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On the cover: Held annually every July, "Art & Wine in the Garden" is the largest of Garland Nursery's retail events. PHOTO BY BRENDA POWELL

This page, left: Sunflower Saturday at Bauman Farms is an opportunity to take pictures of fall's iconic flower. Photo By Jessica Jensen Right: The retail market for succulents is blooming, just like this specimen of *Kalanchoe pumila* 'Silver Gray' (flower dust plant). PHOTO BY JOAN DUDNEY, LITTLE PRINCE OF OREGON

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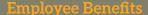
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Looking forward with impact

The holidays are always a wonderful time. It all starts with Thanksgiving, a time for reflection.

We pause our busy lives and take time to experience the power of gratitude. This clears the lens of how we view the world, allowing us to see more fully.

With clearer vision, the holidays transition to Christmas, a time for giving. It's inspiring to watch the world put selfinterest aside and begin to look outward as thoughts and actions become centered on those around us. The cards, baked goods, gift baskets, and phone calls are all reminders that someone, somewhere is thinking of you. This alone is enough to lift the spirit and increase the joy within.

The close of Christmas brings New Year's Day, a time for resolutions. Every year, people around the world renew goals of years past or make new goals for the year ahead. The aspiration for a better tomorrow makes this one of the most exciting times of the year.

I hope each of you had a wonderful holiday season, with plenty of opportunities to reflect, look outward and make impactful resolutions.

Recently, I met with a valued truck broker. We reflected on the past couple of years and discussed the challenges our industries have faced. We reminisced on the uncertainty we carried in early 2020, as the world began to shut down due to the Covid-19 pandemic. We had no idea what the impact would be for our two industries.

We realized quickly that our worst fear wouldn't be the lack of business, but instead, our ability to meet the increased demand that came as a result of the Covid-19 lockdown. I am so grateful for our friends in the trucking business that came through big time and provided the resources we needed to still get the job done.

In our industry, we spend a considerable amount of time digging, planting, spraying, fertilizing, culling and nurturing nursery stock. It takes years to complete this process, all so we can



Todd Nelson

provide our customers with the very best and most beautiful plant material at the right cost. Yet at times, external issues and challenges threaten our ability to do so.

Just as in 2020, there is uncertainty surrounding the future. Inflation is at an all-time high. Fuel costs vacillate between high and higher. Threats of rail strikes and local government labor regulations are potential roadblocks that make it more difficult to get our plant material to the customers at a reasonable price. How do we combat this? I would invite you to look outward, through the customer's perspective. The external challenges we face greatly impact them. Are there things that can change in our processes that would greatly improve the customer experience? Are there tweaks that can be made to how we load trucks, organize workload or book shipments, so these processes can become more efficient and cost effective?

As you ask yourself the hard questions, ideas will come to your mind on how to counter the difficulties that are caused by these external factors. You will see new ways to safeguard our industry.

Challenges are not new. We have some of the most hardworking and innovative people within the nursery industry. The Oregon Association of Nurseries is a wonderful network made up of individuals who are going through the same difficulties you are. We are here to help in any way we can.

As we start this new year, now is the perfect time to reflect, look outward and make impactful resolutions. I am excited for 2023 and look forward to meeting the challenges ahead together..

/OD CNESON



Calendar

Spread the word about your event! Email details to calendar@oan.org by the 10th day of the month to be included in the next issue of Digger.

VARIOUS DATES

FIRST AID AND CPR CLASSES

The Oregon Association of Nurseries offers First Aid and Adult CPR classes so that employees have the needed certification and can render assistance if needed in the workplace. Successful completion results in certification that is good for two years. Participants are urged to register early to guarantee a spot. Registrations are only accepted up to two days before each scheduled class. Classes will be offered in English on January 18 and in Spanish on January 19 at OAN's offices located at 29751 SW Town Center Loop W, Wilsonville, OR 97070. Classes take place 8 a.m.-12:30 p.m. Cost is \$60. Additional classes will be offered monthly and take place either at Lifeline Training Center in Portland or at the OAN offices. For more dates, details and registration, visit www.oan.org/cpr.

JANUARY 11-13

MANTS

The Mid-Atlantic Nursery Trade Show (MANTS) will return to the Baltimore Convention Center, One West Pratt Street, Baltimore, Maryland, Sponsored by the State Nursery and Landscape Associations of Maryland, Virginia and West Virginia, the show averages more than 900 exhibitors and 11,000 paid registrants (including exhibitors). For full details, visit www.mants.com.

JANUARY 19-20

IDAHO HORTICULTURE EXPO

The Idaho Nursery & Landscape Association's two-day trade show bring together more than 1,100 attendees to the Boise Center on the Grove, 850 W. Front Street, Boise, Idaho, The show will also feature educational seminars and demonstrations. For more information and to register, visit https://inlagrow.org.

JANUARY 23-25

UTAH GREEN

Presented by the Utah Nursery & Landscape Association, the event will be held at the Mountain America Expo Center, 9575 State St., Sandy, Utah. The show features green industry vendors from across the nation and offers seminars on topics such as business management, landscape design, plant material, irrigation, and many others. Full details are available on www.utahgreen.org.

JANUARY 24-27

IPPS WESTERN REGION ANNUAL CONFERENCE

The Annual Conference of the International Plant Propagators' Society (IPPS) Western Region will take place at the Holiday Inn



JANUARY 18-20

NORTHWEST AG SHOW

Northwest farmers, ranchers and agricultural industry professionals will gather for the 53rd edition of this annual showcase of the newest equipment, products and services. The show will take place at the Oregon State Fair and Expo Center, 2330 17th St. N.E., Salem, Oregon. For more information, visit northwestagshow.com. A sister show, the Central Oregon Agricultural Show, will take place March 24-25 at the Deschutes County Fair and Expo Center in Redmond, Oregon; more details at www.northwestagshow.com/central-oregon-ag-show.

Portland South in Wilsonville, Oregon. This event will bring together educators, researchers, professionals and students in the fields of plant propagation, plant production and related disciplines. Details are available at https://wna.ipps.org.

JANUARY 31-FEBRUARY 1

PROGREEN EXPO

ProGreen EXPO is the only green industry conference in the Rocky Mountain Region of its kind. More than 4,000 green industry professionals gather every year to gain vital knowledge and skills to improve business, educate employees and discover the latest information for the upcoming season. The event takes place at the Colorado Convention Center, 700 14th Street, downtown Denver, Colorado. For details and to register or exhibit, log on to www.progreenexpo.com.

FEBRUARY 9

NOR CAL LANDSCAPE & NURSERY SHOW

The 2023 Nor Cal Landscape & Nursery Show will take place in the San Mateo Event Center Expo Hall, 1346 Saratoga Drive, San Mateo, California. The show is a one-day collaboration between California's horticulture and landscape industries featuring more than 250 exhibits and five educational seminars. To register, log on to www.norcaltradeshow.org.

FEBRUARY 24-27

PORTLAND SPRING HOME & GARDEN SHOW

Produced by the Home Builders of Metro Portland and sponsored in part by the Oregon Association of Nurseries, the Portland Spring Home & Garden Show brings together a wide variety of vendors for attendees to discover ideas and inspiration for their home, garden and outdoor living spaces. Exhibitors include remodelers, landscapers and landscape suppliers, gardeners, spa companies, tile and flooring installers, roofers, custom fence builders, mattress and bedding suppliers, furniture shops, home décor, local artisans and more. Best of all, attendees can pick up their copy of the Retail Nurseries & Garden Centers Road Map, courtesy of OAN and Plant Something Oregon. The show will take place will take place at the Portland Expo Center, 2060 N. Marine Drive, Portland. For more information on show offerings, log on to www.homeshowpdx.com.



Northwest News

OAN members and chapters are encouraged to send in relevant news items, such as new hires. new products, acquisitions, honors received and past or upcoming events. Email news@oan.org.



USDA to survey farmers and ranchers for 2022 Census of Ag

The 2022 Census of Agriculture is underway.

In November 2022, USDA began mailing survey codes to all known agricultural producers across the U.S., inviting them to respond to the census online at agcounts.usda.gov. The agency also sent paper questionnaires in December 2022 so farmers who prefer to fill out a paper form can do so.

"I encourage every farm owner to make sure they participate in the Census of Agriculture as required by law," OAN Executive Director Jeff Stone said. "It's always been vital for agriculture to stand up and be counted, so that our voice is commensurate with our impact. Accurate data helps decision makers, and it always helps us make the case for nurseries, greenhouses and agriculture in general."

All farm operations that produced or sold \$1,000 or more of agricultural products this year are required to participate in the census or face a fine under Title 7 USC 2204(g) Public Law 105-113. Responses are due by Feb. 6, 2023.

HARVESTING PEAT MOSS CONTRIBUTES TO **CLIMATE CHANGE, OREGON STATE SCIENTIST SAYS**

The harvesting of peat moss used by gardeners and the nursery industry to improve drainage and retain water in soil contributes to climate change, according to an Oregon State University Extension Service soil scientist.

Peat moss is harvested from bogs and fens around the world, but primarily in Canada and Russia. These water-logged bogs have taken carbon from the atmosphere and sequestered it for 10,000 to 12,000 years, according to Linda Brewer, soil scientist in the Department of Horticulture in OSU's College of Agricultural Sciences. As it's harvested, the carbon is released into the atmosphere, contributing to a warming climate. Harvesting peat moss also destroys a native habitat essential to the survival of many birds, reptiles, insects and small mammals.

"Bogs represent 5% of the earth's surface and yet they contain more carbon than all the planet's forests combined," Brewer said. "It's a huge storage unit for carbon dioxide. As soon as we start tinkering with it, carbon is released."

When harvested from the bog, peat moss dries out quickly and is turned into amendments

meant to improve drainage and retain moisture in soils. Many bagged soils contain peat moss, and some gardeners make their own soil mix with it. However, it's very low in nutrients, has a low pH and isn't attractive to essential soil microbes. Compost is an alternative the feeds soil microbes, improves drainage and retains water — but it decomposes faster than peat moss, Brewer said.

The sale of peat moss in England will be banned starting in 2024 because of environmental concern. Peat moss develops in bogs that are so wet they are devoid of free oxygen, which is necessary for rapid decomposition. The oxygenfree environment promotes extremely slow composition, and the carbon structure in the moss remains in the plant materials.

"It's like a pickling process," Brewer said. "The highly acidic conditions in the bog preserve organic matter."

Peat moss, which is in the genus *Sphagnum*, is formed of three general layers of peat that can reach down several meters in depth. The bottom, or third zone, comprises



Peat is harvested from peat bogs like this one, where it may have accumulated for thousands of years. PHOTO BY FLICKR USER PEUPLELOUP

Northwest News

Sphagnum moss is often used as decoration or bedding in living plant arrangements, whereas peat moss consists of the dead, decaying material underneath living sphagnum moss. PHOTO BY ANNA SHVETS/PEXELS.COM

the old and most decomposed materials. The degree of decomposition decreases through the second zone until it reaches the thin first layer formed of living moss.

Peat moss used in horticulture and for other purposes is harvested from as deep as the second zone, Brewer said. Dried sphagnum moss, which is harvested from the top layer, is turned into a decorative product used as top dressing in floral arrangements and in craft projects. Material from the more decomposed second layer is bagged for planting mixes for containers and as a soil amendment.

