.R. Boyer**, H.H. Peterson, A. Morrison, and Liquid Creative.
- Kansas Extension Association for Family & Consumer Science Agents award for **Excellence in Teamwork for the Local Foods Transdisciplinary Team’s work on the Homesteading 911 series during the COVID-19 pandemic; 2021;** co-authors J. Argabright, M. Bates, E. Bishop, E. Blair, K. Blakeslee, **C. Boyer**, T. Buller, R. Carver, J. Drake, K. Ebert, J. Gilmore, J. Goodno, K. Hatesohl, D. Helwig, C. Hessong, Z. Hoppenstedt, A. Hyland, S. Jackson, E. Kiss, R. McMahan, L. Nwadike, G. Price, S. Procter, T. Rice, C. Rivard, C. Shoemaker, J. Steen, J. Vipham
- Epsilon Sigma Phi, Alpha Rho Chapter **Visionary Leadership Award (2021)**
- American Society for Horticultural Science Extension Division Award for **Outstanding Multimedia Award (Touchless Transactions: E-Commerce Resources for Horticulture Businesses; 2021;** co-authors **C.R. Boyer**, L.M. Baker and H.H. Peterson)
- American Society for Horticultural Science Extension Division Award for **Outstanding Webinar (K-State Garden Hour Webinar Series; 2021;** co-authors **C.R. Boyer**, M. McKernan, B. Garcia, K. Hatesohl, T. Carmichael, F. Miller, D. Patton, T. Buller, C. Barden, A. Burns, R. Cloyd, S. Eckert, G. Eyestone, L. Fick, J. Gilmore, J. Graves, J. Griffin, K. Harding, C. Homan, K. Barthol, Z. Hoppenstedt, C. Jamerson, T. Kennedy, M. Kennelly, C. Lavis, L. Loughary, R. McMahan, J. O’Mara, C. Otte, P. Paulsen, A. Reardon, D. Ricketts, C. Rivard, R. Schaub, A. Whitely, W. Upham, S. Keeley, and J. Fry)
- National Agricultural Communication Symposium **Outstanding Research Poster Award** “The (right) picture is worth a thousand words: Comparing the engagement rate between stock and natural photos.” **2021.** Co-authors: A.M. Zagonel, J.A. Shellhouse, L.M. Baker, H.H. Peterson, and **C.R. Boyer.**

- **K-State Research and Extension Outstanding Program Focus Team (2020)**
 - Horticulture Program Focus Team
- Kansas chapter National Association of Agriculture Agents **State Winner, Poster (2020)**
 - F. Miller, B. Garcia, C. Boyer “Dealing IPM Education: One Card at a Time”
- Gamma Sigma Delta **Excellence in Extension Award (2017)**
- **K-State Research and Extension Team Award (2014)**
 - **Community Garden Team: C. Boyer**, C. Dipman, C. Marr, F. Miller, E. Neier, C. Rivard
 - **Extension Integrated Pest Management Team: C. Boyer**, R. Cloyd, E. DeWolf, R. Dremsa, S. Duncan, J. Hoyle, W. Johnson, M. Kennelly, B. McCornack, F. Miller, D. Peterson, J. Shroyer, C. Thompson, W. Upham, J. Whitworth, S. Zuckoff
- American Society for Horticultural Science Extension Division Award for **Outstanding Leaflet (Use of Root-Promoting Products for Vegetative Propagation of Nursery Crops; 2014;** co-authors E.K. Blythe, J.J. Griffin, and B.M. Morales)
- American Society for Horticultural Science—Southern Region: **2014 John E. Hutchinson Extension Award for Young Professionals**
- **2012 Communicator of the Year** from the KSRE Department of Communications and the Association for Communication Excellence in Agriculture, Natural Resources, and Life and Human Sciences.
- American Society for Horticultural Science Extension Division Award for **Outstanding Website (SustainableSubstrates.com; 2012;** co-authors J.E. Altland and J.S. Owen, Jr)
- Gamma Sigma Delta **Early Career Award (2012)**
- Epsilon Sigma Phi **Horizon Award (State; 2011)**
- University Professional Continuing Education Association Central Region **Innovative Program Award** for NurseryWorks (2011)
- Epsilon Sigma Phi **Horizon Award (2011)**
- **Auburn University Top Ten Outstanding Doctoral Student Award (2007)**
- **1st Place:** Warren S. Barham Ph.D. Graduate Student Paper Award, ASHS-SR Annual Meeting, Mobile, AL. (2007)
- **Graduate Student Poster Award:** National Cow Pea Improvement Association Graduate Student Poster Award, ASHS-SR Annual Meeting, Mobile, AL. (2007)
- **1st Place:** Student Paper/Oral Competition, International Plant Propagator’s Society-Southern Region (IPPS) annual meeting, Charlotte, NC. (2006)
- **1st Place:** Ph.D. Student Paper/Oral Competition, Southern Nurserymen’s Association (SNA) Annual Research Conference, Atlanta, GA. (2006)
- **3rd Place:** Graduate Student Poster Competition, American Society for Horticultural Science (ASHS) annual meeting, New Orleans, LA. (2006)
- OSU College of Agricultural Sciences and Natural Resources **Top Ten Senior (2003)**
- Moesel **Top GPA Senior Award**, Horticulture & Landscape Architecture Department, OSU (2002)

- **National Collegiate Architecture and Design Award**, Oklahoma State University (2002)
- OSU Leadership Conclave (1998)

PROFESSIONAL AFFILIATIONS

- International Plant Propagators' Society | Southern Region North America, 2009-present
- International Society for Horticultural Science, 2019-2022
- American Society for Horticultural Science, 2003-present
- American Society for Horticultural Science, Southern Region, 2003-present
- American Society for Horticultural Science, Northern Region, 2019-present
- AmericanHort, 2020-present
- Western Nursery and Landscape Association, 2010-2020 [dissolved]
- Southern Nurseryman's Association, 2011-2020 [dissolved]
- Sigma Xi, 2005-present
- Epsilon Sigma Phi, 2009-present
- Gamma Sigma Delta, 2010-present
- Sigma Lambda Alpha (Landscape Architecture) (Inducted 2002)
- Phi Kappa Phi (Inducted 2001)
- Golden Key International Honor Society (Inducted 2001)
- Pi Alpha Xi (Horticulture) (Inducted 2000)
- National Society of Collegiate Scholars (Inducted 2000)
- Alpha Zeta (Agriculture Student) (Inducted 1999)
- Phi Eta Sigma (Freshman) (Inducted 1998)