**APRIL 2021** 

# The Greenhouse Issue PEOPLE • PLANTS • PRODUCTION

A grower goes home

Approachable containers

Efficient heating

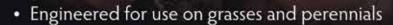
PAGE 31

Villains of the greenhouse

PUBLISHED BY



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# March 2021 Vol. 65 No. 3



# The Greenhouse Issue

Our annual Greenhouse Issue of Digger includes articles on people, plants, production and pests. Read the coverage starting on Page 21.

#### **Profile: Spring Creek Gardens Inc.** 21

Brent and Becky Skiles grew a small fruit stand into a major greenhouse operation that serves big and small buyers.

#### 25 The approachable container Helping consumers break the rules of design, for fun and profit.

### 31

Feeling the heat Greater efficiency in greenhouses can reap big rewards

#### Villains of the greenhouse When seedlings fail, *Rhizoctonia* damping-off, root and stem rot 41

may be the cause.

### Nursery Guide LIVE impresses online visitors 19

The OAN virtual marketplace paired buyers and suppliers for making next season count.



On the cover: Nothing heralds the spring season more than a colorful container. PHOTO BY CHRISTINA SALWITZ

On this page: Left: Conifers and annuals provide a unique color scheme for container gardens. PHOTO BY CHRISTINA SALWITZ. Right: A condensing natural gas unit heater brings in outside air, burns it, then vents it back outside. PHOTO COURTESY OF DEREK SMITH



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|                      |            |

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**Beth Farmer** 

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#### 2020-2021 **EXECUTIVE COMMITTEE**

| Kyle Fessler<br>PRESIDENT                 | Woodburn Nursery & Azaleas Inc.<br>13009 McKee School Road N.E.<br>Woodburn, OR 97071<br>sales@woodburnnursery.com<br>503-634-2231<br>FAX 503-634-2238 | Brighter  |
|---|--|---|
| Josh Robinson<br>PRESIDENT-ELECT          | Robinson Nursery Inc.<br>P.O. Box 100<br>Amity, OR 97101<br>josh@robinsonnursery.com<br>877-855-8733<br>Fax 503-835-3004                               | Brighter<br>days ahead  |
| Todd Nelson<br>VICE PRESIDENT             | Bountiful Farms Nursery Inc.<br>17280 Boones Ferry Rd. N.E.  | This past month marked the one-<br>year anniversary of our lives getting  |
|   | Woodburn, OR 97071<br>info@bountifulfarms.com<br>503-981-7494  | flipped upside down by COVID-19.  |
| Jim Simnitt<br>PAST-PRESIDENT             | Simnitt Nursery<br>138 NE 22nd Ave.<br>Canby, OR 97013<br>simnittnsy@canby.com<br>503-266-9640<br>FAX 503-263-6330                                     | What began as a passing phrase on the news the<br>quickly turned into what some expected could be th<br>Uncertainty became the norm. Expectations cha<br>of direction, and many of us didn't know where to th   |
| Wes Bailey<br>TREASURER                   | Smith Gardens Inc.<br>23150 Boones Ferry Road N.E.<br>Aurora, OR 97002<br>wes.bailey@smithgardens.com<br>503-678-5373                                  | Regardless of global events, March is typically<br>try. It's the time of year when we deal with the prol<br>too much farther than a week into the future.<br>The chaos increased exponentially last spring.   |
| Amanda Staehely<br>SECRETARY              | Columbia Nursery<br>29490 S, Jackson Road<br>Canby, OR 97013<br>amandastaehely@gmail.com<br>503-810-2598   | the day for was no longer "What are we shipping?"<br>The potential was there for the industry to take<br>with economic disaster led to the demise of nearly h   |
| Ben Verhoeven<br>MEMBER AT LARGE          | Peoria Gardens Inc.<br>32355 Peoria Rd SW<br>Albany, OR 97321<br>benv@peoriagardens.com<br>541-753-8519  | us nearly a decade to climb out of that.<br>Fast-forward a few weeks. A brief pause in ope<br>ine our businesses and evaluate ways to move forwa<br>Consumers took advantage of their time at home to<br>As our executive director loves to frequently point of |
| BOARD OF                                  | DIRECTORS  | Gardening, in fact, was not canceled. Gardening r<br>New generations of potential nursery customer<br>ting in a foreign corner of   |
| Tom Brewer<br>ASSOCIATE MEMBER            | HC Companies Inc. ProCal<br>tbrewer@hc-companies.com<br>503-686-8448   | their living room that had<br>become the de-facto "home <b>Looking back or</b>  |
| Adam Farley<br>CONTAINER GROWER           | Countryside Nursery<br>afarley@countrysidenursery.com<br>503-678-0511  | office." They suddenly real-<br>ized that their new home<br>office could sure use a <b>where ou</b>   |
| Ron Kinney<br>Container grower            | Monrovia<br>rkinney@monrovia.com<br>503-868-7941   | house plant or two.<br>Looking out the window to see the sun shining  |
| Joe Dula<br>CONTAINER GROWER              | Moana Nursery<br>joed@moananursery.com<br>503-266-8170   | revealed the need for some landscape rejuvenation.<br>room? Ripe was the opportunity to get outside and   |
| Jesse Nelson<br>IELD / BARE ROOT GROWER   | Hans Nelson & Sons Nursery Inc.<br>jnelson@hansnelson.com<br>503-663-3348  | Looking back on the events that unfolded last yes<br>our industry is today. As businesses, we are always loo<br>is far from the way any of us expected it to happen, b  |
| Chris Robinson<br>IELD / BARE ROOT GROWER | Robinson Nursery Inc.<br>chris@robinsonnursery.com<br>877-855-8733   | passion of growing plants to more new gardeners that<br>In spite of the rocky start, last spring proved to  |

**Kyle Fessler** 

on the news ticker ed could be the Great Recession 2.0.

pectations changed by the day. We were all in need ow where to turn to get the answers we craved.

ch is typically a time of chaos in the nursery induswith the problems of the day, and don't look out e future.

ly last spring. For some growers, the question of we shipping?" but "Will we ever ship again?"

ndustry to take a massive hit. Our previous bout ise of nearly half the nurseries in Oregon. It took ıt.

f pause in operations allowed many of us to examto move forward in the new world we were facing. me at home to evaluate their surroundings as well. quently point out, "Gardening isn't canceled!"

ed. Gardening may have just received a new lifeblood. sery customers were suddenly stuck at home, sit-

#### ing back on the events that unfolded year, I feel extremely blessed to be where our industry is today.

he sun shining over a not-so-picturesque yard rejuvenation. Those kids on zoom in the other et outside and plant a few vegetables in the garden.

nfolded last year, I feel extremely blessed to be where are always looking to build our customer base. This it to happen, but it's a blessing that has brought our gardeners than we could ever imagine.

In spite of the rocky start, last spring proved to be a great one for many in the nursery industry. Some reported record years, and it seemed like the spring gardening attitude continued straight through the summer and into the fall.

This year has all the making of being another great one for the industry. Limited supply and an increased enthusiasm for live goods present a grand opportunity for our growers. More importantly, we have the potential to build on this connection created with a new generation of gardeners. We can fan the flames of that passion for plants that will last a lifetime.  $\mathfrak{O}$ 

the Al

FIE

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Jay Sanders FIELD / B&B GROWER

Lorne Blackman GREENHOUSE

> Tyler Meskers GREENHOUSE

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# Calendar

Get the word out 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*.

#### APRIL 1

#### HORTICULTURAL SCHOLARSHIP APPLICATIONS DUE

Do you know any high school, college or graduate students who are considering a career as a nursery or landscape professional? If so, April 1 is the last day to apply for one of the 19 different scholarships supported by the Oregon nursery industry and offered by the Oregon Nurseries Foundation. Awards range from \$500 to \$1,500, and are sponsored by individuals and OAN chapters. For more information, log on to **www.oan.org/onf**, or contact Stephanie Weihrauch at 503-582-2001 or **scholarships@oan.org**.