Peat has been used as fossil fuel for centuries if not millennia, but it was only with the advent of large, industrialized farming after World War II, that peat moss found its way into the agricultural market. Nurseries, which are big consumers of peat moss, tend to sanitize and reuse it. Increasingly, harvested bogs are replanted. However, 30–40 years may pass before a harvested bog stops releasing carbon. Some companies that process peat moss for sale must drain and clear-

cut swaths of the peat bogs so they can reach the moss, ruining habitat for native insects, birds and plants.

"You could call harvesting peat renewable because some of the bogs are being replanted it but takes centuries for it to fully recover," Brewer said. "The damage has been done and is continuing. It's not eco-friendly."

Nurseries and gardeners are looking for alternatives, Brewer said, but noth-



ing is quite the same except coconut coir, which is harvested sustainably from the coconut. But coir has its own environmental consequences because of the fossil fuel used to transport it. Instead, she suggests compost, decomposed manure, wood chips, leaves and perlite, a product made from lava deposits.

Concerned consumers should check bagged garden amendments to see if they contain peat moss, Brewer said.



'FIRMAGEDDON' DECLARED IN OREGON, WASHINGTON

Research conducted by the U.S. Forest Service shows that fir trees in Oregon and Washington died in record-breaking numbers in 2022, The Oregonian newspaper (Portland, Oregon) reported.

In total, the Forest Service recorded fir die-offs on more than 1.23 million acres (over 1,900 square miles) — with the vast majority occurring in Oregon. The Forest Service observed dead firs on roughly 1.1 million acres (over 1,700 square miles) of forest in Oregon alone. The phenomenon affected only true firs (Abies sp.), not Douglas firs (Pseudotsuga sp.).

Causes of Firmageddon are thought to be a combination of drought coupled with insects and fungal diseases working together to weaken and kill trees. Extreme heat, including last year's recordbreaking "heat dome," is also a possible cause.

In some "severe" areas, as much as 50% or more of fir trees are estimated to have died. The most severe of these die-offs occurred in the Fremont National Forest in southern Oregon, according to survey data; other heavily affected areas include the Winema, Ochoco and Malheur national forests.

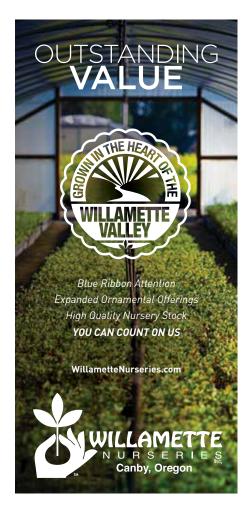
For the full story, log on to https://tinyurl.com/deadfirs.



Fir die-off as observed during this year's aerial survey in the Fremont-Winema National Forest in southern Oregon.

PHOTO COURTESY OF U.S. FOREST SERVICE







NEW URBAN FORESTRY MANAGER JOINS OREGON DEPARTMENT OF FORESTRY



Scott Altenhoff is the new manager of the

Oregon Department of Forestry's Urban and Community Forestry Assistance Program. He took over the statewide role last year from Kristin Ramstad.

Ramstad retired after more than 30 years of service, and participated in the selection panel that hired Altenhoff.

"Scott has a longstanding interest in helping people to better understand and appreciate trees and urban forests," she stated in a press release. "He's especially keen to share the science showing the benefits to human health from contact with nature in the built environment. As important, he is passionate about helping communities deal with issues such as ensuring equitable distribution of these benefits by planning for adequate tree canopy in every neighborhood."

Altenhoff told *Digger* magazine that he hopes to make the nursery industry a key partner. He hopes to increase the communication between tree growers and the end users in Oregon, particularly municipal foresters, calling it "a new chapter, more aware of what the partners' needs are."

He hopes to help cities preserve and expand tree canopy as they follow a new statewide housing law requirement to increase density. He also wants to help Oregon communities cope with tree health challenges, whether due to climate change or new pests and diseases.

"We have better information technology that can help communities know more than ever about their trees and how they are distributed," he said. "This can help them plan better and take useful actions based on that knowledge."

Altenhoff served as a municipal arborist/urban forester for the City of Eugene from 2005 until joining ODF.

Prior to that, he worked for 13 years as a commercial arborist and forest surveyor throughout the Pacific Northwest. He has also taught arboriculture at Linn-Benton Community College in Eugene.

He holds a graduate certificate in urban forestry from Oregon State University. He is an International Society of Arboriculture (ISA) board certified master arborist, municipal specialist, and qualified tree risk assessor. He is a past president of the Society of Municipal Arborists, sits on the National Steering Committee of the National Urban Wood Network, and co-chairs the Canopy Watch International Board of Directors.

MARION AG SERVICE NAMED ARA RETAILER OF THE YEAR

The Agricultural Retailers Association (ARA) recently honored Marion Ag Service with its Retailer of the Year Award at the 2022 ARA Conference & Expo. The award annually honors an ARA member retailer company or individual that displays effective employee relations,

environmental stewardship, customer reliability and industry leadership.

"Marion Ag Service excels at more than delivering an exceptional level of value to its customers," ARA President and CEO Daren Coppock said. "As a leader in government affairs, Marion Ag promotes the interests of the agronomy industry while balancing good environmental stewardship for farmlands, growers and employees."

Marion Ag Service has served farmers, nursery-greenhouse growers and wholesale fertilizer re-sellers since 1976, providing exceptional customer service and high-quality solutions to growers throughout the Willamette Valley.

"The Marion Ag Service team is grateful to be recognized by ARA for this prestigious award," said Tom Wimmer, Marion Ag Service executive vice president. "To be selected among so many outstanding retailers in our industry is a great honor!"

Watch a video showcasing the work of the Marion Ag Service team at https://www.youtube.com/watch?v=Q-3zl1eXBP4.



Marion Ag was named Retailer of the Year by the Agricultural Retailers Association (ARA). Pictured are (I-r) ARA President and CEO Darren Coppock; Tom Wimmer, Bob Hockett, John Hockett, Craig Vachter and Jeff Freeman of Marion Ag; Jason Minton of Bayer; and 2022–23 ARA Board Chair Ian McGregor of The McGregor Company.

PHOTO BY LAUREN HARTMANN, COURTESY OF AGRICULTURAL RETAILERS ASSOCIATION

LATE GROWING SEASON, BAD WEATHER STRAINED OREGON FARMS IN '22

Some Willamette Valley farmers called 2022 one of the hardest years they've ever seen, the Statesman Journal newspaper (Salem, Oregon) reported.

An unprecedented cold, wet spring and early summer delayed summer production by a nearly a month. "Some nurseries had to find other work for their crews to do while they waited out the rain," said Jeff Stone, executive director of the Oregon Association of Nurseries.

At wholesale nursery Robinson Nursery in McMinnville, owner Josh Robinson said the extra moisture created "a ton of root issues" in his crops, with hydrangea and lilac trees the most heavily impacted. Robinson said he lost about 20,000 trees to root disease this year, which is about \$500,000 worth of product.

Still, 2022 was "not nearly as bad" as last year's heat dome, Robinson said. "There's always some weather event that does this to us every year," he said. "Especially in the last four years. We just take it in stride now."

For the full story, log on to https://tinyurl.com/lategrow.



Root rot (pythium) starts with the roots and the damage works its way up the tree. Photo courtesy of Josh Robinson/Robinson nursery





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TECHNOLOGY PUSHES NETHERLANDS AS MAJOR AG EXPORTER

The Netherlands, which is just a bit bigger than Maryland, is currently the world's second largest exporter of agricultural products by value behind the United States, the *Washington Post* newspaper (Washington, D.C.) reported. That impressive statistic is due in large part to technological advances pioneered by the Dutch, including cell-cultured meat, vertical farming, seed technology, and robotics in milking and harvesting — innovations that focus on decreased water usage as well as reduced carbon and methane emissions.

But the Dutch are facing new challenges today: The greenhouse industry has flourished in part because of cheap energy, but Western Europe is facing soaring gas prices. And the country's intensive animal agricultural practices are also at risk. This summer, a conservative government coalition pledged to halve nitrogen emissions by 2030, which would necessitate a dramatic reduction in the number of animals raised in the country.

For the full story, log on to https://tinyurl.com/dutchag.



BROWN MARMORATED STINK BUG THREATENS OREGON CROPS

Oregon State University scientists say that an outbreak of invasive brown marmorated stink bugs this year poses a serious threat to crops, especially hazelnuts, the *Capital Press* agricultural newspaper (Salem, Oregon) reported.

This year's stink bug population tops anything seen in Oregon in at least five years. "There has been a lot of damaging populations of (brown marmorated stink bug) in hazelnut orchards," said Nik Wiman, an associate professor in the College of Agricultural Sciences. "Growers use preventative measures, so we're surprised we've seen so many."

The pest feeds on some 170 different plant species, including vegetables, pears,



Oregon State University scientists are tracking the spread of brown marmorated stink bugs through the state and investigating new ways to suppress the pest's impact on crops.

PHOTO COURTESY OF OREGON STATE UNIVERSITY

apples, hazelnuts and various ornamental plants. The stink bug population varies year to year depending on climatic factors, but it's not yet clear why the population is booming. The unusually wet spring most likely contributed to the population spike, but the increase could also be part of a natural cycle.

For more information, read the article at https://tinyurl.com/bms-bug.

MONROVIA ANNOUNCES NEW VICE PRESIDENT OF SALES

Ted McDonald has joined Monrovia as the company's new vice



president of sales. The nursery industry veteran brings a wealth of sales, operations, and leadership experience to the California-based grower of premium ornamental and landscaping plants. He worked most recently with BioWorks Inc., a leading biological plant health company.

"Ted has the industry knowledge, drive, and expertise to lead the team forward," says Jonathan Pedersen, president and CEO of Monrovia. "I know he will be a great addition to our sales management and executive leadership teams. His skills in developing relationships and achieving results will be a big asset as we continue to build the best nursery."

In his new role, McDonald will manage the entire Monrovia sales team serving retailers across the country, including independent garden centers and Lowe's. Previously, he has been the VP of sales

and marketing for BioWorks, and sales manager for Bailey Nurseries. In those roles, McDonald was responsible for leading strategy and sales growth. His work at other nurseries included responsibilities for inventory management of packaged hard goods and logistics.'

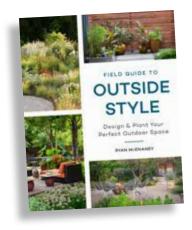
"I'm looking forward to helping support the strongest sales team in the nursery industry," McDonald said. "Working with Monrovia as the company looks toward its 100th year anniversary is both exciting and humbling."

BAILEY OWNER PUBLISHES GARDEN DESIGN GUIDE

Ryan McEnaney has published his first book, Field Guide to Outdoor Style: Design and Plant Your Perfect Outdoor Space.



Northwest News



The book is aimed at homeowners and explains how they can personalize their outdoor living space with plants, furnishings and design elements that reflect their desired style. It is written in a way that meets the beginner where they are, conveying concepts without the use of intimidating jargon.

McEnaney is the marketing and communications manager at Bailey Nurseries and a fifth-generation member of the family ownership group. The nursery is based in St. Paul, Minnesota, with growing operations in Oregon, Washington and Georgia.

