

# Department of Horticulture

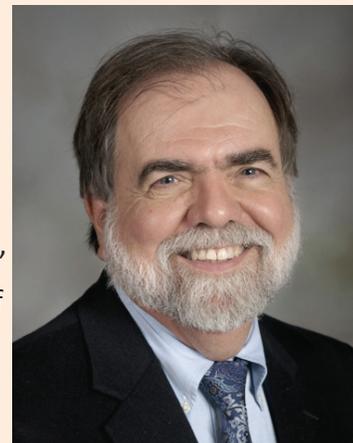
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Dr. Roger Harris, Department Head

## November 2016

Greetings faculty, staff, alumni, and friends! It has been a relatively warm and beautiful fall around Blacksburg this past month. The fall color is just now “peaking” at the beginning of November and we are yet to have a killing frost on campus. Leaf rakes are mostly still in the garage and life is good! The much anticipated revival of the student:industry dinner was a big success and the Fall 2016 Connection job fair the next day really showcased the strength of the green industry in Virginia. Many of our past graduates were the company representatives so it was great to see them all doing so well and to catch up. It is clear that our students are motivated to be industry leaders after graduation and our graduates have an excellent track record for success. Many thanks to all of our industry partners for supporting our programs! More details of both events are below. In our continuing effort to keep our academic programs relevant, our MS program will be joining the Masters of Science in Life Science program with a major in Horticulture this spring. This is a common degree that we will share with five other departments in our college. The new degree will allow us to focus on quality without worrying about required quotas for graduates. Our PhD program will remain organized as before when we join the School of Plant and Environmental Sciences next year. I hope that you enjoy this edition of our monthly e-newsletter. Please pass it on!

— Roger



Watch a flyover of HHG!  
<https://www.youtube.com/watch?v=dTni3MXnBwc>

Mark Maslow of Southern Landscape Group in Evington took the footage with his drone and Robert McDuffie edited it to make a very relaxing video!

# Undergraduate News

## VT Hokies Place at Hardscape Competition!

Congratulations to Patrick Riley and Justice Schlemmer for placing 10th out of 24 professional installation teams at the Green Industry Expo / Hardscape North America trade show! This was a hardscape competition for professional installation companies.



Patrick Riley and Justice Schlemmer for placing 10th out of 24 at the Green Industry Expo/Hardscape North America trade show.

## Student-Industry Dinner – A Networking Success

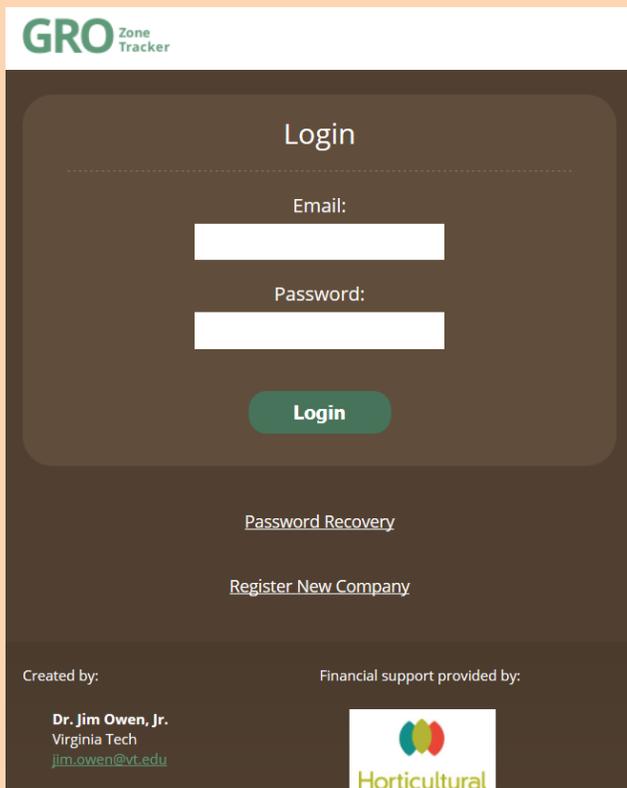
The Horticulture Department hosted a Student-Industry Dinner on October 17, a dinner for horticulture students as well as students from other majors to network with horticulture-related companies. Thirteen companies and about 70 students attended the dinner which was held at the Blacksburg Country Club. The dinner, which was held the evening before the Connection Job Fair hosted by the VT Career and Professional Development Division, served as an “ice-breaker” event for students to informally meet and learn about the companies. A donation by the BrightView Landscape company funded the dinner and other companies funded \$4,800 in scholarship awards; twelve \$400 scholarships were randomly awarded to students attending the dinner. Prior to 2008 the Horticulture Department routinely hosted a yearly student-industry dinner but the ensuing lackluster economic climate put the dinner on hold. Currently the horticulture industry, especially the landscape-related sector, is experiencing a rapid growth phase and horticulture students are in high demand.