#### APRIL 22 EARTH DAY

Whether you're heading out to clean up pollution in your neighborhood or writing your representative about climate action, Earth Day is the second national celebration this month that reminds us all of the importance of caring for the environment, and the role that nurseries can play. Visit **www.earthday.org** to learn more.

#### APRIL 23-25

#### **OREGON AG FEST**

Ag Fest is an annual family event where Oregonians share an appreciation of where their food, fiber and flora come from. This year, the event will be a three-day drive-through experience where visitors will follow CDC guidelines and stay in their vehicles at all times. The three-day ag-stravaganza takes place at the Clackamas County Event Center (694 NE 4th Ave, Canby, Oregon). The cost is \$22 per vehicle to enter. Log on to **www.oragfest.com** for a schedule of available times.

#### APRIL 6-29

#### SOIL SCHOOL 2021

This annual educational event for small acreage farmers, landscapers, gardeners, grounds managers at will be held online through a series of seminars. Eight live sessions will be held on Tuesday and Thursday evening from 6–7 p.m., but also recorded for later viewing. Soil School is presented by West Multnomah Soil & Water Conservation District and Tualatin Soil and Water Conservation District. To register for a session, visit **wmswcd.org**.

#### APRIL 30

#### ARBOR DAY

The last Friday in April is nationally recognized as Arbor Day, where we celebrate the important role trees play in our lives. Reach out to your preferred garden center to purchase a tree of your own, or ask a staff member if they know of any a nearby tree planting events. Your local news and



#### **APRIL 30**

#### NEW VARIETIES SHOWCASE DEADLINE FOR FARWEST

The tier 1 submission deadline for the New Varieties Showcase at the 2021 Farwest Show is April 30. Tier 1 submissions gain extra visibility in the July issue of *Digger* magazine, which is directly mailed to more than 7,500 green industry subscribers. If you have an exciting new plant introduction, the New Varieties Showcase is the place to show it off to garden centers, growers, landscape designers and architects, trade publications and garden writers. We're looking for plants with such characteristics as new colors, better manners, increasingly compact shape, extended seasons of interest, and improved landscape and production performance. To be eligible, all plant selections must be new to the market for 2021 or 2022; available for order from a Farwest Show exhibitor; and have different attributes than plants currently on the market. Complete a submission form at **www.farwestshow.com**. Contact Zen Landis with questions at 503-582-2011 or **zlandis@oan.org**.

social media event listings may also have details about other tree planting ceremonies so you can join in on the tradition. The holiday gatherings are often connected with environment-related activities. For more information, visit **www.arborday.org**.

#### **JUNE 10**

#### **DUFFERS CLASSIC - TENTATIVE**

Save the date for the annual golf tourney, which will tee off at the Stone Creek Golf Club in Oregon City, Oregon. A benefit for the Oregon Nurseries' Political Action Committee (ONPAC), the event is a great way to reconnect with friends while supporting a strong nursery industry voice in Salem and Washington D.C. Sponsorships available. Check the OAN website, **www.oan.org/ duffers** for updates.

#### JUNE 23-27

#### CALIFORNIA SUMMER TRIALS

To stay in compliance with local ordinances

and health official guidance to mitigate the spread of COVID-19, all guests must register to attend the individual sites of the 2021 California Summer Trials (formerly California Spring Trials). More than 20 breeding companies are set to showcase their new genetics with unique location dates and times. Group sizes will be limited, and some companies may offer private appointments before or after the event time. For more information about the trials, please contact Oster and Associates at www.growertalks.com/ CaliforniaTrials.

#### **JUNE 26**

#### HORTLANDIA - TENTATIVE

The Hardy Plant Society of Oregon (HPSO) has tentatively scheduled the annual plant and art sale at the Portland Expo Center. The Hortlandia Committee of the HPSO board is monitoring the ever-changing conditions of the pandemic and will provide updates as the show dates come closer. If you have questions, email **info@hardyplantsociety.org**.

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# **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**.



#### Download free pocket guide for nursery pests from OSU

Oregon State University (OSU) Extension Service has revised a 24-page pocket guide called Common Natural Enemies of Nursery Crops and Garden Pests in the Pacific Northwest. It is free for growers, home gardeners, and teachers to download.

Authors Melissa Scherr, Robin Rosetta, and Lloyd Nackley created the guide to identify 17 natural nursery pests, how to monitor them, and other facts. There are also details about identifying parasitized pests or pests infected with diseases. It is a supplement to other integrated pest management publications, providing suggestions for natural enemies and biological control plans.

To download the guide, go to **tinyurl.com/4zn2nvvs** 



Faced with a shrinking budget, the horticulture program at Clackamas Community College is on the list of programs under review for possible elimination by the school board. PHOTO COURTESY OF CLACKAMAS COMMUNITY COLLEGE

#### COLLEGE HORT PROGRAM IN OREGON MAY BE ELIMINATED

The horticulture programs at **Clackamas Community College** in Oregon City, Oregon may be on the chopping block. Administrators at the two-year school are considering a number of program cuts due to a declining enrollment and revenue. They say they need to find \$1.3 million in savings for the next academic year (2021–22).

The two-year school offers one of three post-secondary horticulture programs in Oregon. The others are housed at **Oregon State University** (Corvallis) and **Chemeketa Community College** (Salem).

Clackamas is conducting an Academic Reduction and Elimination process, to determine which programs will be trimmed or eliminated. The horticulture department and others have been asked to respond to a series of questions that will help the administration make recommendations. The school's Board of Education is expected to finalize decisions in June.

The department intends to mount a defense and fight for its continued existence. The CCC Horticulture Advisory Committee — which includes several industry representatives from OAN-member nursery and greenhouse businesses — met last week over Zoom to discuss potential responses. A number of stakeholders discussed ways of defending the program's importance, including submitting a letter, which is in the works. A petition has been posted for stakeholders to show their support.

"The hort program at Clackamas is very important to the industry," OAN Executive Director **Jeff Stone** said. "It is critical that we continue to train people for the opportunities our industry offers. Our advocacy team is monitoring this process and will work with the college to make a strong case for horticulture education."

The department serves Clackamas, Washington, Yamhill and Multnomah counties, which are four of the five largest nursery coun-

#### More COVID-19 coverage online

Further updates on how the COVID-19 virus is impacting the greenhouse and nursery industry is online at **www.diggermagazine.com/category/coronavirus**. We are reporting on the most current information as of press time, but please check online for the most up-to-date information.



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#### **Northwest News**

ties in Oregon. The state's nursery industry generated \$1 billion in sales in 2019.

The department offers degree programs in horticulture and arboriculture, as well as certificates in irrigation technology, plant health management and landscape management.

The potential demise of the department comes as the number of two- and four-year college horticulture degree and certificate programs nationally has declined over the last two decades, according to a 2019 study in the HortTechnology academic journal.

In 1997, 446 postsecondary schools offered 4-year degrees, 2-year degrees and/or certificates in horticulture. That declined to 253 in 2012 and 209 in 2017.

In Oregon, Linn-Benton Community College (Albany) eliminated its horticulture program in 2019. Mt. Hood Community College eliminated its program earlier, as did Clark College in Vancouver, Washington.

#### HORTICULTURAL RESEARCH INSTITUTE AWARDS GRANTS

The Horticultural Research Institute (HRI), the foundation of AmericanHort, has awarded \$364,000 in grants to fund several research projects in 2021. Projects range from innovations to crop production for both greenhouse and nursery segments, emergent consumer research, pollinator research, and plant disease projects.

Local researcher **Ryan Contreras**, Ph.D. from Oregon State University, has been awarded a grant to study the impact butterfly bush can have on an ecosystem. His study, "Fertility, population dynamics, and pollinator attractiveness of standard and 'sterile' cultivars: *Buddleia* as a case study may inform the way forward for our national industry" will address several questions. He hopes to learn what happens to pollinator attraction to butterfly bush with reduced fertility, what the fertility is of modern cultivars compared to old classics, and if population modeling can be used to establish a "safe" threshold of fertility.

Learn about the other grant recipients and their projects at www.hriresearch.org.