McEnaney currently serves on the Board of Directors for the National Garden Bureau, as well as multiple committees for GardenComm: The Association for Garden Communicators, Seed Your Future, AmericanHort, and the Minnesota Nursery & Landscape Association.

The 200-page color hardcover book, published by Cool Springs Press, is available for \$30 U.S from Amazon.com and other retailers.

MUMM JOINS J. FRANK SCHMIDT & SON CO. SALES TEAM

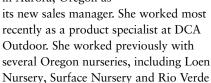
Brian T. Mumm joined the inside sales team at J. Frank Schmidt & Son Co.

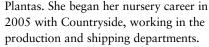


(www.jfschmidt.com). Based at the Hood Acres Farm headquarters in Boring, Oregon, Mumm brings more than 20 years of nursery sales and plant procurement, landscape design, maintenance and plant propagation experience to the position. He previously served as tree and shrub buyer for Sky Nursery of Shoreline, Washington, and 10 years as a self-employed landscape maintenance contractor have honed his horticultural knowledge and skills.

TILLER JOINS COUNTRYSIDE AS NEW SALES MANAGER

Rebecca Tiller has joined wholesale grower Countryside Nursery in Aurora, Oregon as





"It was important to me to find a person capable of fulfilling our high standards for customer service and quality," company president Adam Farley said. "Rebecca arrives with excellent references, broad industry knowledge and a strong work ethic. I am confident Rebecca has what it takes to maintain and grow the relationships we have built with customers over the years."

Tiller studied landscape horticulture at Berkeley City College in Berkeley, California and Merritt College in Oakland, California. She can be reached at rtiller@countrysidenursery.com or at Countryside Nursery (503-678-0511).

Countryside and its sister nursery, Fairdale Nursery, grow a variety of container, bare-root and field-grown trees and shrubs on four farms totalling 275 acres in all. For more information, log on to **www.countrysidenursery.com**.

iller has e grower JOINS EASON SALES TEAM

Eason Horticultural Resources (www.ehrnet.com) announced the addition of Christopher



Mashburn as a sales representative in Florida. A U.S. Army veteran, Mashburn has spent his entire civilian career in the green industry, including working for landscape contractors and re-wholesale operations. His primary focus will be delivering high-quality plant material and providing excellent customer service.

Eason Horticultural Resources is a national horticulture broker based in Ft. Wright, Kentucky. Founded in 1993, EHR serves as a consultant and broker to retail garden centers, wholesale greenhouse growers and landscapers. EHR is a proud member of AmericanHort, the Oregon Association of Nurseries and other state organizations where EHR does business.



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Reviews fuel your reputation online





Ron McCabe

Ron McCabe, president at **Everbearing Services in Portland,** Oregon, has been a technologist for over 35 years and an expert digital marketer for 13 years. Visit his website and subscribe to his newsletter at www.everbearingservices.com, or email at: rmccabe@ everbearingservices.com.

E ALL HAVE experienced the exhilaration of a great review. We have also had to deal with that person who decides to take their anger out on our company. As we take care of live plant material, we have the added issue of addressing bad reviews for products the client killed.

If you take a passive approach, this can not only be frustrating but also destructive to your reputation.

To take control and act proactively, your team can do the following things:

- 1. Flag inappropriate reviews.
- 2. Neutralize and respond.
- 3. Preemptively get positive reviews.

Flag inappropriate reviews

Google, Yelp and many of the other review platforms have guidelines on what is and is not an appropriate review. Former employees or competitors, for example, can be flagged as inappropriate reviews.

There are different guidelines for each platform. Read them carefully and see if you can flag any negative reviews. Be prepared to provide any documentation that proves you appropriately flagged a given review.

Your flagged review will then be reviewed by someone to determine if flagging the review is appropriate. If it goes your way, the review is gone. If it does not go your way, we move on to the next step — "neutralize and respond."

Neutralize and respond

This step can be challenging, as it is often frustrating to have to respond to these negative reviews. The key is to understand that your audience is not the person who wrote the review. Your audience is the people reading the review and your response.

People looking at reviews know that there are unreasonable people out there. What they are looking for is how your company responds.

If your company legitimately had an issue, it is better to own up and apologize without making an excuse. It is better to talk about how you are going to resolve or address the given issue or problem going forward.

If you receive a vague or incomplete review (a low star rating with no actual review, for instance), it is best to say something like, "We are sorry you had a bad experience. Please reach out to us and we will try to address this when we understand what went wrong for you." This type of response makes it clear that you would be willing to try and help if you understand what the problem is.

If you receive a bad review, it is important to keep things neutral, not engage the

reviewer and, in a professional way, address the issues outlined in the review. Your company must make a judgement call. If it is clear the person writing the review violated common sense in some way and you can respond in a neutral way that just states the facts, it can really negate the effects of a negative review.

For example, a woman wrote a negative review because she hit a pallet of soil "right in the middle of the parking lot."

The company's response went like this: "We are sorry you hit that pallet of soil. We made extensive efforts to avoid this happening. We put this pallet of soil in the back of our lot. We marked this section in large yellow lines. We also wrote 'No Driving or Parking' in big yellow letters in front of this area. Obviously, this was not enough to prevent this from happening. We are going to look at this situation and see how we can do a better job in the future."

If your company cannot respond in a neutral or factual way that does not antagonize the reviewer, it is best to move these reviews into the third category — "Angry and abusive reviews."

Angry and abusive reviews

But if you happen to receive an angry and abusive review, you should consider this a gift. The more over-the-top, the better.

DIGITAL GROWTH BY ROM McCABE

When you write a response, the most important thing is to neutralize the reviewer and not induce them to go on an angry campaign against your company. You want to respond in a way that lets people know that your company cares without engaging the reviewer. If there were legitimate issues, it is important to address them and let your audience know you are addressing these issues. Otherwise, a very short and neutral answer is best, something like, "We are sorry you had a bad experience with us. We hope you will give us a chance to do better in the future."

Your audience will know there is not much you can say or do in a situation like this. Your goal is to show people who read this that you are a responsible and responsive company.

Positive reviews

We all are excited when we get positive



If someone is happy with their experience, do not be shy about letting them know that your company would really appreciate their positive feedback.

reviews. Unfortunately, many of us forget to write a response, even if it is a simple "Thank you for your review." Showing your potential clients that you are thankful and gracious is just as important.

It is also important to build in positive reviews into your company culture. If someone is happy with their experience, do not be shy about letting them know that your company would really appreciate their positive feedback.

Dated reviews

Sometimes we are not monitoring reviews, or we are taking over for someone who did not do so. These unanswered reviews can go back for years. If possible, it is good to go back and respond to these dated reviews.

This is not an emergency, but something that should be done over time while keeping up with current reviews. In fact, this can sometimes cause reviewers who have had a change of heart revise their review when their experience with your company has changed.

If you spend some time focusing on your reviews, you can experience better results and improve your reputation in the marketplace. ©

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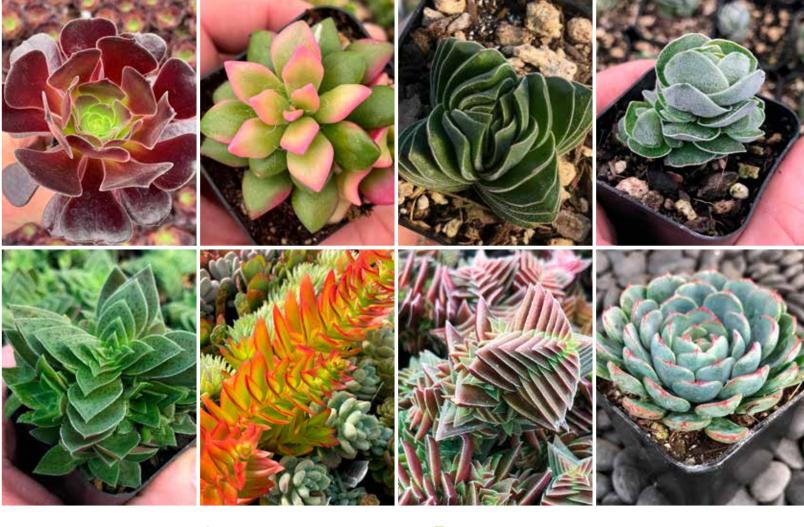
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A string of succulent successes

Thanks in large part to social media, the market for indoor succulents is larger, more varied and more popular than ever before

BY EMILY LINDBLOM

NN PATTERSON, houseplant buyer at Portland Nursery, said she has been collecting succulents for a long time. She called them lovely, intriguing little plants.

"They're interesting looking with lots of different textures," Patterson said. "You can fit a lot of them into a small space and they're slowgrowing, so they don't take over the house."

While tropical foliage is the largest part of the houseplants market, Patterson considers succulents as an important part, too. She estimates they account for about 10-15% of her nursery's houseplant sales.

Succulents appeal to many different customers, according to Patterson. She added that Portland Nursery gets orders for two-inch succulents to be used as giveaways at weddings.

"They're the potato chips of houseplants you can't just buy one," she said.

Patterson believes the availability of different varieties has grown over time." Even when I started working here eight years ago, the variety was smaller," Patterson said. "Now, it's not that difficult to find something I've never seen before, which always keeps it interesting."

More varieties

Chelsey Greene, general manager of wholesale grower Cascade Tropicals in Snohomish, Washington, reports that this year her business has been selling a similar amount of succulents as in the past, but a larger variety of different ones.

"More varieties pop up more frequently," Greene said, adding that variegated plants are very popular. "Now, there are variegated varieties like string of hearts, string of pearls, and even aeonium with white variegation."

In addition to ordering succulents from California and Florida, Cascade Tropicals has a sister company with a grow site in Redmond, Washington. About two to three months after the grow site receives the cuttings,

Top row, from left: Aeonium arboreum 'Velour' (tree house leek succulent), Anacampseros tenuifolium 'Variegata', Crassula 'Buddha's Temple', Crassula 'Pangolin'. Bottom row, from left: Crassula capitella, Crassula capitella 'Campfire', Crassula capitella subsp. thyrsiflora, Echeveria minima.

PHOTOS BY JOAN DUDNEY, LITTLE PRINCE OF OREGON the succulents are big enough to sell to retailers through Cascade Tropicals.

Greene said retailers are always looking for "bread-and-butter" items that consistently sell well, along with new plants to add to their inventory. She closely watches sales trends for new items and adjusts accordingly.

"Later, we see if that's really going to stick around or if it was just the newness that brought a spike in sales," Greene said. "We have to keep a close eye on what the market is doing and act as quickly as we can."

In addition to consistent best-sellers like string of hearts, jade, aloe and agave, Patterson is always looking for different and unusual items. One such variety is the San Pedro cactus or the particularly small succulents, *Aloinopsis* and *Titanopsis*.

"There are some great growers around where we get the plants from," Patterson said.

Keeping track of trends

Becky Sell, owner of Sedum Chicks in Turner, Oregon, has been working with succulents since 1999, when she was about to get married. Her mother, who had a collection of succulents to go with her job as a merchandiser for Black Gold fertilizer, came up with the idea to sell cuttings at the 2000 Clackamas County Spring Garden Fair to make money for the wedding.

"That's how it all started," Sell said. From there, her mother's greenhouse collection grew as the hobby transformed into a business. "It was fun to do it with my mom and my grandma loved doing it, too, so she'd help," she said.