Students in the sustainable agriculture practicum tasting and tallying votes for different varieties of squash.

## May the best squash win!

For the third year in a row, students in the sustainable agriculture practicum held a fall winter squash tasting, consisting of 13 different varieties of winter squash grown at the Dining Services Farm and the Urban Horticulture Center. Each student cooked a squash and brought their dish in to be shared. After rigorous evaluation, Queensland Blue was dubbed the tastiest, with Red Kuri and Buttercup close runner-ups.



## Outreach News

### New App!

Jim Owen, and his team (with assistance from colleagues at Clemson, NC State and University of New Hampshire), have devised an app to help growers understand and track their pour-thru electrical conductivity, alkalinity and pH measurements. The website, GroZone Tracker, is free to use and allows users to input data based on crop and/or location within a growing operation. It also allows you to input other growing data in the form of notes, so you can track a range of management decisions and inputs for individual crops. <http://grozonetracker.com/>

Learn more here:

<http://www.nurserymag.com/article/grozone-tracker-container/>

<http://www.ballpublishing.com/NurseryLandscapeInsider/CurrentNewsletter.aspx>

<https://pubs.ext.vt.edu/HORT/HORT-227/HORT-227-PDF.pdf>

## Conferences

The International Plant Propagators' Society-Souther Region North America (IPPS-SRNA meeting) planned by Jim Owen and Matt Sawyer (Bennett's Creek Nursery) with the assistance of Jason Stern (Eastern Shore Nursery of Virginia), Christopher Brown (Lancaster Farms), and Jane Stanley (Saunders Brothers Nursery) was a success. One-hundred ninety nursery producers, faculty, allied suppliers, and plantsman attended the four day event taking part in educational presentations and tours of Virginia nurseries, greenhouses and gardens.

The NCCC (North Central Coordinating Committee) 212 Small Fruit and Viticulture Research group (Multistate Research Coordinating Committee and Information Exchange Group) met in Virginia Beach from 24-26 October, 2016. Meeting was hosted and chaired by Jayesh Samtani at Courtyard Marriott, Virginia Beach Ocean Front. There were 30 faculty and scientists from 17 different institutions across the country and including three from Canada. Farm tours and HRAREC field visit were held on 24 October and business meetings were held on 25 and 26 October.



*Participants at the IPPS-SRNA meeting. Photo taken by Mengmeng Gu, Texas A&M*



*Participants at the IPPS-SRNA meeting*

## Hokie Hops Update

Holly Scoggins was recently awarded a USDA Agricultural Marketing Service Specialty Crop Block Grant (Virginia) for the project “Impact of site selection on cultivar performance and flavor profile of hops (*Humulus lupulus* L.)” The grant is for \$42,937 and is in collaboration with Peter Sforza (VT Center for Geospatial Information Technology) and Ken Hurley (VT Food Science & Technology - hops analysis lab). This work will help potential growers determine the suitability of a target site for hops production, based on a number of environmental/geographic parameters. Data generated will also take our work on hops “terroir” to the next level - demonstrating just how special hops grown in Virginia are!

Our first season’s harvest is complete! The mountains of data acquired will be turned into a grower-friendly report on both our cultivar trials and the nitrogen rate study. Report to be released in December. Thanks to everyone who helped out throughout the growing season and also the exceedingly labor-intensive harvest, all coordinated by Margaret Aiken. Wish list: automated hop harvester for 2017.

Brewers and other personnel from Deschutes Brewery (Bend, Oregon with a second location coming to Roanoke, Virginia) toured our Trials and Research Hop Yard at the Urban Horticulture Center on August 26 as part of their visit with potential collaborators at Virginia Tech. This effort to connect with one of the foremost breweries in the country is led by the Food Science and Technology Department’s Fermentation Science team.