#### IMMIGRATION REFORM BILLS INTRODUCED IN CONGRESS

Democratic lawmakers introduced the U.S. Citizenship Act of 2021, an immigration reform proposal backed by the Biden administration, in February.

The bill, introduced as House Resolution 1177 in the House and Senate Bill 348 in the Senate, would provide an earned path to citizenship for undocumented immigrants who were in the United States as of January 1, 2021, while also increasing the limits of legal immigration.

There is a security component, whereby security would be added to ports of entry. The bill would also attempt to reduce migration by investing \$4 billion in the economies of Central American countries. Opponents said the bill amounts to immigration amnesty, and does not do enough to secure U.S. borders.

The Oregon Association of Nurseries has long been involved in pushing for comprehensive immigration reform that resolves the status of immigrants currently present, secures the border, and provides for a sufficient labor force for agriculture.

OAN Executive Director Jeff Stone called the bill encouraging, but said it needs to be a more complete effort.

"Resolving the status of current residents is very important," he said. "Families need to be kept together. Undocumented status is very complicated. The worker may be documented but the spouse not."

Stone noted that not everyone wants or needs to become a citizen, and any immigration bill should address worker visas as well. He called for a visa system that is renewable and portable, so that the worker can stay in the same field of agriculture, but not be tied to a particular employer.

"Without a visa system, all it does is hit the reset button just like the 1986 immigration amnesty," Stone said. "Not all workers wish to become American citizens. Some are here to earn money and return home, and that should be fine too. We have a need for agricultural workers, they have a need to provide for their families, and it's a win-win."

Stone noted that what happens before citizenship is equally important.

"It's more important to adjust the status of workers quickly," he said. "Recent



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proposals have involved a 'touchback' provision where the person must go to another country, then return to 'get right with the law.' That might be impractical, and we'd like to see them given the opportunity to go through customs at a local airport instead. Consulates and embassies alone won't be prepared to handle the traffic."

A separate and less ambitious bill, the American Dream and Promise Act, would provide a path to citizenship only for Dreamers — meaning those brought to the United States as children — as well as noncitizens with temporary protected status. The House was scheduled to consider this bill in March.

#### ODA REPORTS ADVANCES IN JAPANESE BEETLE BATTLE

The Oregon Department of

Agriculture reported that good progress was made in 2020 in its treatment efforts to eradicate the Japanese beetle, which were focused mostly in the Cedar Mill area west of Portland. "We will continue our aggressive approach in 2021 while we have the upper hand," officials stated in a website update.

The beetle is a voracious garden and nursery pest that will eat most any plant or shrub, but is known to especially love rose plants. Although the beetle is well established in the East and Midwest, it has only a toehold in Oregon. It was first detected in the state in 2016, and officials hope to stamp it out. According to the agency, 42 percent fewer beetles were trapped in 2020 than in 2019, and 58 percent fewer were trapped in a designated treatment area. Read more on www.japanesebeetlepdx.info/updates

## WATER PROJECT APPLICATION DEADLINE IS APRIL 28

The Water Project Grants and Loans program offers funding opportunities through the Oregon Water Resources Department. The 2021 application deadline for instream and out-of-stream water supply projects is due by 5 p.m., April 28.

"This program was created and passed at the urging of the Oregon Association of Nurseries," OAN Executive Director Jeff Stone said for Member Update. "It's designed to increase access to water supply projects, and we hope people will take a look and make good use of the program."

Submit an application online for funding if you wish to invest in projects that meet water supply needs and result in public economic, environmental, and social or cultural benefits. Approximately \$3 million remained available for





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#### **Northwest News**

grants in November 2020. Log on to **www.oregon.gov/OWRD** for the forms.

Visit their website to learn more about the Water Projects Grants and Loans online, and schedule pre-application conferences with the program coordinator by emailing WRD\_DL\_waterprojects@oregon.gov.

#### SAIF DECLARES \$210 MILLION DIVIDEND FOR POLICYHOLDERS

**SAIF**, the state-chartered workers' compensation insurance company, announced a \$210 million dividend for policyholders in a release. The dividend will be distributed in July. It will be based on premiums paid for policies whose term ended in 2020.

"Oregon businesses continue to face tremendous uncertainty," said President and CEO Kerry Barnett. "When our financial position indicates we can issue a dividend, we do — it's the best way we can support our policyholders right now."

This is the 12th year in a row SAIF has been able to offer a dividend and the 24th dividend since 1990.

SAIF will value and calculate the dividend at the policy level in June, and therefore we won't know the amount that will be applied to each policyholder until then. More detailed information regarding the dividend, including FAQs, will be available on saif.com at that time.

OAN Executive Director Jeff Stone serves on the SAIF Board of Directors. "Since being confirmed, I have voted for \$1.015 billion in dividends back to policyholders while increasing service to the injured worker," he said.

For more information, visit tinyurl.com/j5e68hth

#### FREE IPM DOWNLOADS FOR GROWERS AND LANDSCAPERS PUBLISHED

The Northwest Center for Alternatives to Pesticides (NCAP) has several new resources for growers and landscapers to help them make smart decisions about chemicals the other tools they use to manage pests and weeds.

A downloadable guide presented in both English and Spanish covers how pesticides impact aquatic ecosystems. A second bilingual reviews glyphosate and alternative weed management strategies. Growers can also learn about integrated pest management with a comprehensive tenant guide, as well as separate documents for managing common bindweeds, azalea lace bugs, flatweed, root weevil. Videos are also available to watch on the site at **www.pesticide.org**.



#### Announcements JASON BIZON APPOINTED BAILEY WEST COAST MANAGER

Jason Bizon has been appointed as West Coast general manager for Bailey, according to a release from the company. He was pro-



moted internally from the position of western region sales manager. Bizon will have oversight over the operation of the company's Washington and Oregon facilities. He was previously the national sales manager for Carlton Plants and has extensive experience in horticultural production, shipping, and sales management. He will be working from Dayton, Oregon.

Bizon will take the former place of Shane Brockshus, after Brockshus was promoted to become Bailey's new chief operating officer. The move was one of several Bailey made to fill vacancies left by the executive team promotions announced in January.

The following positions will be working from Bailey's office in St. Paul, Minnesota:

Ryan McEnaney has been promoted to Bailey's marketing and communications manager. He was the public relations and communications specialist for the company for the past seven years. McEnaney has more than 10 years of experience in marketing and communications.

Tiffany Nohl will serve as inside sales manager for the company. Since 2011, Nohl has worked in inside sales and as the licensing representative for Bailey's consumer brand. She earned the promotion for helping develop the company's brands, training programs, and internal processes.

Lisa Swast has been appointed brand and licensing sales representative for Bailey. She has been an inside sales representative since 2017 and will support growers using the company's consumer brands.

#### **OHP INC. HIRES TECHNICAL** SALES MANGER

Katelyn Jones has been hired as a technical sales manager for **OHP** Inc, according to a release from the company. She was 📎



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#### **Northwest News**

previously a sales representative at Harrell's, and has additional industry experiences from Adama Agriculture Solutions and Nutrien Ag Solutions.

Jones is taking over the customer portfolio of Dennis Kern, who is retiring after 19 years of service to OHP. She will serve new and existing customers in California, Arizona, Nevada, and Colorado. Read more at www.ohp.com/news.

#### MYCORRHIZAL APPLICATIONS HIRES SALES MANAGER

Jason Padden has been hired as a Western states sales account manager for **Mycorrhizal Applications** (MA), according to a release from the company based in Grants Pass, Oregon. He has 16 years of experience in the horticulture industry and earned a bachelor degree in plant sciences from State University of New York (SUNY) Cobleskill.

Padden will be centrally based out of Canby, Oregon to support growers in Oregon, Washington, California, Idaho, Nevada, Montana, Wyoming, Utah, Colorado, Arizona, New Mexico, Alaska, and Hawaii. He can be reached by email at **jason.padden@mycorrhizae.com** or by phone at 503-523-6863.

#### FALL CREEK FARM & NURSERY HIRES REGIONAL DIRECTOR

Scott Cully has been appointed regional director for the United States and Canada for **Fall Creek Farm & Nursery Inc.**, according to a release from the company. He previously held the position as general manager for Fall Creek since 2008, with additional industry experience serving as orchards for Harry & David and nursery manager for J. Frank Schmidt & Son Co.