Succulents weren't as hot back in 2000, but Sell has seen their popularity grow over time with the help of Pinterest and social media posts promoting the beauty and ease of maintaining the plants.

"Social media outlets show how amazing these plants are," she said. "I get a lot of questions like, 'Do you have this plant I saw on Pinterest or Facebook?" The media outlets spark people's interest in the variety of succulents and show them how to use them outside in a rock garden

Succulents 101

Nicole Forbes, education and events director at Dennis' 7 Dees, said succulents can be great entry points for getting into houseplants because they're often more affordable and take up less space than other plants. But, while they have the reputation of being easier to grow, Forbes believes there's no shame in accidentally killing one by not providing the right amount of light, water or drainage.

"They are easy to kill, and that's always one of the big challenges we have from a growers' side," Forbes said.

Forbes helps teach customers how to interact with a plant as it grows, such as replanting cuttings from stretched-out, curving succulents, or trimming off the brown dead leaves that form at the base.

"So many succulents get thrown out when they could just be trimmed back," Forbes said. "They're very resilient."

Forbes also recommends effective merchandising to point customers toward special faster-draining soil blends for succulents and potting that doesn't hold in moisture.





or an indoor display.

Nicole Forbes, education and events director at Dennis' 7 Dees, teaches customers about all sorts of garden-related topics. She said she really saw a shift toward succulents about a decade ago when they became a hit on social media. Around that time, she noticed the trend in her own family, when her niece and nephew announced they were into the aesthetic hardy plants. So, Forbes handpicked a collection of two-inch succulents and shipped them to her sister's house, where her niece lined her bedroom window with them.

"When I was a kid, I had pet rocks and sea monkeys, those things that started to turn me into a naturalist and appreciate the outdoors," Forbes said, adding that succulents can play a similar role for kids now.

Forbes has noticed that new waves of interest in plants can sneak up on retailers unless they stay up on social media trends.

"But once we identify a trend, our

role is to step in and educate and connect the people who see it on social media and want to learn how to grow it," she added.

Forbes recommended being skeptical of social media, however.

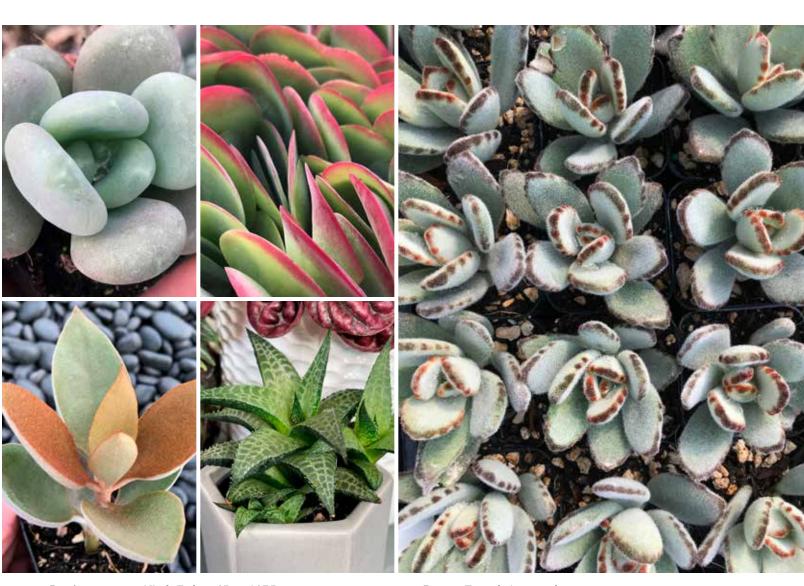
"You never see failures, just touched up, cropped photos, so people have no sense of what a succulent looks like as it grows," she said. "They fall in love with them when they're small and I get questions from customers, like, 'Why does it look like this?' with a picture of something that has grown. It's almost like they fell in love with them as a statue."

New varieties prove popular

Sell believes the succulents industry is very strong right now.

The "string of" succulents that look exactly like their name implies — string of pearls, string of dolphins, string of bananas, and more — are especially popular.

Patterson notes there's even a string



Previous page, top: Nicole Forbes of Dennis' 7 Dees. Photo courtesy of Dennis' 7 Dees. Bottom: Transplating succulents. Photo by cottonbro studio/pexels.com This page, clockwise from top left: Pachyphytum 'Blue Haze' (blue pearl succulent), Kalanchoe thyrsiflora (flap jack plant), several rows of Kalanchoe tomentosa 'Nigra', Haworthia tessellata (alligator plant), Kalanchoe orygalis (copper spoon). Photos by Joan Dudney, Little Prince of oregon

of watermelon.

"If someone finds a way to name a plant 'string of' something, it will be popular," Patterson said.

"I just saw a 'string of footballs,' which I've never heard of before," Forbes said, adding that people love collecting the "string of" varieties but struggle with them. She said these fussy plants don't like to get their foliage wet but are often put in hanging planters. She suggests planting them in a way that allows a person to set them in a tray to be watered from the bottom.

Hanging succulents, in general, are popular, as are those with different colors, like the pink and red hues of Echeveria and Crassula jade plants.

Clark Weber worked from the ground up in the nursery industry, starting with digging water line ditches and eventually taking his career into the office of Little Prince of Oregon Nursery in Aurora, Oregon.

"Over time, my interest in the indoor succulent varieties ballooned and I became more and more familiar with what was unique and different, paying attention to sales trends, and well, simply what I was seeing around in independent garden centers and big box stores," Weber said.

He was ecstatic to start overseeing succulent cuttings because he loves scouring availability lists for the coolest, rarest varieties, as well as popular, strong growers.

On his list are Adromischus, Aeonium, Anacampseros, cotyledon, Crassula, Delosperma, Echeveria, Gasteria, Graptopetalum, Haworthia, Kalanchoe, Pachyphytum, Sedum and more.

"Succulents display numerous characteristics that make them unique, including color, texture, growth pattern and, of course, blooms," Weber said. "Personally, I have a fascination with Crassula, which displays highly geometric, fractal designs."

One new variety for Little Prince this year is the Anacampseros telephiastrum 'Variegata'.

"Its apple green rosettes have adorably pointed, tightly packed leaves in clumps with pink margins," Weber said. "The color is especially pronounced when the plant is happily stressed by its environment, given full sun exposure and drought conditions."

Weber thinks the future looks bright for houseplant sales in general, especially indoor succulents.

"They have really caught on with younger generations," Weber said. He thinks this is because they require low maintenance and little space, and they come with the instant gratification of owning a healthy plant.

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INDOOR SUCCULENTS

lents that do well outdoors in the Pacific Northwest year round when placed in areas with good drainage or dry places like between the sidewalk and the street.

Sell said the climate here works well for succulents.

"In Oregon, we don't have too high of highs or low of lows, so we are able to have so many types of plants and succulents," she said.

The business also has a collection of tender succulents that can grow outdoors in containers during the summer and need to be brought inside in the fall.

"Those are popular and the amount of colors is spectacular," Sell said. "I have quite a few in my own house — it's like bringing the outdoors inside."

Sell took Sedum Chicks from hobby to full-time business in 2007, and she also expanded the number of shows and markets she attended as a vendor. Sedum Chicks succulents were available online for about five years, but due to challenges with shipping and lack of staff, Sell decided to phase that out and focus on in-person events.

The plants bring people together, not only at the event itself but also afterward as well. Oftentimes, someone will get a particular succulent and swap cuttings with a friend who purchased a different variety.

At the start of the coronavirus pandemic, when all in-person events were canceled, Sell had to pivot and began working full time outside of the nursery.

"Now, we are kind of back to where we had started but as a part-time hobby," Sell said.

She said she's glad she's able to keep Sedum Chicks going now that events and markets have returned.

"We enjoy it and we have a great collection and a following of people," Sell said.

Emily Lindblom is an Oregon-based freelance journalist covering business, environmental and agricultural news. She has a background in community reporting and a master's degree in multimedia journalism. Visit her website at emilylindblom.com or reach her at emily@emilylindblom.com.





Taking your plants to market

Farmer's markets, gardening events and open houses bring plant growers and shoppers together

BY DEBBIE TEASHON

HAT MAKES A PERSON go to local plant sale events and farmer's markets? Is it the thrill of the plant hunt or a chance to mingle with fellow gardeners? Perhaps it is because it is a place to pick up plant treasures not readily available at local garden centers and big box stores.

When independent, specialty nurseries participate in plant sales and farmer's markets, it's a winning combination connecting plant buyers to specialty growers.

"When you grow it and sell it directly to your customer, that alone is huge," said longtime vendor Rosie Sullivan, owner of N & M Herb Nursery in Hubbard, Oregon. "We had an advantage when we sold at farmer's markets; I was there every Saturday and interacted with my customers."

Shoppers say plant sale events provide them a diversity of unusual plants.

Jane Finch-Howell, longtime Portland writ-

er for the Mulchmaid blog (https://mulchmaid. blogspot.com/), shared why she travels to plant sale events.

"I always attend the Hardy Plant Society's sales," she said. "The specialty plants and vendor knowledge at these sales are unprecedented. Often, it's the only opportunity to buy from wholesalers in person, or regional but distant vendors. I go for the thrill of the hunt, but I usually have a short list of things I also hope to acquire."

Customers also go to plant-focused fundraising events to support local nonprofits. Janet Endsley, seminar and judging manager for the Northwest Flower & Garden Festival in Seattle. said, "I always loved the Northwest Horticulture Society plant sales. They have many great specialty nurseries that carry many unusual plants you won't find in standard nurseries."

Wendy Stone, a plant shopper who lives close to Salem, said, "I go to the native plant sale that Deepwood Estate in Salem

Clockwise, from upper left: Dancing Oaks Nursery owner Leonard Fultz and his nephew, Bee, assembled a sea of plants for the Hardy Plant Society of Oregon's Hortlandia 2018 event in Portland, Oregon.

PHOTO COURTESY DANCING OAKS NURSERY

A gorgeous display of plants for sale at N & M Herb Nursery in Hubbard, Oregon.

PHOTO COURTESY N & M HERB NURSERY

Saturday crowd at 2020 Hortlandia Plant Sale.

PHOTO COURTESY GREATER PORTLAND IRIS SOCIETY

puts on, mainly because I like to support them and I like to plant natives in my yard. I also follow the Cascade Nursery Trail group in the northern Willamette Valley, and the Salem Hardy Plant sales."

Many independently owned specialty nurseries participate in garden club and society sales and other nonprofit fundraisers, scattered sites, consumer shows and farmer's markets.

Local alliances

Specialty nurseries formed an alliance known as the Cascade Nursery Trail (https://www.cascadenurserytrail.com/), with eight participants scattered around Oregon's northern Willamette Valley. All of them happen to be Oregon Association of Nurseries members. The trail is open to the public on specific dates during the growing season.

"We are a group of individual specialty nurseries," said Carol Westergreen, owner of Out in the Garden Nursery in Molalla, Oregon. "Our nurseries grow and sell plants and don't offer other items, whereas garden centers have different offerings beyond just plants. Some [businesses] in our group are mail order, some are by appointment only and some have regular business hours. And some have outstanding gardens customers can enjoy."

Cascade Nursery Trail schedules three weekends a year — Memorial Day weekend, the second weekend in July, and the last weekend in September — encouraging people to come out and see what each nursery offers.