Speaking of harvest, Evan Graham of Right Mind Brewing Company (in-house brewery of Lefty’s Main Street Grille, Blacksburg) brewed up a fine Pale Ale with our hops. Evan describes it as “...a strong pale ale showcasing Nugget and Crystal hops grown right down the road. Citrusy and herbal, slightly grassy with a semi-sweet finish. 6.4% ABV”. Our Hop Squad tried it out and found it exceedingly delicious (still on tap as of 10/31/16).

For more Hokie Hops information - visit our facebook page <https://www.facebook.com/HopsVT/>



*Brewers and other personnel from Deschutes Brewery (Bend, Oregon with a second location coming to Roanoke, Virginia) touring the Trials and Research Hop Yard.*



*Right Mind Brewing Company (in-house brewery of Lefty’s Main Street Grille, Blacksburg) brewed up a fine Pale Ale with our hops!*

## Publications

Ateh C., Bayles M., **Welbaum G.**, Mannes J., 2016. Agronomy - Grow with it! *American Society of Agronomy Press*, Madison Wisconsin. doi:10.2136/2016.agronomy-grow-with-it, pp 101. [https://www.researchgate.net/publication/308632807\\_AGRONOMY\\_GROW\\_WITH\\_IT](https://www.researchgate.net/publication/308632807_AGRONOMY_GROW_WITH_IT)

Conway, M. and **Samtani, J.B.** 2016. Evaluation of Blackberry Varieties in Virginia. *Virginia Coop. Ext. Ser. Publ.* HORT 226-P. <https://pubs.ext.vt.edu/HORT/HORT-226/HORT-226.html>

Ferreira, G.F., Hatch, T., and **Wolf, T.K.** 2016. Assessment of the Impact of Viticulture Extension Programs in *Virginia Journal of Extension*. Vol. 54 issue 5, <https://www.joe.org/joe/2016october/rb6.php>

**Fields, J.S., J.S. Owen, Jr.**, L. Zhang, and W.C. Fonteno. 2016. Use of the evaporative method for determination of soilless substrate moisture characteristic curves. *Sci. Hortic.* 211:102-109. Jeb's dissertation chapter!

Fulcher, A., **J.S. Owen**, and A.V. LeBude. 2016. Hydrangea production: Species specific production guide. *Univ. Tennessee Inst. Agric.* PB 1840-B. <https://extension.tennessee.edu/publications/Documents/PB1840-B.pdf>

Liu, Y., J. Miao, S. Traore, D. Kong, Y. Liu, X. Zhang, Z. L. Nimchuk, Z. Liu and **B. Zhao** (2016). SacB-SacR gene cassette as the negative selection marker to suppress agrobacterium overgrowth in Agrobacterium-mediated plant transformation. *Frontiers in Molecular Biosciences* 3(70). <http://dx.doi.org/10.3389/fmolb.2016.00070>

**Owen, J.S.**, A. Fulcher, A. LeBude, and M. Chappell. 2016. Hydrangea production: cultivar selection and general practices to consider when propagating and growing hydrangea. *Univ. Tennessee Inst. Agric.* PB 1840-A. <https://extension.tennessee.edu/publications/Documents/PB1840-A.pdf>

**Owen, J.S., Jr.**, A. LeBude, M. Chappell, and T. Hoskins. 2016. Advanced irrigation management for container-grown ornamental crop production. *Virginia Coop. Ext. Ser. Publ.* HORT-218P. <https://pubs.ext.vt.edu/HORT/HORT-218/HORT-218.html>