Co-CEO Oscar Verges noted that Cully's expertise has led to tremendous improvements to the blueberry breeding and nursery company.

#### GRIFFIN GREENHOUSE SUPPLIES JOINS GRO GROUP Griffin Greenhouse Supplies has

become a distributor member of the Gro Group buying group, according to a release from the company. More than 25,000 retail locations use Gro Group network of North American lawn and garden distributors. As a manufacturer, Griffin will be better positioned to reach regional markets through the group. Visit www.griffins.com for more details. ©



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# **Positive indications for 2021**

NE YEAR AGO, on March 6, 2020, Plant Nerd Night was held for the 19<sup>th</sup> consecutive year with more than 500 attendees. Little did we know that the following week COVID-19 restrictions would begin, and Plant Nerd Night suddenly had the dubious distinction of being the last large in-person consumer gardening event that year.

Gone was Gardenpalooza, gone was the Clackamas County Master Gardeners Spring Garden Fair, gone was Hortlandia (the Hardy Plant Society of Oregon Annual Plant and Garden Art Sale), gone was the Portland Rose Society Annual Spring Rose Show, and the list goes on.

For many plant vendors who relied on these spring garden events as their major source of income, it simply was not to be.

If that was not enough, much of Oregon suffered from horrendous wildfires that destroyed many homes and even some towns in the late summer. The heavy smoke created an air quality that was deemed hazardous. People were told to stay indoors, and many garden centers temporarily closed.

Then, this past February, parts of the

Willamette Valley experienced an ice storm that came with a vengeance. Roads closed, trees toppled, greenhouses caved, businesses closed, residential and commercial areas lost power for multiple days, and plants were covered in ice.

I was shocked at the extensive damage that was done to plants from the ice that formed on branches and limbs. The weight of the ice caused major limbs — some the size of trees themselves — to crash to the ground. Many mature trees in my neighborhood simply fell over. Birch, maple, oak, or fir, there was no discrimination.

What does all of this mean for garden centers for 2021? That is the major question.

It will take a crystal ball to predict the future and that is especially so in the garden industry because there are so many varying factors. Weather, of course, is high on the list, but also, is the desire to garden.

During this unsettling past year, there has been a huge surge in gardening and much of it is due to the participation of novice gardeners. The challenge for our industry has been to make their gardening experience rewarding so that it will be ongoing.

#### **Positive indicators**

I can think of two good indicators that are positive for the garden center business in 2021. One is garden helplines, which can provide a good indication of interest in gardening.

Neil Bell, of the **Oregon State University** Extension Service in Marion and Polk counties, told me that the "Ask Extension" (extension. oregonstate.edu/ask-expert), has been extremely popular. This is a service whereby someone can email a garden question and receive an answer from an extension agent. Pictures can be sent along with the email if there is



Mike Darcy

Head "plant nerd," longtime speaker, host of gardening shows on radio and TV, and author of the In the Garden email newsletter. You can reach Mike, or subscribe to his newsletter, at itgmikedarcy@comcast.net.

a particular problem with a plant.

Neil said that he was surprised that even in the winter, the volume of questions did not diminish and remained high.

Another good indicator is mail-order business, especially orders that have later spring shipping dates. If gardeners are ordering now for a later shipping date, this would indicate that they are planning ahead. That is a good sign of ongoing gardening interest.

Even though there was extensive damage from the recent ice and snowstorm, there is something positive to be gained from this. Many of the trees and shrubs that were killed or damaged will be replaced. One neighbor who was removing a tree that had toppled said that he was trying to be positive and was looking at it as a new planting opportunity!

#### Seeing more novices

Northwest Garden Nursery in Eugene recently held their annual Hellebore Open Garden Days. This year it was spread out over two weekends — Friday, Saturday and Sunday for both weekends. To help alleviate crowding, they partnered with Gossler Farms Nursery in Springfield and held the event at both locations. The final tally was that both locations completely sold out of hellebores.

Marietta O'Byrne of Northwest Garden Nursery said that for the first time, she noticed many more novices than she remembers seeing in past years. Many new people were asking basic questions about growing hellebores and that also is a good sign.

Roger Gossler echoed what Marietta said about customers asking about the





fundamentals and he took that as an indicator that they had not grown hellebores before. Gossler Farms Nursery has an extensive display garden and there were many questions about some of the perennial and shrubs growing there. He felt it was a sign that there was also interest in other plants. Roger also said that their on-site sales are good, and their mail-order business has been strong with no sign that it is declining.

#### Selling replacements

Dancing Oaks Nursery in Monmouth suffered extensive storm damage with many large trees uprooted. A large oak in one of their display gardens was toppled and ruined much of that display garden. Co-owner Leonard Foltz believes that there will be many plants sold for replacements for what has been lost to the ice storm.

Like Gossler Farms, Dancing Oaks has both a retail and online presence. Leonard said their website traffic has been steady with many orders coming from the New England states.

Local garden centers are reporting good early season sales with vegetable seeds continuing the same strong trend as last year. It is not unusual for some vegetable seeds to already have been sold out and replenished. Of course, there are many hard good sales including tools, soil and fertilizers related to the sale of vegetable seeds.

Customers seem to also want color, and who can blame them? It has been a long winter with many people not venturing far from their home due to the threat of COVID-19. Blooming daffodils, tulips, pansies, primrose, and more can quickly brighten up a spring day and improve the home garden.

We cannot predict the future, but in analyzing the last year, we can at least begin the planning process to ensure more success for this year. Certainly, many of the new gardeners of last year will have been so sufficiently successful that they will continue with their new endeavor. Growing their own food may be a bonus that will add to their growing enthusiasm for gardening.

Half joking, Foltz said that that when people receive their vaccination, he hopes they will also get a big shot of the gardening gene.  $\bigcirc$ 





# Nursery Guide

#### OAN's first virtual show connected the industry in a new way in March

#### BY JON BELL

EN LANDIS, THE Oregon Association of Nurseries' events and education manager, knows what it's like to prepare for and help run a big and important professional association event like OAN's annual Farwest Show. You prepare for months, deal with logistics and coordination, get the basics set up and then, come showtime, open the doors and kick it off.

"The whole thing just goes into a huge blur and then you're like, 'What just happened?" said Landis, who's been involved with devices around the country — and even around the world — Nursery Guide LIVE offered nursery industry vendors and customers a chance to interact, learn, buy and research in a way they never really have been able to before. It wasn't a substitute for the face-to-face interactions that the nursery industry thrives on, but it filled a void and gave a glimpse at just how a virtual event could become a part of the bigger

OAN events for the past two years. "That's how it goes from the event planner side of things."

Turns out that the same rush and wave of frenetic energy needed to set up a virtual event. Landis said she felt it during the first-ever Nursery Guide LIVE, an interactive marketplace for the OAN buyer's guide and website. The membership needed the event because the Farwest Show was sidelined by COVID-19 in fall 2020.

Held March 18–19 on desktop computers, laptops and mobile



Megyn Pike, customer service representative at Handy Safety Knife offered demonstrations of their ring knife. The compact tool works for people needing to cut twine, tape, and other materials off and on throughout the day. CAPTURE BY OREGON ASSOCIATION OF NURSERIES

picture in the future.

"We are happy and pleased with having had to jump on board with a virtual online business-tobusiness platform," said Allan Niemi, director of events for the OAN. "We see potential for this, especially in the way that we're able to service all sectors of the industry. Yes, people do want face-to-face trade shows like Farwest, but there's also just a real convenience behind a virtual marketplace that really caters

DIGGERMAGAZINE.COM APRIL 2021

#### Products

#### Nursery Guide LIVE clicks into place

Center, top: Digital strategist Monica Hemmingway presents "Five Keys to Getting Your Green Industry Business Found Online in 2021" on March 17. Center, bottom: Dave Malenfant, director of the Center for Supply Chain Innovation at the Texas Christian University presents With "Future Trends in Logistics: Partnering for Success" the following day on March 18. CAPTURE BY OREGON ASSOCIATION OF NURSERIES

to buyers and sellers. We're looking forward to the future opportunities that a virtual event can provide."