"Part of the reason we picked these dates is that many of us make other offsite sales in April and May," Westergreen said. "We have different offerings. Some of what we sell later in the season won't be out of the ground during the earlier sales. We encourage people to come to us instead of dragging everything to them.

"My favorite saying is, it's not all about spring. We have this great climate, you should have something in your garden that's beautiful 365 [days]."

10 tips for selling at farmer's markets and plant sale events

- 1. Learn your audience.
- 2. Grow quality plants.
- 3. Find your niche.
- 4. Follow event rules.
- 5. Give out your schedule at events.
- 6. Showcase a larger plant as a focal point to catch people's eyes.
- 7. Be an expert at what you grow.
- 8. Have a social media presence such as Facebook and Instagram.
- Keep an email list of your customers.
- 10. Things you'll need:
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 - A strong tent, especially for spring events when winds can knock over flimsy ones.
 - · New or unusual plants.
 - Plant labels
 - Photos help sell plants when not in flower.







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Year-round interest

Successful plant sale events inspire people to plant shop at other times of the year.

"You can drive around and tell who shops for plants only in April and May by what's in their garden," Westergreen said with a chuckle. "They grow flowering cherries and dogwoods, rhodies and azaleas, some arborvitae for year-round interest, plus a few hanging baskets. We don't have those products. Our goal is to have items that you can't buy in a box store."

Kristin VanHoose, owner of specialty nursery Hydrangeas Plus in Aurora, Oregon, said her scheduled events usually start in April, with Hortlandia in Hillsboro, Oregon.

"We've been doing plant sales for a long time," she said. "Gardenpalooza in Gervais is the next one. Then I do the Master Garden Sales in Canby, which is usually crazy because of the weather. It can be pouring down rain, or it can be 90 degrees."

VanHoose noted she also participates in the Willamette Valley Hardy Plant Sale in Eugene at the Lane County Fairgrounds. "With a stock of over 300 varieties of hydrangeas and hydrangea relatives, I never know what will sell. I bring varieties that I have overstocked, and the more unusual varieties for the plant geeks who are crazy for them."

Driving out to Canby can be daunting for some shoppers, so VanHoose brings the product to them via these events. She recruits her children to handle the sales so she has time to answer questions.

Spring sales mean no blossoms on the hydrangeas. VanHoose prints out labels with color photos showing the flowers. Her catalog for mail orders offers flower photos and descriptions. Both are winning strategies so customers can see the flower while the plants are still green.

Open house events

After the spring sales, VanHoose hosts open house days at the nursery. She has an open house with an overstock sale and then participates in the Cascade Nursery Trail. With a good portion of her hydrangea inventory growing in larger >

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PLANT SALE EVENTS

pots, it's hard work to take big plants to outside plant sale events.

Many vendors live far enough away from population centers that people won't readily drive by or even see the location. Plant sale events help the vendors become known to buyers.

Every year, Cascade Nursery Trail prints out a map with details about each nursery participant. "We get the maps into the hands of people who attend the events," VanHoose said. "They'll come out and see us at our location as well."

The group also sends open house fliers to all the Oregon garden clubs and the Puget Sound region in Washington.

"Clubs come down here from Seattle to tour our gardens and nurseries," VqanHoose noted.

There are downsides to participating in outside plant sale events, VanHoose explained. "It takes time away from the business," she said. "When I'm at a sale, nobody is at the nursery."

Labor of love

Most plant vendors agree that participating in outside plant sales is a lot of work.

Ellen Egan of Egan Gardens said, "I've quit all offsite retailing except the Salem Hardy Plant Society sale. It's exhausting."

Westergreen advised nurseries to put energy into events that do well, and drop the ones where sales are sluggish.

Sullivan began selling at plant events in 1992. Affectionately dubbed the "Queen of Plant Sales" by another grower, Sullvan's resume includes club plant sales and farmer's markets for nearly 30 years. Every year she set up at a farmer's market every week from Mother's Day weekend through October. She did this every year until the pandemic halted events where people gathered.

Sullivan began her business using a tiny backyard greenhouse.

"For us, the farmer's market worked well. For one, the markets were kind of new at that time. They provided a place to sell without having a storefront. Selling there put our product in front of thousands of people walking by."

Sullivan has a retail greenhouse "out







in the boonies. I always thank my customers for getting here. They have passed 12 nurseries after they get off the freeway to come to my place. Our traffic is from people who have met us and know our products from plant sales and the farmer's market. That is why they go out of their way to come to our nursery."

Sullivan is retiring from farmer's markets and will now spend her time participating in the Cascade Nursery Trail.

Previous page: Some uncommon plants found in nursery gardens include Alstroemeria × bomarea 'Fred Meyer' and Erythrostemon gilliesii. PHOTOS BY DEBBIE TEASHON

Below: The gazebo in the garden at Sebright Nursery is one of the top attractions for plant buyers on the Cascade Nursery Trail. PHOTO COURTESY OF SEBRIGHT NURSERY





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PLANT SALE EVENTS

The customers will now come to her.

"We sell happiness," Sullivan said. Her favorite moments come when her customers walk through her greenhouse door and say, "I'm so happy to be here."

Good returns

Many sales events bring back customers year after year. You might even say most customers are serious gardeners and passionate about plants. When they come to these events, they come to do some serious shopping.

Gail Ann Langellotto, professor of horticulture at Oregon State University (OSU) and statewide coordinator for the OSU Extension Master Gardener Program organizes plant sales in Oregon. She said she believes the plant sales are successful because the volunteers have long-term relationships with the vendors.

"Master gardener volunteers pour so much time, enthusiasm and passion into the events. For the groups that host vendors at plant sales and plant fairs, they have developed long-term relationships with them, and they want to see them succeed."

Although the event organizers give past vendors first sign-up times, first-time participants are encouraged to get on their waiting list.

"The organizers generally strive for a good balance amongst vendors, to ensure a diversity of plant materials, as well as crafts or garden tools," Langellotto said. "Besides quality, I believe the biggest determinant is what the vendor has to offer, that isn't currently represented at the event. The Master Gardener volunteers strive to offer quality and variety to their shoppers. In essence, Master Gardener plant sales and fairs that feature outside vendors are curated events. Shoppers can be sure that they will discover something new, something fun and something unique."

Debbie Teashon is co-author and photographer for Garden Communicators award-winning Gardening for the Homebrewer, and a regular contributor to regional magazines. Her gardening website is www.rainyside.com.







Events to bring in the masses

In a post-pandemic world, retailers can use classes and events to establish new traditions and spur repeat customer interactions

BY TRACY ILENE MILLER

ETAIL GARDEN CENTERS and nursery operations looking for more customer traffic often turn to in-store special events and classes.

These give customers an added reason to drop in. While there, they may be tempted to buy something before leaving. They also may feel an added sense of connection to the nursery, which is a long-term benefit.

"I think retail has become all about the experience of the customer," said Brian Bauman, general manager at Bauman's Farm and Garden (Gervais, Oregon). "I often tell people our location is a disadvantage — we are on the way to nothing — [but] when they do get here, our location is a huge advantage because you feel you are on a farm."

Oregon retail nurseries and garden centers are strategic in creating unique offerings yearround that sustain revenue, nurture their loyal customers, and build connections with new customers. Here we look at some of the ways some of Oregon's retail nurseries and garden centers are doing just that.

From inside to outside

Swan Island Dahlias (Canby, Oregon) has been in business for nearly a century, offering the largest nationwide catalog of online dahlia sales. Its online identity of dahlias.com is a destination unto itself, but the family-run farm has become a physical destination as well. This is largely due to its annual Dahlia Festival, held in late summer.

The event has had to adapt, however — especially in light of COVID-19 and its associated shutdowns and precautions.

In its earlier format, the annual festival took place over two summer weekends, attracting more than 40,000 people. The event's indoor displays were the big magnets, featuring more than 400 floral arrangements of dahlias and over 15,000 cut dahlia blooms.

Clockwise, from top left: Photos taken at last year's Gardenpalooza event, which drew dozens of exhibitors, such as Plant Something Oregon, and hundreds of plant shoppers. Lower left: The grand topiary entrance to Gardenpalooza.

PHOTOS BY JESSICA JENSEN

Below: Sunflower Saturday at Bauman Farms. Right: Chicks Night Out. PHOTOS BY JESSICA JENSEN

In addition, there were floral arranging and dahlia tuber dividing demonstrations, talks on dahlia culture, music, balloon artists, face painting, food and more. All of this was designed to highlight the year's dahlia selections and stoke customer excitement about purchases.

But in 2020, the COVID-19 pandemic forced changes. Management made the heartbreaking decision to cancel the well-attended, well-loved indoor displays.

Led by its go-getter manager Heather Schloe, daughter of owner-operator Nicholas Gitts, Swan Island Dahlias refashioned its festival into an extensive roster of outdoor-centric activities. These drastically changed and expanded the farm's retail event schedule and kept the customers coming through.

In 2020, the fields were open and little else. But by 2022, the farm was playing host to a non-stop schedule of outdoor events featuring music, food trucks and a weekly vendors' market for essentially two months. Class offerings included floral arranging; dahlia tuber-dividing demonstrations; dahlia culture classes; pyrography (wood burning); watercolor and acrylic painting sessions; an alcohol ink workshop; a macrame rainbow class; yoga; and DIY walnut charcuterie board making, a repeat sellout class,.

"Some of the classes are free, some of them have a fee associated with them, based on the artist's fee," Schloe said.

Overall attendance is similar in the new format, but now it is spread out over eight weeks in August and September. Class-goers mingle with other visitors to the farm — nature lovers, dahlia buyers, locals biking out for lunch — who get to roam the nearly 50 acres of the farm, featuring hundreds of dahlia varieties, to choose their purchases for the next year.

"By opening the farm and allowing them to visit, and letting them order and walk the fields, it builds more interest," Schloe said.

In 2021, Swan Island Dahlias started a Friday vendors' market that switched last year to Sundays. The vendors sell everything from baked goods to bath products to handmade wood products and crocheted items.



Classes are listed and advertised through social media, the ticketing website Eventbrite.com and media outlets. Bookings begin in February and March, and the schedule is released to the public in May. When classes sell out, Schloe books more.

Some customers said they missed the indoor displays, so Schloe considered bringing them back in 2022. She opted not to because of the advanced planning and booking it would have required. For example, the florists must be booked a year in advance, during prime wedding season.

"When we looked at the dates in December 2021, we still had restrictions in place, and we weren't willing to put people's livelihood in jeopardy," Schloe said. "The last thing I want to do is cancel on them last minute."

Plus, the indoor displays required a mass of volunteers and concentrated staff time, putting up and taking down the displays twice in two weeks. The new eightweek festival schedule is more stable.

In the end, it made the most sense to invest in a new set of traditions — and customers seem eager to embrace them. "It has added a whole new dimension to the farm," Schloe said.

Maintaining momentum

COVID-19 also created shifts at Bauman's Farm and Garden in Gervais, Oregon. The retail nursery, bakery, produce market and gift shop is well known for an expansive calendar of events to bring folks in. "In retail, you have to keep your business top of mind for your customers, so you get them to come back to the farm many times per year," Bauman said.

To balance staff needs and customer engagement, the business cut back to a roster of about 10 primary events spread throughout the year.