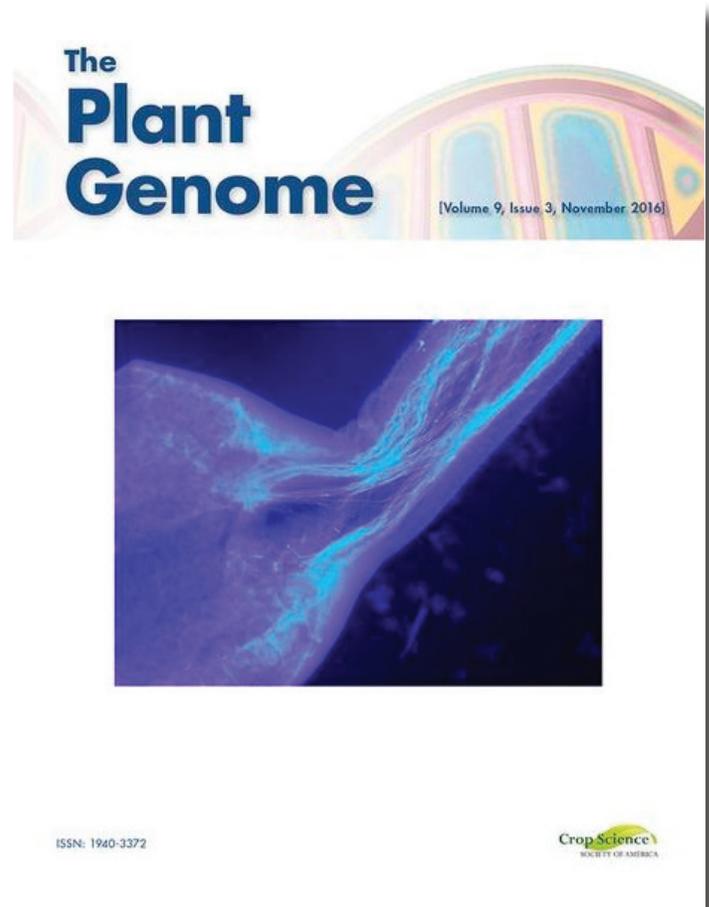
**Owen, J.S., Jr.**, S.A. White, B.E. Whipker, and B. Krug. 2016. GroZoneTracker: A free mobile app to help you record, monitor, and share water quality and substrate pH and electrical conductivity data within your nursery and greenhouse operation. *Virginia Coop. Ext. Ser. Publ.* HORT-227P. <https://pubs.ext.vt.edu/HORT/HORT-227/HORT-227-PDF.pdf>

**Peterson BA, Holt SH, Laimbeer FPE, Doulis AG, Coombs J, Douches DS, Hardigan MA, Buell CR, Veilleux RE** (2016) Self-Fertility in a Cultivated Diploid Potato Population Examined with the Infinium 8303 Potato Single-Nucleotide Polymorphism Array. *The Plant Genome* 9 (November issue) <https://dl.sciencesocieties.org/publications/tpg/abstracts/9/3/plantgenome2016.01.0003>

**Samtani, J.B., Rafie, R., and Wolf, T.K.** 2016. Small Fruit in the Home Garden *Virginia Coop. Ext. Ser. Publ.* 426-840. <https://pubs.ext.vt.edu/426/426-840/426-840.html>

Sample, D.J., **J.S. Owen, Jr., J. Fields\***, and S. Barlow\*. 2016. Soil moisture sensors for managing irrigation in Virginia. *Virginia Coop. Ext. Ser. Publ.* BSE-198P. <https://pubs.ext.vt.edu/BSE/BSE-198/BSE-198-PDF.pdf>

**Welbaum, G.E.**, Seed production. In Brian Thomas, Brian G Murray and Denis J Murphy (Eds), *Encyclopedia of Applied Plant Sciences*, Vol 1, 2nd Edition, Waltham, MA: *Academic Press*, 2017, pp. 546–552. <http://store.elsevier.com/Encyclopedia-of-Applied-Plant-Sciences/isbn-9780123948076/>



**On the cover-** Microscopy photo by Sarah Holt. The style and ovary of a diploid potato plant that produced no fruit on self-pollination. The pollen tubes, stained with aniline blue 48 h after self-pollination, were not arrested in the style and can be observed entering the ovary, demonstrating that classic gametophytic self-incompatibility was not responsible for the lack of fertility. Sibling plants with similar pollen tube growth produced abundant fruit and seeds. See Peterson et al.

## Hahn Horticulture Garden Events

November 1st to December 31st

Art in the Garden exhibit: Natural Perspectives with Karin Tauber.

Learn at Lunch Wednesdays at the Hahn Pavilion- FREE!

- November 30th, 12-1pm Problem Pests Devastating Our Landscape with Eric Day
- January 11th, 12-1pm Living Green: Stories from the Field with Annie Pearce

For more information please visit <http://www.hort.vt.edu/hhg/events.html> or contact the Hahn Garden by phone, 540-231-5970, or by email, [vtgarden@vt.edu](mailto:vtgarden@vt.edu).



Alex Hessler dining with President Timothy Sands at the Chef's Premiere Dinner- An Evening at Kentland Farm.



Happy Halloween says Tabitha Ladybug! A Halloween pot luck was held in the department with a good contingent of ghosts, jesters, roller derby stars, and other characters. It was an all treat and no trick affair and only a few were too scared to attend!