#### **COVID** curveballs

Like just about everything else in the world, the trade show scene got turned on its head in spring 2020 with arrival of COVID-19. Shows far and wide, including Cultivate'20 (Columbus, Ohio) and the 2021 Mid-Atlantic Nursery Trade Show (Baltimore), shifted to online options.

When the OAN was forced to cancel the Farwest Show last August, the association did not rush to offer a virtual substitute right away. It instead planned Nursery Guide LIVE. The association teamed up with Showmetry to create the online experience, which

would allow exhibitors to showcase their products and services and interact with prospects in virtual booths.

Nursery Guide LIVE was all set to launch February 17–18, but then an epic snow and ice storm thumped the Portland-Metro region, knocking out power for days and damaging nurseries in the area. Show organizers postponed the event for a month, and it went live for two days March 17–18.

The first-ever event, sponsored by **the HC Companies**, featured dozens of exhibitors and drew hundreds of attendees from across the U.S., Canada and even overseas. Exhibitors ranged from nurseries offering nursery stock, seedlings, plants, trees and other materials to container manufacturers, associations and nonprofits, and providers of insurance, software and other services.

The Showmetry platform allowed exhibitors to upload videos and photos, highlight products, share company information and offer educational presentations. It also gave exhibitors and attendees the opportunity to trade contact information and connect directly through a Zoom-like interface.

"It was really easy in terms of user setup," said Leigh Schaffer, marketing manager for **Everde Growers**, a nursery

> with 14 farm locations across four states. "It was really easy to showcase our brand and products in multiple ways. We uploaded videos and multiple photos, and having our brand video there really helped make our booth a place people wanted to visit virtually."

Though there were some technical difficulties in trying to chat with booth visitors in real time, Everde nonetheless had nearly 170 visitors, many of which could turn out to be positive leads.

"We are a passionate sales team and we'll take every opportunity to follow up with everyone who

visited our booth," said Nicholas Staddon, company spokesperson and plantsman for Everde. "I think it's terrific that the OAN made the effort at such a busy time of year for everyone."

#### **Education for all**

In addition to the sales opportunities Nursery Guide LIVE provided, educational sessions also offered enrichment to attendees. The Handy Safety Knife Company, which makes small utility knives that fit on the finger, held several video sessions on how to use its products, and Staddon hosted multiple "Plant Chat" sessions where he talked about new tropicals that Everde is carrying. Staddon's presentation is available for download at the company's virtual booth through April 5.

Nursery Guide LIVE kicked off each morning with keynote speakers, which were sponsored by *GrowerTalks/Green Profit* magazine. The Wednesday keynote featured licensed arborist, digital strategist and indusogist Monica Hemingway. Her presentation, "Five Keys To Getting Your Green Industry Business Found Online in 2021," covered the importance of having a strong web presence and how nurseries can increase their online visibility.

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The second morning kicked off with an energetic presentation from Dave Malenfant, director of outreach and partnerships at the Center for Supply Chain Innovation at Texas Christian University. His talk. "Future Trends In Logistics: Partnering For Success," covered the transformation of the supply chain management system and how shipping and logistics are advancing through automation, artificial intelligence and other technologies.

Both of the keynotes were recorded and can also be viewed on the Nursery Guide LIVE site through April 5.

In fact, the entire Nursery Guide LIVE site, including all vendor booths and content, will be accessible through April 5, one of the nice aspects of the online platform.

"This was totally different than anything we've ever done before," said Kyle Fessler, a greenhouse grower with **Woodburn Nursery & Azaleas Inc.**, of Nursery Guide LIVE. "It's a good platform that easily enabled us

(CONTINUED ON PAGE 40)



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#### KEY PEOPLE

Brent and Becky Skiles, owners; Renee Phelps, chief operating officer; Zach Phelps, transportation and projects manager; Jen Skiles, finance and human relations manager; Francisco Martinez, head grower; Becky Peterson, sales manager; Alex Sanchez, production manager; James Larson, facilities and IT manager; Bonnie Abbott, container and basket design.

#### CONTACT:

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- \$ 541-688-5424
- @ sales@springcreekgardens.net

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## Spring Creek Gardens Inc. Founded: 1984 by Brent and Becky Skiles

#### BY CURT KIPP

HO SAYS YOU can't go home? Certainly not Renee Phelps. She has done it, moving back home to eventually take the operational reins at **Spring Creek Gardens Inc.**, a wholesale greenhouse operation located between Eugene and Junction City, Oregon.

But sometimes, home isn't quite the same as you remember it.

Back in the 1980s, the nursery was just a roadside produce stand. Renee spent her teen years there, selling fruits and vegetables one year to help pay for her college education

After college, she worked in the sporting goods industry for many years. When she finally did come home, in 2010, she found everything had changed.

The farm she where she came of age had become a thriving wholesale greenhouse operation — one that grew bedding plants, containers, baskets, vegetable starts and herb starts for retailers across Oregon and Washington. Customers now included Fred Meyer, a longtime regional chain that is part of retail giant Kroger Company, and Bi-Mart, a big regional chain with 79 stores.

The nursery also sold to independent stores and garden centers, including Jerry's

Home Improvement, a big player in the

Eugene area. The farmhouse Renee used to live in was now the company headquarters.

"So I went back to work with my parents, live on the same property as my parents, and my old bedroom became my office at 40 years old," she said. "It was overwhelming to step into a business of this size and this complexity."

#### 'Humble beginnings'

Renee's mother, Becky Skiles, remembers feeling overwhelmed herself. She and her husband, Brent Skiles, founded the business in 1984, leading it through all of the changes and growth.

"Sometimes I would stand out in the middle of the yard and watch the trucks and the shipping cards and the people with clipboards, everybody racing around doing their thing," she said. "And then inevitably the thought came to my mind, what have we created here? I don't think anybody had any idea that it would become what it has become."

They started out just wanting to have a fruit stand.

"And we did have a little fruit stand out under a big old black walnut tree, right alongside the highway," Becky said. "We



grew all of our own produce. We had big fields of tomatoes and other produce, and then we also began putting in U-pick berries — strawberries, raspberries."

Early growth was modest but steady.

"I think the first year we sold product, we probably grossed right around \$2,000," Becky said. "The next year, we doubled it — that only meant \$4,000."

That amount of income wasn't great for the work being invested, and costs were too high.

"We found that we could grow [everything] a lot cheaper if we started our own [vegetable] plants," Becky said. "And so, we went to the Farm Service Agency and petitioned them for grant money to build greenhouses, and that got us started in the greenhouse business. That led from one thing to the next. We just decided that we would start growing plants."

It was a bit daunting. Although Brent had grown up on a farm, it wasn't a nursery — grasses, hay and corn were the crops. Becky didn't grow up on a farm at all.

"We actually went into this without a background, which is highly unusual," Becky said. "We learned as we went and took a lot of classes that were offered wherever we could find them, but never did go to college for horticulture."

Once the decision was made to grow bedding plants, they needed customers.

"We had purchased all of our plastics and things for our greenhouses from Fred Meyer, so they seemed the logical people to approach about selling plants," Becky said.

#### **Spring Creek Gardens**

**Previous page:** Several family members are involved in running Spring Creek Gardens Inc. They include (left to right) founders and owners Becky and Brent Skiles; their daughter, Chief Operating Officer Renee Phelps; their grandson, Transportation and Projects Manager Zach Phelps; and their daughter-in-law, Finance and HR Manager Jen Skiles. PHOTO BY BECKY PETERSON

Left: Hanging baskets fill the greenhouse space of Spring Creek. PHOTO BY CURT KIPP

In those days, individual store managers had more discretion over where they sourced their plants. Becky and Brent talked to the Fred Meyer manager in Santa Clara, a community on the northern end of Eugene, located about three miles from the farm. The store agreed to stock Spring Creek's plants.

Other stores followed. When managers

were transferred to new stores, they would often call Spring Creek and bring them on as a supplier at that new location.