One priority in that lineup was Bauman's hands-on custom hanging basket classes. Over two days and three classes in January and February, more than 250 people show up for hourlong sessions — one for shade plants, and two for sunloving plants. These rev up interest in new plant introductions, the design process and plant combinations/compatibility.

"I walk them through the whole process of how we grow them," Bauman said.

He brings out cuttings that are arriving and discusses, with picture-focused handouts of displays of finished baskets, useful plant combinations, care and upkeep. Customers get excited to design their custom baskets. They make their plant choices and pay a \$10 nonrefundable deposit per basket. Most people make two or three.

Bauman's then grows the baskets out and delivers them by Mother's Day. The classes help with cash flow as well as customer connection. The basket buyers return multiple times over the course of months, checking in with him and asking about their baskets.



"[It's] like checking on their pets or kids," Bauman said. "They become invested in Bauman's Farm."

There's a window for pickup of the finished baskets in spring, when customers pay the remaining balance of between \$40 and \$80. For no-shows, the garden center is still able to sell the baskets.

Aside from the basket classes. Bauman's held two major events in 2022: Gardenpalooza in April, and a Mother's Day event in May.

A partnership between Bauman's and the former local Garden Time television show that is now a podcast, Gardenpalooza includes more than 30 local nurseries and garden vendors, plant displays, garden art, coupons, food and a party atmosphere. Formerly held elsewhere, Gardenpalooza moved to Bauman's last year. "It filled a hole for us," Bauman said. He hopes it will continue to fit that slot to build to Mother's Day activities.

A fall season lead-in at Bauman's is the popular early September, "ladies only" Chicks Night Out, including special sales, vendors, classes, music, food, massages and a bake-off for a diamond necklace.

That is followed three weeks later by the weekslong Harvest Festival that draws in families and kids of all ages, and lasts through October, bookended by the lauded Bauman's Cider Festival.

Then there is a short break before another focused event in November, the Top

100 Night, which occurs the day before the doors of the Holiday Open House open to the public. For the evening event, Bauman's shuts down to focus on its top customers and a plus-one guest, nearly 140 people total, to provide a relaxed night of dinner and first dibs on the holiday offerings.

Each person attending walks away with a thank-you bag with something from each department, like special towels, baked goods, jars of gourmet food, a plant and other goodies. All staff attend, "as it is a great opportunity to say 'Thank you' to the people who write their paychecks," Bauman said.

New this year is a booklet of coupons targeting different times of year, to give customers further incentive to shop. The holiday market rolls through to Christmas, when Bauman's closes for a week off, and then everyone is back in the greenhouses in January making hanging baskets.

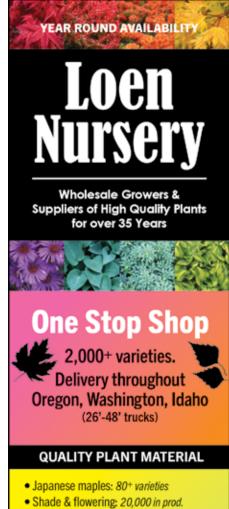
These events become traditions that Bauman's has built over years.

"We start small and build on that experience, which is what has made us very successful with classes and events," Bauman said.

The next generation of gardeners

Looking at the solid calendar at Garland Nursery (Corvallis, Oregon), you'd hardly notice that classes have been pared back, but they have been since COVID. They've adjusted to more preseason and offseason classes..

"The reason is to help educate



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either new gardeners or existing gardeners who need a refresher," co-owner Brenda Powell said. "Education is one way to draw in new gardeners and people relocating to our area, and getting kids involved in gardening."

February through May are busy, summer tapers off, and then October picks up again. Classes with titles like "Houseplants Basics," "Beginner's Guide to Gardening" and "Gardening Basics" mix with ones on insects, edible landscaping and beginner veggie gardening, and sometimes two in one weekend.

Their calendar of classes establishes Garland as an expert resource.

"People will call or come in," Powell said. "That will bring them to us versus to a box store, because they know they will get an answer here."

Classes also bring in customers in the off-

season, sometimes multiple times, when they otherwise might not drop in at all. That translates into more traffic and increased sales.

The most successful classes at Garland are the "tried and true," Powell said. These include pruning, rose care, hanging baskets, holiday centerpieces, wreath making and "anything to do with edibles."

Classes are free, but workshops carry a charge for the needed materials. Attendees often get a one-time 10-20% off coupon as an incentive to shop.

The classes are taught by staff or outside instructors. The subject matter can evolve. The nursery's leadership sits down at least quarterly and maps out events 3-4 months at a time. They'll debrief on what did or didn't work previously, and brainstorm new ideas.

"Every year, we try to think about something new," Powell said.

Kokedama, otherwise known as Japanese moss ball making, is one example. The trend started heating up 5-6 years ago, so Garland offered a class.

"We'll get lots of new ideas from younger people," Powell said. "Or if something didn't work 10 years ago, then we may decide to do it again."

In addition to classes and workshops, Garland offers a series of annual events. The schedule includes two open houses. one in spring and one in fall. There's music, food trucks, wine tasting, buying specials and door prizes.

Garland also hosts 3-4 Members Weekends each year. These are smaller versions of the open houses, with members-only discounts and sales, presale access, door prizes and refreshments.

The largest of the retail nursery's events, the Art & Wine in the Garden event, occurs in July. It is a Corvallis tradition, launched by Powell's mother more than 20 years ago. There are booths with local artists, painters, potters and jewelry makers, as well as a farmers' market and food trucks. All these events bring in associated revenue from the vendors, as well as increased customer flow for the nursery.

"We do draw new people to these events, and our sales significantly increase for that weekend," Powell said.

The customer as satisfied guest

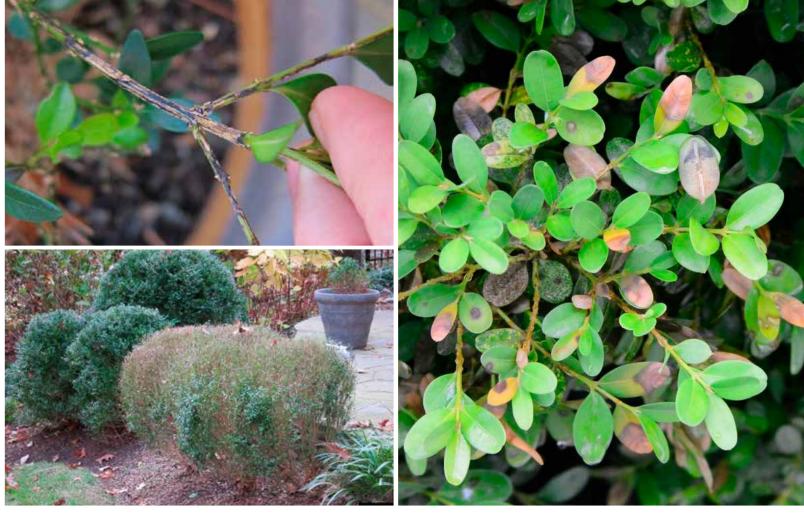
Powell looks at Garland Nursery's events as one might look at in-home entertaining for friends.

"When you invite company over, you have to get everything looking good," she said. "It sets a time frame for readying for that season. We make sure everything looks great - blooms, color and our own art."

For her, it just stands to reason: if customers feel at home and taken care of, they'll more likely want to return.

Tracy Ilene Miller is a freelance writer and editor who covers several topics, including gardening. She can be reached at tmillerwriter@gmail.com.





Boxing out boxwood blight

Growers must work vigilantly to keep the fungus that causes boxwood blight out of their nurseries

BY JON BELL

OXWOOD IS one of the most popular landscaping plants around. It's evergreen and pretty, it provides natural privacy, it's easy to maintain and it can be shaped into attractive ornamental topiaries. In fact, so popular is boxwood that it's the best-selling broadleaf evergreen in the United States — and Oregon is by far the largest producer.

But over the past decade or so, even while sales have climbed, boxwood and the nurseries who grow it have been trying to fend off a stubborn threat. It comes in fungal form, quietly but quickly. It shows up as dark spots on boxwood's green leaves and diamond-shaped lesions on its stems. It fries leaves to a strawcolored crisp and can defoliate plants in less than a week, decimating home landscapes and treasured public gardens.

The culprit? Boxwood blight.

First discovered stateside in 2011 — it likely hitched a ride from Europe — boxwood blight is a fungal disease that spreads via waterborne spores that get splashed onto nearby boxwood. The spores can also be transmitted unwittingly when infected plants are transported among nurseries. Soil, equipment, animals and even clothing can be contaminated with boxwood blight spores.

The fungus also produces long-lived structures (microsclerotia), which can survive for multiple years in soil and organic debris. An outbreak of boxwood blight can wreak havoc on nurseries who count boxwood as one of their primary offerings.

"Depending on the scale, the impact can be quite significant," said Jerry Weiland, a research plant pathologist with the USDA-ARS Horticultural Crops Research Laboratory in Corvallis, Oregon. "If there's a nursery where 80% of it is boxwood and they get blight, the impact is a big deal. I know of at least three growers who have lost probably in

Clockwise, top row, left: Black stem streaking and (right) early leaf symptoms of boxwood blight on Buxus spp. L. Lower left: Leaf necrosis, defoliation on Buxus sempervirens 'Suffruticosa'.

PHOTOS BY DAVID I., CLEMENT. UNIVERSITY OF MARYLAND, BUGWOOD.ORG

excess of a quarter-million dollars each."

Ever since boxwood blight was first detected in the U.S., efforts have been underway to slow its spread and keep it in check. Here in Oregon, where boxwood is a crucial crop for the nursery industry, experts from Oregon State University (OSU) and the Oregon Department of Agriculture have been working diligently to arm nurseries with the knowledge and tools they need to keep those dark spots from wreaking havoc on one of the state's major agricultural industries.

"One of the most important things is prevention, and one of the main ways we do that is through education," said Luisa Santamaria, an associate professor and OSU Extension plant pathologist who has been working on boxwood blight education and information for the nursery industry since 2016.

Boxwood's big numbers

Oregon's nursery industry has been riding a bit of a COVID-19 wave the past two years, with gross annual sales hitting \$1.9 billion in 2021 — up nearly double over 2019's \$1 billion total. Helping fuel that boost is boxwood. Nationwide, boxwood sales topped \$141 million last year, and in Oregon — far and away the leading boxwood producer in the country — nurseries have only been selling more and more.

According to a 2021 study in the Journal of Environmental Horticulture, Oregon tallied boxwood sales of \$21.9 million in 2009, \$23.1 million in 2014 and \$27.1 million in 2019, putting Oregon on top with about 20% of all the boxwood in the U.S. The No. 2 state is California, which produces about 10% of the boxwood in the country, with sales of \$15 million in 2019.

So, it's no surprise that a threat like boxwood blight gets a fair amount of attention in Oregon.

"In terms of the challenges associated with boxwood blight, it is still huge," said Chris Lee, shipping and farm manager at Eshraghi Nursery in Hillsboro, Oregon. "It is more persistent than many other stresses, as there is no way to eradicate

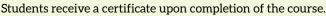
Knowledge is power

As a nursery pathology specialist and bilingual educator at Oregon State University, **Luisa Santamaria** conducts a unique training program to help educate nursery managers and frontline workers on basic plant health and disease prevention.