"One thing led to another and the fruit stand business finally went away and it became totally greenhouses," Becky said. "So, pretty humble beginning."

A key step in Spring Creek's evolution was the hiring of head grower Francisco Martinez, who oversees crop health in all 60-plus greenhouses spread over two facilities. "He's been with us for nearly 25 years, I believe, and we couldn't function without him," Becky said.

As husband and wife, Becky and Brent had a very definite division of labor in running the nursery. Brent focused on the operations side, while Becky worked on the financial end of things. Their skills complemented each other.

"I had a saying, and it is so appropriate: Brent saw the cookie; I saw the chocolate chips," Becky said. "He looked at the big picture and I was the detail person. And it just worked. I think that's probably our greatest accomplishment that we actually could stay married through that. We just celebrated 50 years last year."

When Renee came home to help run the nursery, she worked under her parents for a transitional period. Brent retired from the nursery in 2014, and Becky scaled back her involvement over the following few years, putting Renee fully in charge of the day-to-day operations four years ago.

Renee still counts on her parents

for some key things. They still serve as owners. Her mom assists with the books about one day per month, and her dad is a sounding board.

"I still go back to Dad quite a bit for counsel," Renee said. "He doesn't want to be involved in the day-to-day operations, but he's more than happy to help me with the big picture philosophical questions. Maybe that's more valuable than anything else."

#### **Complexity pays off**

Spring Creek today is a complex operation, producing a large number of plants in a large number of container sizes.

"We're what they call a primary supplier to Bi-Mart and Fred Meyer," Becky said. "And what that means, particularly with Bi-Mart, is that if they sell it in the store, we pretty much are on deck to produce it. The volume of varieties that we need to grow in any given season to meet the demands of the store, it's kind of staggering.

"There's every size, for example, of a bedding plant from jumbo pack, to 4-inch annual, 4<sup>1</sup>/<sub>4</sub>-inch premium, and up to 6-inch. All those have to be produced here, and that's just bedding plants. Then you've got all the sizes of vegetables ... you have to be able to fill every single one of those slots, on a consistent basis for the stores."

The selection Spring Creek offers is deep, because customers demand it.

"We grow about 40 different varieties of tomatoes in three different container sizes — and that's just tomatoes," Becky said. "Some of our customers request that we grow 25–30 different colors of a single species, such as *Calibrachoa*, and we do our best to meet their specifications on all the crops."

It's a challenge to manage all the plants, colors and sizes.

"We bring in millions of plugs," Becky said. "We grow to the customer's specifications — I mean, down to the exact color that they want. And then those plantings have to be timed to be in color at a particular add date for the store. It's complicated. It's a huge amount to track."

The benefit of all the work is a thriving company that customers can trust to



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deliver what's needed.

"It has grown beyond our wildest expectations, which is a good thing," Becky said. "We've been able to give a lot of people employment, and we've been able to put plants everywhere, share the beauty."

Along the way, Spring Creek relied on the assistance of other growers, joining the Oregon Association of Nurseries in 1995 to network, build connections and learn. Renee has benefitted from these connections as well, since coming back. She's in regular contact with Jim Iwasaki at Iwasaki Bros., Ben Verhoeven at Peoria Gardens, and others.

"The Oregon nursery industry really is very, very cooperative," she said. "I have not been in the industry all that long, so I'm grateful for the support and help that I've gotten. Many of our competitors really have been very, very kind to me."

#### Growing for the future

While managing a complex operation, Spring Creek Gardens hews closely to a strong environmental ethic.

In accordance with the preferences of end consumers, Spring Creek's entire output is GMO-free, and the grower offers a variety of plants produced without neonicotinoids.

"For me, personally, environmental care is very important," Renee said.

Under Alex Sanchez, production manager, the nursery has reduced the use of pesticides in its growing operation, while increasing the use of biological controls.

"It's flipped to where we're spending about 70% of our insect control budget on biological controls, and maybe only 30% of it is spent on chemical controls now," Renee said. "He's done a fantastic job of implementing biological control programs so that our entire chemical usage has been completely upended."

The nursery also reuses and recycles plastics to the greatest extent possible — not just containers, but greenhouse coverings. Worn coverings on large houses are cut into smaller pieces and repurposed on smaller houses, until no more use can be had. When containers have reached the end of their useful life, they are cleaned, compacted, baled and returned to the "We'd be lost without them. Everything improves. Growing, harvesting, digging, hauling and shipping."

> Roger Canfield, Puget Sound Plants (Owner), Olympia, WA





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producer for recycling.

"We as the growers need to do our part to return the plastic to the recycler in a condition where they can process it again," Renee said.

Energy efficiency is also important. The company worked with the Energy Trust of Oregon (ETO) to find opportunities for increased efficiency.

"When we worked with [ETO], it was primarily to put in root zone heating," Becky said. "We also upgraded to high efficiency natural gas furnaces as well, but we're really kind of a fan of the zone heating, because it delivers a good, warm environment, right to the roots. Then we can actually grow the top of the plants at a colder ambient air temperature."

This results in hardier plants.

"Because the hotter you grow, the plants, of course, the softer and the stretchier they get," she said.

As an added bonus, the nursery can then avoid use of plant growth regulators (PGRs).

"My father actually started that," Renee said. "He never was a big fan of PGRs and we feel that the plant performs better in the end for the consumer, if it's not all stunted right out of the gate."



#### A third generation of Spring Creek

In recent years, Zach Phelps — son of Renee and grandson of Becky and Brent — has become more involved in the nursery, making it a three-generation operation. The plan is for him to take over someday.

This wasn't his chosen pathway, initially. As a high school student, Zach helped out at the nursery and loved doing it, but after graduation, he chose to become a welder. "But then I decided that maybe that wasn't completely what I wanted to do," he said.

So he returned to the farm.

Zach works on a variety of tasks, from equipment maintenance to truck routing to personnel, doing everything he can to learn everything he can about the nursery. He doesn't regret his choice. "You never come to work and do the same thing two days in a row," he said. "It's always changing and always evolving."

Spring Creek today employs 45 workers full time throughout the year, and that increases to 70 during the peak season. Half of the workers have been there seven or more years, and one-third have been there more than 10. Loyalty is important, and the nursery takes its responsibility to employees seriously.

"When mom and dad started the business, they really put an emphasis on taking care of their employees, and trying to pay a living wage with good benefits," Renee said. "We have health insurance. We pay our employees overtime, despite the agricultural exemption. Those are all things that Mom and Dad implemented when they were running the company. Myself, and hopefully Zach will follow. We really want to put a high priority on taking care of our employees." ©

Curt Kipp is the director of publications and communications at the Oregon Association of Nurseries, and the editor of Digger. **Top:** Containers are considered the jewelry of a homeowners plant space. PHOTO COURTESY OF CHRISTINA SALWITZ

Bottom: Helleborus Rosemary offers a lot of bright blooms winter to early spring. PHOTO COURTESY OF SKAGIT HORTICULTURE

# The approachable container

Helping consumers break the rules of design, for fun and profit

#### BY KYM POKORNY

RADITIONALLY, ANNUALS FILL the shelves of garden centers come Mother's Day. The beautiful pieces wait for customers to pile them into carts, move through the check-

out line and carry them home to fill containers and hanging baskets.

But the popularity of pots stuffed with annuals has waned, to be replaced by a growing interest in foliage, tropicals, perennials, shrubs and even trees gracing beautiful containers. Add water plants and edibles into the mix, and growers have a whole new and large — palette to add to their inventory.

Years ago, a gardening magazine coined the term "thriller, filler, spiller" as a method for designing containers, according



to Christina Salwitz, a garden designer, photographer and owner of Personal Garden Coach (Renton, Washington). A tall plant thrills in the middle of the container, surrounded by smaller plants that fill in,

> with trailing plants spilling over the edge. That's a good plan for beginning DIY'ers, she said, but it's not the hard and fast rule it's become.

"It is a famous formula to make designing a container easier," Salwitz said. "The problem is that gardeners took it as gospel that you had to have something in the middle with everything dancing around it. It's a great idea but not always easy to sell. People are feeling militant about following the rules."

#### The approachable container

Right: Popular tropicals can be combined with colorful annuals. PHOTO COURTESY OF SMITH GARDENS Below: A mixed container has plants suited for a sunny area. PHOTO COURTESY OF SKAGIT HORTICULTURE Center, left and right: High quality containers are long-term staples that homeowners will seasonally refill. PHOTO COURTESY OF CHRISTINA SALWITZ



#### 'Plug and play'

Saltwitz, who specializes in containers in her design work, looks at height,

then thinks about color and texture when putting plants together in a pot. She — or her client — can then pull a wagon around a nursery and "plug and play." Customers approach it just as they would in a department store shopping for an outfit.

At **The Garden Corner** in Tualatin, Oregon, owner Jonn Karsseboom arranged the nursery in blocks of color by both flower and foliage, so customers can plug and play as they wander.

"We're trying to make it easier for people to design a container," said Karsseboom, who bills his garden center as the Home of the Largest Hanging Basket in the World. "They can take something from each section and — voilà — they have an expertly done container. We don't want it to be intimidating. Just like kids can color in a coloring book, certainly every gardener can create a container."

Both Karsseboom and Salwitz urge garden centers to make buying a container more approachable. At a nursery she worked at years ago, Salwitz would take a whole pile of pots as they were taken haphazardly off the truck and arrange them purposefully by design or color in



the center of the nursery. The containers were delivered on Wednesday or Thursday and she would plant 30 or so. By Sunday

the full pots, with a range of \$400–\$700, were gone. And, she pointed out, so were many of the empty pots and the plants to go in them. empty pot one year and places it temporarily in the garden as an ornament, they'll eventually be back to buy plants, according to Salwitz. Once planted, some of the plants will die or get too big and the consumer will be back for more year after year. It's a neverending business if done right.

To be most successful, garden centers should train staff to create containers and explain to customers how to plant them.

> Give gardeners ideas of plants to choose or offer to take them around the nursery to help them combine selections and get past their fear of failure.

Most importantly, don't allow turf wars and encourage selling across departments. Garden centers can lose sales if someone comes in to buy a pot and plants and gets passed from salesperson to salesperson or left to design on their own, according to Salwitz. Sometimes the sale is easy and a pot is all the customer wants. They'll be back when they can afford to add plants. And often, more containers.

"Pots are addic-

tive," Salwitz said. "I can't tell you how many \$400 containers I've designed and



"Garden centers get timid because they think they'll be stuck with a bunch of pots," she said. "They are not marketing them in the right way. You need to merchandise pots in a display that gets people excited and makes them think this is the garden jewelry they're miss-

ing. If a pot is planted well, it will sell." Even if the customer only buys an Helleborus × nigercors 'HGC Ice Breaker Prelude' is an evergreen perennial that works well in containers. Photo COURTESY OF SKAGIT HORTICULTURE



they come back for more. They ask, 'Can I bring my pot back and have you plant it?' That's a cycle garden centers forget."

Buyers should look for high-quality pots, she added. Cheap ones will break in a year or two and discourage gardeners from buying more. It's vital for garden centers to know about well-made pots because most customers don't. If they're not told the advantages of a good container, they'll head to the box stores.

#### Foliage and monochrome heat up

Plants used in pots run the gamut from annuals to trees, but some trends have emerged. Crystal Cady, account manager at **Skagit Gardens** in Mount Vernon, Washington, believes foliage is coming on in a big way — as are monochromatic plantings. Many times, customers also want garden center employees or garden designers to create containers for them. Even during the pandemic, many people are starved for time.

"This winter, I was at a garden center to get greens for a wreath and I wasn't happy with the selection," Cady said. "I thought, 'Forget that, I don't have the time, so I'm going to buy a wreath for \$75.' I pride myself on doing it myself, but buying the wreath was so much easier. There are a lot of parents working and taking care of kids. They want 'plant it and forget it.'" SINCE WEEKS 6494 Windsor Island Rd N 1908 Derry nursery Keizer, Oregon 97303

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#### The approachable container

Bright blooms of the Primary Perfection™ mix work well in containers. PHOTO COURTESY OF SKAGIT HORTICUI TURE

## Finding plants wholesale

There is no shortage of plants on the market that will work in a container arrangement, but the OAN's Nursery Guide book and website is the resource that can help you find and obtain them quickly.

Simply log on to www.NurseryGuide.com and enter the plant's common or botanical name. You can make your search as wide (say, all

of Carex) or narrow (say, Carex morrrowii 'lce Dance') as you like. Enter your search, find out who is selling it, then call or email to connect with the arower. It's that simple!



All of the selections in this article are listed on the site, and you'll find others if you search:

- Calluna (Heather)
- Carex (Sedge)
- Colocasia (Elephant Ear or Taro) 6 different selections
- Delphinium (Larkspur)
- Dicentra (Bleeding Heart)
- *Digitalis* (Foxglove)
- Erica (Heath)
- Euphorbia (Spurge)
- Ferns (various)
- Heuchera and × Heucherella
- Hosta (Plaintain Lily)
- Musa (Banana)
- Rudbeckia (Coneflower)

- **13** different selections
- 16 different selections
- 12 different selections
- 6 different selections
- 2 different selections
- 14 different selections
- 11 different selections
- **65** different selections
- **47** different selections
- 71 different selections
- 4 different selections
- 7 different selections
- Plus untold numbers of annuals, conifers, berries, vegetables, succulents and more — just search by common or botanical name

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If you grow any of these plants, or others, you can add your company and start getting calls. Just log on to www.NurseryGuide.com to get started. You must be an OAN member.

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If you grow any plant, and it is not listed on Nursery Guide, no worries - we would appreciate knowing about it. Just let us know, and we will add it to our database. Contact us at nurseryguide@oan.org to get started. Our site lists the cultural information, description, photos, hardiness zone, mature height and width for each plant, and much more.



But, plenty of DIYers want to make up pots themselves and get inspiration from the containers they see already designed at garden centers. Salwitz doesn't care if people copy her designs. What matters is that they get ideas and buy the plants to go in the containers. She has noticed that what they're buying are perennials, ground covers and shrubs. Annuals haven't disappeared by any means, but the plants used in containers are branching out.

"Foliage is definitely a thing," Denise Mullins, director of plant innovation at Smith Gardens in Bellingham, Washington, said. "Especially plants that offer colors in their foliage. Things like variegated varieties of Carex are shockingly good in containers."

Ferns, heuchera and hostas fit in the fabulous foliage category. Tropicals like Colocasia, Alocasia and bananas also lend their dramatic foliage to containers. When Smith Gardens designs a large, high-end container, Mullins will often mix in tender tropicals or use them in a pot by themselves.

Tropicals are so popular they can sell for hundreds of dollars online — including one Mullins saw go for \$700. She likened it to the tulip craze of 17th century Holland, when tulips became so popular that one bulb could cost a year's salary. The inflated prices eventually caused a financial meltdown that ruined many a Dutchman. That's not likely to happen with tropicals, but they certainly are a money-maker in today's market.

Conifers are making their way into con-

Left: A combination piece features Begonia 'Ring Of Fire'. Center: The sun-loving container Arizona Sun is full of warm colors. PHOTO COURTESY OF SKAGIT HORTICULTURE

**Right:** Fill a container with plants of different heights for a classic composition. PHOTO COURTESY OF CHRISTINA SALWITZ



tainers, too, according to Karsseboom. He sells hanging baskets as small as a hand to so large that it takes two people to move them. When the conifer gets too big for the basket, the customer can plant it in the ground, which frees them up to buy new plants to fill the container again.

#### Containers as transitional spaces

For clients who balk at spending signif-



icant money on a choice conifer, Salwitz tells them to think of containers as transitional spaces, where plants are grown larger for the landscape.