The online course, available in English and Spanish, helps participants better recognize the signs and symptoms of plant diseases, including boxwood blight, in the early stages.

Called "Disease Prevention and Diagnosis for Nursery Crops," the course teaches nursery workers how to

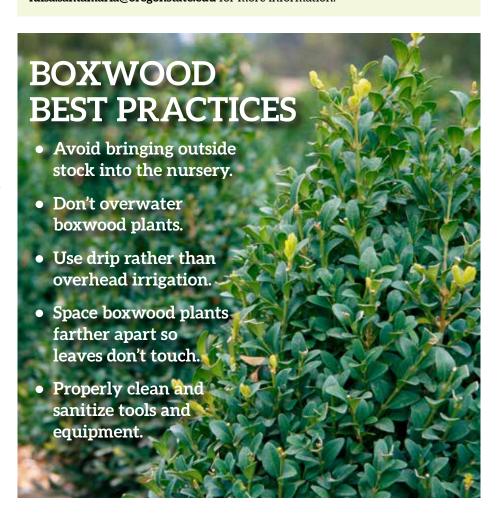
understand, manage and prevent disease outbreaks.



Find more information on the OSU website at https://workspace.oregonstate.edu/course/plant-disease-prevention-and-diagnosis-for-nursery-crops.

OSU also offers additional resources through its "Healthy Plants and Bilingual Education" program. Visit the OSU website or contact Santamaria at luisa.santamaria@oregonstate.edu for more information.





the pathogen without destroying the host plant. Coupled with the consistent, high demand for boxwood, boxwood blight keeps us more vigilant than other stresses."

Lee said the nursery sells about 65,000 boxwood plants annually, totaling more than \$800,000, and its on-site inventory tops 340,000 boxwood of various sizes, varieties and growing stages.

"Boxwood is an important plant at Eshraghi Nursery," Lee said. "Our specialty remains grafted Japanese maples and grafted conifers, but we grow an expansive catalogue to meet customer expectations. Boxwood is a common plant that our customers often use for efficient shipping, reducing freight percentages on landed costs."

Fighting blight

Keeping boxwood blight at bay is no small labor. Thankfully, Oregon's dry summers, which the fungus doesn't like, help slow it down, but the damp springs and falls are more challenging.

Weiland said the main thing nurseries can do to avoid blight is to not bring in stock from other nurseries. In the past four years, he's surveyed about 20 Oregon nurseries, 16 of which had boxwood blight; 10 of those got it by unknowingly bringing in infected plants.

"That's the No. 1 route for [boxwood blight] to end up in a nursery, because a lot of times, it's hard to see the symptoms on plants when they come in," Weiland said.

Ross Dumdi, plant health manager for the West Coast for Bailey Nurseries, said Bailey has been vigilant about boxwood blight. Since the disease's arrival, Bailey has been adamant about having a closed loop system. Bailey propagates and grows their own boxwood, so nothing comes in from outside, either on boxwood or other host plants.

Additionally, Dumdi said Bailey does not permit customers or tours to come to the nursery because there's always a chance that sticky boxwood blight spores may be tagging along. Bailey also doesn't allow customers to return boxwood plants to the nursery and makes sure those customers dispose of them appropriately, usually by burning them.

Eshraghi runs a similarly tight ship, with propagation cuttings sourced only from in-house, traceable material. Proper irrigation and drainage management are important at the nursery as well, as is proper sterilization during pruning and fertilizing.

Weiland said overwatering can be a big contributor to boxwood blight's spread. The disease requires about five hours to infect a plant, so if there's moisture on the leaves for that time period or longer, blight spores are more likely to settle in.

"A lot of growers could irrigate less than they are," Weiland said, adding that avoiding overhead watering can also help dissuade boxwood blight.

Boxwood plants should also be spaced farther apart to help discourage the spread of boxwood blight. If they're packed closely together, the canopy may look healthy, but underneath, which is harder to access, may be a different story.

Compliance for the win

To help nurseries in their fight against blight, both OSU and the Oregon Department of Agriculture (ODA) offer educational and other resources. The **ODA's Boxwood Blight Cleanliness** Program (BBCP) is a voluntary program that tracks propagation practices, where plants come from and where they are located in the nursery, scouting protocols, water management and sanitation. ODA inspectors also visit nurseries and inspect stock.

Kara Mills, program lead for the ODA's Nursery and Christmas Tree Program, said the BBCP takes a systems approach and essentially looks at a nursery as if it were a building with a series of fire doors that help with containment. She said eight nurseries are involved in the program at present, including Bailey and Eshraghi.

Lee said participating in the program is rigorous and includes training employees on what to look for, scouting boxwood monthly and other practices.

"Being part of this compliance





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Below: A boxwood plant showing distress due to boxwood blight. Photo by NEIL BELL / OREGON STATE UNIVERSITY



program is not easy," Lee said. "It is more work and the program is rigid. However, the payoff of knowing we are doing our best is essential. Our customers deserve that."

Mills is hopeful that more nurseries will participate in the BBCP to help keep boxwood blight under control. She said the program is all about supporting the nursery industry, not adding an extra burden to it.

"What we really want to do is reduce boxwood blight in our nurseries," Mills said. "If there are nurseries out there that want to do that in a program with lots of support, that's what we're here for."

Lessons learned

Beyond the BBCP, OSU has made education a big part of its role in the battle against boxwood blight. Santamaria has developed educational materials in English and Spanish to help workers learn about boxwood blight, proper sanitation and sterilization, and what to do if they see signs of the disease. She also does on-site trainings and offers online educational opportunities, including a certification program. (See sidebar, "Knowledge is power.")

"I would really like to see more nurseries getting involved in getting their workforces educated," Santamaria said. "It's very important and brings a lot of value."

Although there are some fungicides available to help treat boxwood blight, and though there are some less-resistant cultivars available or in development, boxwood blight isn't likely to disappear anytime soon. As a result, it will

be important for nurseries to continue to employ best practices, educate their employees and stay vigilant.

Lee said Oregon has been a leader in the nursery industry in general, but it's also stepped up in the charge against boxwood blight.

"Boxwood blight has been a challenge to our industry on a national level," he said. "I am not surprised at how nurseries, especially in Oregon, have risen to this challenge. The diligence of Oregon Association of Nurseries and the ODA needs to be applauded."

Jon Bell is an Oregon freelance journalist who writes about everything from Mt. Hood and craft beer to real estate and the great outdoors. His website is www.jbellink.com.

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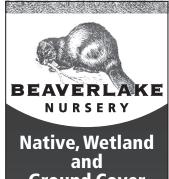
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trent is coordinated by Dr. Lloyd Nackley, associate professor of nursery production and greenhouse management at Oregon State University in Corvallis, Oregon.



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How to catch a thrips

Rigorous scouting can help manage tip-feeding thrips before they cause irreparable damage

BY LLOYD NACKLEY AND MELISSA SCHERR



Inspecting a damaged tip and re-establishing a central leader is a labor-intensive process and costly to nurseries. PHOTO BY MELISSA SCHERR / OREGON STATE UNIVERSITY

HRIPS BELONG TO THE INSECT order Thysanoptera, of which there are several species that are damaging to nursery and ornamental crops. Whether there is only one or many, we call them thrips regardless, just like with other animals (e.g., sheep and deer); the word "thrips" is both singular

And many thrips there are! Entomologists have described over 7,000 species of thrips worldwide. Some feed on plants and are considered agricultural pests, and yet there are also thrips that are not considered pests. Non-pest species can feed on fungi, leaf litter, debris or other small arthropods. There are even thrips that feed on other thrips, aphids, mites and whiteflies.

Among the pests, the western flower thrips (Frankliniella occidentalis) is a prime suspect responsible for tip-feeding damage in nursery and ornamental production. In the Pacific Northwest, damage has been reported with azaleas, Amelanchier, cherries, Chrysanthemum, crab apple, hawthorn, Gerbera, laurel, mountain ash, purple leaf plum and Viburnum, as well as several maples: Norway, red, sugar and Japanese.

Identification is an essential step for any good pest control program. Thrips, in general, are small, slender and delicate-winged insects that can be light yellow to dark brown in color. Their small size and wings are the easiest identifiers for this group. The wings of thrips appear finger-like, fringed with long setae or hairs.

Adult thrips are no more than 0.05 inches in total body length, and the larvae are smaller and wingless. For some species of thrips, the behavior of the insect, host plant preference and overall appearance can aid in identification. This requires good optics, such as a high-powered microscope and mounting the specimens on slides to get a clear view.

Feeding damage

Thrips breed in flowers and on the leaves and buds of host plants, which span hundreds of plant species. Adult females can produce up to 150-300 eggs over a lifetime. Thrips have a very short life cycle that allows them to develop in six stages from egg to adult in just two weeks, depending on ambient tem-

Growing Knowledge

Below: Damaged new growth on a red maple. Thrips and other insects will preferentially feed on new tissues because they are more tender and often have more nutrients compared to older leaves. This feeding damage can disfigure the growth of a shade tree and require intervention to improve the tree structure. Photo by Melissa scherr / Oregon State University



peratures, followed by rapid reproduction. Thrips can produce as many as eight generations each year.

Most of the tip damage caused by thrips does not occur immediately in the growing season, but rather when nearby crops are harvested. In the absence of this food source, thrips will move into nursery and ornamental production areas to find alternate food sources.

For their small size, thrips are highly mobile in their environments; they can move long distances using thermal updrafts and wind currents, and can be transported easily on plants or in plant medium. Migrating populations can be large enough to cause extensive damage to plants, contributing to tip death, terminal distortion, blackened leaves and stunted growth.

Both the larval and adult stages feed on new growth, and cause symptoms of leaf distortion and necrosis. Insects feed by puncturing the outer layer of the host cell walls using a rasping single mandible and sucking out the contents of the plant cells. This creates stippling, discolored flecks and "silvering" on mature leaf tissue. Scar tissue left from feeding damage distorts leaves, flowers and fruit as the tissues grow. Extensive feeding may cause terminal death.

Initial damage to new shoots is less recognizable, as it mimics damage done by other types of feeding insects, pathogens and abiotic factors. Feeding damage by insects may be confirmed by checking for black specks of frass (feces) on the surface of leaves. Though the cosmetic appearance of feeding sites is affected, thrips rarely kill trees and shrubs. More serious injury is done to young herbaceous crops sensitive to the types of viruses vectored by thrips.

Scouting for thrips

Thrips are difficult to scout accurately because of their small size and ease of hiding in crevices of plant structures. When feeding on the tips of newly emerged tissues, thrips may no longer be present by the time the damage is noticed. Continuous monitoring is suggested to confirm the presence of thrips on hosts, or any other alternate insects that cause similar damage such as mites or true bugs.

Sampling for tip-feeding insects on red maples

There are several ways to scout for and catch a thrips:

- The "beat sheet" method: Gently shake foliage or branches above an extended sheet of light-colored sheet of paper, and collect with an aspirator or paintbrush into vials.
- Exhale onto the host plants where you are searching to encourage thrips to attempt escape — this may be a behavior used by thrips to avoid being eaten by an herbivore. Then use an aspirator and paintbrush to remove the thrips by hand, gently turning over leaves and checking in plant crevices.
- Sticky traps. Yellow cards are more attractive to thrips than blue. Place the traps on or near host plants. Traps should be placed just outside of the canopy, roughly one per 200 square meters. (Note: Sticky traps are attractive to many pests and will draw whiteflies and aphids in addition to thrips, which should be considered during identification.)
- Prune parts of plants (e.g., ends of branches) with suspected infestations and place them into a vial of ethanol, shaking the pruning to dislodge any hiding thrips. Thrips collected should be preserved in vials containing 70% ethanol. Use filter paper to drain the fluid for viewing specimens or slide mounting.

Thrips management

For positive identification, an expert should be consulted. However, many of the pest species of thrips respond the same to chemical control tactics, so it may not be necessary to determine the exact species.

Cultural control

Changing production to minimize likelihood and effect of thrips infestations can be achieved by:

Developing regular sampling and

Below: Dr. Melissa Scherr samples for tip-feeding insects on red maples. Photo by Melissa Scherr / Oregon State University





monitoring protocols to identify invasion or "hot spots" early;

- Training personnel to identify thrips and recognize damage;
- Practicing good sanitation. In greenhouses, thrips can be excluded through the use of screens (135 μ has been shown to greatly reduce invasion rates) and by repairing holes and tears in walls and dividers;
- Maintaining grassy areas by mowing around production sites to prevent population build-up and invasion;
- Preventing weeds from flowering onsite or in nearby areas by using weed barriers to prevent weeds from becoming established;
- Pruning any infested tissues and removing them quickly. Buds, blossoms and branch tips can provide shelter for insects and re-contaminate the site;
- Disinfecting areas thoroughly when rotating plants;
- If possible, giving areas within the production site "plant-free" periods in rotation;

- Monitoring fertilization rates. Overfertilized plants (especially nitrogen) attract and support larger populations of thrips;
- Preventing production workers from wearing yellow or other brightly colored clothing that may attract thrips, helping them move between areas of the production site;
- Quarantining new plant material and potting media before use.

Biological control

Commercially available and naturally-occurring biocontrol agents can be employed to combat thrips infestations. Some of these options are better suited for use in a greenhouse for prevention and management of thrips outbreaks.

Native natural enemies may be encouraged by limiting dust cover on plants that might interfere with predator ability to find thrips. In addition, providing alternative food and habitat for natural enemies can enhance their effect on thrips populations.

Fungus (Beauveria bassiana), preda-

tory mites (*Amblyseius cucumeris*, *A. swirskii* and *Stratiolaelaps scimitus*) and insect predators (minute pirate bug, green lacewing, parasitic wasps, rove beetles, predatory thrips and nematodes) are other biological controls.

Chemical control

Several products are available for controlling thrips. However, when utilizing insecticides, make sure that the timing of applications will target the most vulnerable stages of the thrips and will not damage other management methods already in place.

For example, thrips eggs are laid into the leaf and flower tissue of host plants and are protected from most types of topically applied insecticides, and the pupal stage is protected in the soil. Insecticides should be used when larvae and adults are predominantly present.

In addition, if biocontrol agents have been released to assist in management of thrips, do not use an insecticide that will harm the natural enemies,

Growing Knowledge

or time applications to avoid damaging natural enemy populations with insecticide residues.

Conclusions

Some of the most important tools used for management of thrips are insecticides; however, overuse of insecticides can lead to the development of resistance in the insect population.

When it comes to resistance management, the most effective approach is to avoid insect outbreaks all together. Avoiding resistance can be achieved by creating a rotation of insecticide applications — the more different the mode of action (MOA) in the insecticide, the less likely insects will gain resistance to the chemicals used.

All insecticides with a known MOA can be found on the Insecticide Resistance Action Committee website (www.irac-online.org). Once a pesticide rotation has been established, it's important to continually monitor insecticide susceptibility in the insect population. If there is a suspicion that one or more of the insecticides used is building resistance, contact your extension agent for further research and recommendations.

For a full list of chemical control options, consult the sections on greenhouse and nursery thrips in *Pacific Northwest Pest Management Handbook* (online at **pnwhandbooks.org**).

Additional resources

Hodges, A., S. Ludwig, and L. Osborne. Pest Thrips of the United States: Field Identification Guide (https://sfyl.ifas.ufl.edu/media/sfylifasufledu/miami-dade/documents/vegetable-production/chili_thrips_deck.pdf).

Mound, L., M. Hoddle, A. Hastings. 2019. Thysanoptera Californica (https://keys.lucidcentral.org/keys/v3/thrips_of_california_2019/).

Riley, D.G., S.V. Joseph, R. Srinivasan, S. Diffie. 2011. Thrips vectors of tospoviruses (https://doi.org/10.1603/IPM10020).

Van Driesche, R. 2013. Western flower thrips in greenhouses: A review of biological control and other methods

(https://biocontrol.ucr.edu/wft.html).

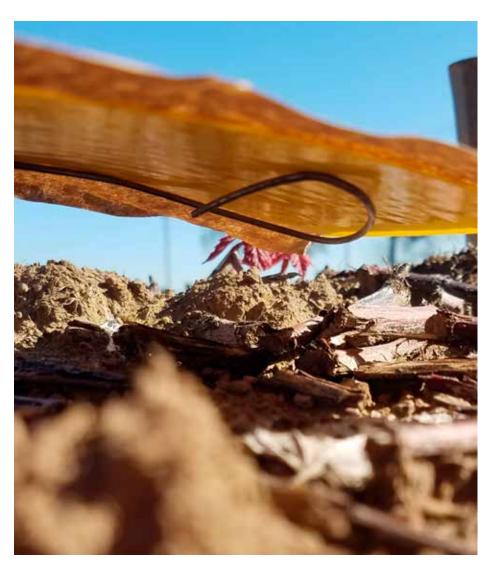
Acknowledgments

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About the authors

Dr. Lloyd Nackley (lloyd.nackley@ oregonstate.edu) is a plant physiological ecologist who brings a systems approach to nursery and greenhouse management research at the OSU Extension Service.

Dr. Melissa Scherr (melissa.scherr@ oregonstate.edu) earned her doctorate in entomology in 2010 from Oregon State University. Currently, her work at North Willamette Research and Extension Center is focused on pest management solutions in nursery and ornamental crops, with an emphasis on natural enemies.



Above: A yellow sticky card placed parallel to the surface of the soil in a freshly stubbed red maple field. The card is placed low to the ground to attract insects emerging from the soil.

PHOTO BY MELISSA SCHERR/OREGON STATE UNIVERSITY





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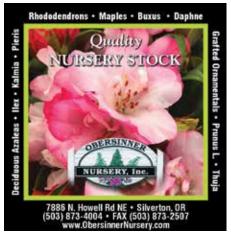
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Time to go big and green

Look around us. There are so many exciting innovations and breakthroughs happening all over the world. Many of these are happening in agriculture, which is no surprise.

We are the stewards of working lands. We know from deep experience how to take what we have, and make something even better from it. It's in our DNA.

The last year has seen some remarkable achievements. Half of this column could have easily been about the James Webb Telescope. I am a space nerd. I geek out on seeing the origins of the universe or witnessing as a black hole consumes a star 10 times the size of our own.

Here is a thumbnail of some cool things pushing us into the new year.

Medical breakthroughs

2022 has been a boon for advancement in understanding and treating chronic conditions, such as high blood pressure, high cholesterol, type 2 diabetes and prostate cancer. Two innovations have stood out to me:

- 1. Next generation mRNA vaccinology. Advancements in the generation, purification and cellular delivery of RNA have enabled the development of RNA therapies across a broad array of applications, such as cancer and Zika virus. The technology is cost-effective and relatively simple to manufacture.
- 2. Alzheimer's drugs. Duke University has two medications being tested head-to-head in a first-ever virtual clinical trial. This one means a lot personally because my mother passed away over five years ago after being riddled and reduced by this dreadful disease. The impact is huge. An estimated 6.2 million Americans ages 65 and older are living with Alzheimer's disease.

A transformative energy source

The creation of a new, limitless energy source is one of the most profound physics challenges ever conceived. Imagine harnessing nuclear fusion — the reaction that fuels our own sun and other stars across the universe — to generate abundant clean energy right here on Earth.

For six decades, the best minds in the world have searched for a fusion break-through to make this energy source more than just theoretical. Last month, researchers announced a milestone: for the first time, a fusion reactor has produced more energy

than was used to trigger the reaction.

I majored in political science, not science science, so let's go to what the Science Daily folks said about this momentous advancement: "On December 5, an array of lasers at the National Ignition Facility (NIF), part of the Lawrence Livermore National Laboratory in California, fired 2.05 megajoules of energy at a tiny cylinder holding a pellet of frozen deuterium and tritium, heavier forms of hydrogen. The pellet compressed and generated temperatures and pressures intense enough to cause the hydrogen inside it to fuse. In a tiny blaze lasting less than a billionth of a second, the fusing atomic nuclei released 3.15 megajoules of energy — about 50 percent more than had been used to heat the pellet. Though the conflagration ended in an instant, its significance will endure. Fusion researchers have long sought to achieve net energy gain, which is called scientific breakeven."

"Simply put, this is one of the most impressive scientific feats of the 21st century," U.S. Energy Secretary Jennifer Granholm said at a Washington, D.C. media briefing.

A moon shot for aggies

The next few decades will be critical for the industry to jump into the quantum tunnel of advancement or be left behind. There are two areas where this will be especially important: water and climate.

A battle over 100 years of Oregon water law is underway. There is no doubt that water availability is constrained. The primary factor is that there is less snow-pack in the mountains. We literally watch the water flow by into the ocean without looking for ways to store winter water when we need it. We will not get that opportunity if we don't first find ways to objectively measure how much water is available in the first place.

Measuring water use is a political football. In Oregon, fringe environmentalists assign the blame for water shortages to agriculture, when in fact agriculture has become increasingly efficient with water reuse and drip irrigation.



Jeff Stone

OAN EXECUTIVE DIRECTOR

State Rep. Mark Owens, a Republican farmer out of Crane in Eastern Oregon, is a leading voice on water. His district — comprised of Baker, Grant, Harney, Malheur and part of Lake counties — has very challenging water issues.

Rep. Owens is working with the agricultural community to find a better way of measuring water, in the hopes this will prevent conflict. Evapotranspiration includes water evaporation into the atmosphere from the soil surface, evaporation from the capillary fringe of the groundwater table, and evaporation from water bodies on land. Evapotranspiration also includes transpiration, which is the water movement from the soil to the atmosphere via plants.

Regarding carbon, the big issue before us is to quantify the carbon sink of what the nursery and greenhouse industry grows every day. Where there's a need to sequester carbon, we and the forest products industry are a significant part of the answer.

Working lands do more to help, but they get little or no credit, so the OAN will focus on changing that in 2023. Our members grow green goods from propagation to sale to a retail garden center or rewholesaler. Then our landscape partners get the plants into the ground, where they continue to sequester carbon throughout their entire lifecycles.

We will make the case to elected leaders from Salem to Washington, DC that working lands are not corporate polluters. Instead of throwing a regulatory hammer at natural gas and fossil fuels to make the source more expensive, we should all work to find alternatives and have a transition plan to get there. Together, we can literally help the planet grow its way out of the crisis.

Let's use all the science and innovative spirit that we can muster in this new year.





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