"Take a weeping *Sequoia*: In a year or two, you'll have a 10- to 12-foot tree," she said. "You're taking a \$100 plant and growing it into a \$200 plant. You're investing in plants that will anchor the winter container and then go into the landscape as a more



substantial plant than they could afford." Even if customers aren't convinced to

purchase the \$100 plant, garden centers can make up for that left-behind conifer by



#### The approachable container



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As Cady of Skagit Gardens mentioned, annuals don't play the overarching role they once did. But there are some unusual annuals making waves. Salwitz turns to *Setcresea*, *Oxalis* 'Iron Cross', many types of *Celosia*. She loves to use fancy basil like 'Magic Michael' (also called 'African Blue').

When it comes to perennials, Cady named heather (*Calluna*) and heath (*Erica*), especially dwarf varieties such as the *Calluna vulgaris* Beauty Ladies<sup>®</sup> series, as two genera gaining in popularity. Hellebores are appearing in containers in a big way, as are euphorbia, *Rudbeckia, columbine* (*Aquilegia*), bleeding heart (*Dicentra*), salvia, snow-insummer (*Cerastium tomentosum*), larkspur (*Delphinium*), foxglove (*Digitalis*) and many types of succulents, both tender and hardy.

While edibles have been hot for years, gardeners — especially DIYers — have gone even more crazy for them, tucking blueberries, dwarf raspberries, decorative vegetables like 'Bright Lights' chard, kale and other greens into containers with ornamentals.

"People doing edibles in pots is huge, ginormously, huge," Salwitz said. "For the most part, they are less concerned about aesthetics and more interested in function. That said, there are many ways to make edibles attractive in containers, including the container itself."

Buying beautiful pots is an investment for both the consumer and nurseries, but Salwitz believes it's becoming more common, "It's getting easier and easier to get people to invest in higher-end containers. Pots that are so over-the-top no one cares if there are plants in them. It's like a cat with a shiny thing. Planting them gives you a higher price point. You're selling sex appeal, the whole outfit, not just pots."

Kym Pokorny is a garden writer with more than 20 years' experience writing for The Oregonian (Portland, Oregon) and other publications. She is currently a communications specialist with Oregon State University Extension Service.

# Feeling the heat

Greater efficiency in greenhouses can reap big rewards

#### BY JON BELL

AY CUSHMAN HAS been in the nursery and horticulture industry for a long time. Not only did he graduate from **Oregon State University** with a degree in ornamental horticulture and spend more than 15 years with companies such as **Sun Gro Horticulture** and **McConkey Company**, but he's spent the last nearly 12 years in greenhouse sales for **OBC Northwest**.

In his experience in the industry, especially in his greenhouse work for OBC Northwest, Cushman has learned that there's one thing that growers and nursery owners want to talk about more than anything else. It's not energy efficiency, it's not structure and equipment design, and it's not better ways to heat a greenhouse.

"People would much rather talk about plants in this business," Cushman said. "If it's something that makes the plants better or it's the newest plant, they're ready to have a chat and talk about it."

While that's understandable, there might be other topics

that growers and nursery owners, particularly in the greenhouse space, should be talking about — like energy efficiency, structure and equipment design and better ways to heat a greenhouse.

> "I believe greater consideration needs to be given to this whole scope," Cushman said. "As growers and family businesses expand, this is going to become a much more important component."

Heating and energy usage in greenhouses have long been key to how efficiently plants inside them grow — and how efficiently owners and growers can run their operations.

As more attention has been turned toward carbon, from both a regulation and planetary angle, finding ways to be more efficient has become more important than ever. But it's not always easy for growers to commit to sig-

nificant upgrades, which come with hefty price tags. Thankfully, there are options and innovations available that, when paired with sizable financial incentives from the likes Feeling the heat

Previous page, top: Heating a greenhouse is one of the highest expenses a grower can take on. PHOTOS COURTESY OF DEREK SMITH Bottom: An energy curtain installed in a greenhouse can reduces heat loss. PHOTOS COURTESY OF WADWORTH COMPANY



of the **Energy Trust of Oregon** (ETO), can make the shift to more efficient heating approachable and fruitful for greenhouse owners and growers.

"Energy is just an employee that comes into work through a pipe or a wire," said Chris Guntermann, a longtime consultant who has worked with growers and nursery owners for more than 40 years, "and just as you manage your employees, you've got to manage your energy usage to get the most out of it."

#### Warming it up

Heat plays a major role in how greenhouses function properly and create the ideal environment for the crops grown in them, whether that be annuals or hardy plant materials for propagation. Plants grown in greenhouses need relatively uniform heat, and they need to be kept free of condensation, which can lead to disease.

But that heat also comes at a high cost. According to the ETO about 75% of the energy used in a typical green-

Left: A renovation in eastern Washington paid for itself in less than two years by taking in solar heating during the day. Replaceing the twinwall with triple wall cut heat loss, as well. PHOTOS COURTESY OF CHRIS GUNTERMANN

house goes to heating. (An additional 12% goes to electricity and 13% is for transportation.)

These days, most greenhouses employ a range of heating systems to deliver heat and maintain optimal conditions for their plants. Depending on the greenhouse and crop, heat may come from different types of equipment, including unit heaters for heating a specific space, boilers and high-efficiency condensing boilers, under bench heating, which warms the roots of plants and radiant floor heating. Direct vent heaters, which bring in fresh air from the outside, warm it and blow it into the greenhouse, are another option.

"When customers are entertaining how to approach the design of their greenhouse, we go through a number of steps to look at specific processes and products for heating based on what they're look-



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ing for and what they're going to grow," Cushman said. "Within a design, we can calculate how much heat is needed and when it is needed."

When it comes to greenhouse heating, other measures come into play as well. Thermal curtains can help reduce heat Left: Condensing boilers have a smaller footprint than cast iron boilers, and digital controls turn the boiler on when heat is truly needed. **Right:** The benchtop warm water tube heat focuses heat on seedlings and trays, saving energy on heating the entire space. PHOTOS COURTESY OF CHRIS GUNTERMANN

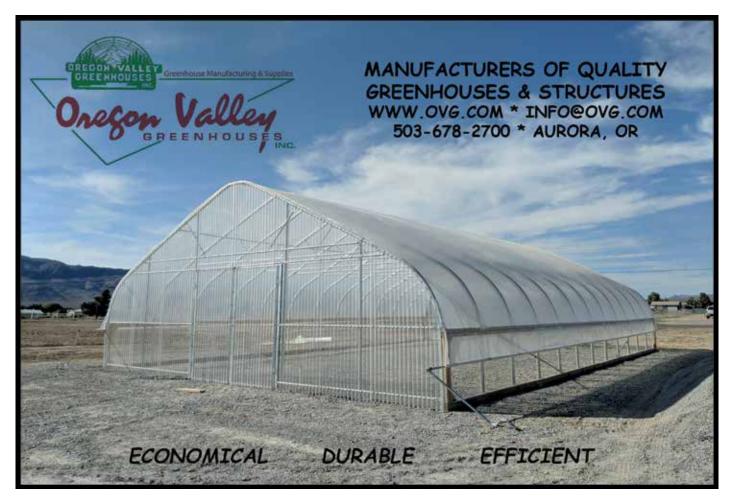


loss, as can an improved greenhouse shell that uses an infrared cover. Additionally, advanced digital control systems can improve efficiency by streamlining when heaters and venting systems are running.

#### **Calculating payback**

Though many greenhouse owners have updated their heating systems, there may still be those out there who are using older technology that's less efficient but who are also hesitant to invest in a newer system. Others may have already upgraded but could improve their efficiency and savings — even more by investing in other heating-related measures.

To help greenhouse growers make needed investments in efficiency, the ETO offers a robust incentive program comprising rebates and calculated incentives. Rebates are available for high-efficiency boilers, thermal curtains, under bench



#### Feeling the heat

An example of warm water floor heating installed on a layer of insulating board. The heater is at 120 degrees. These systems can be sabotaged by poorly controlled or applied cold water irrigation that washes the heat out of the pots, past the tubes, and into the cold ground. It can take 24 hours to bring pot temperatures back up after a cold water irrigation. PHOTOS COURTESY OF CHRIS GUNTERMANN

heating, intelligent greenhouse controllers, unit headers and infrared covers.

Calculated incentives involve a more complex assessment of a project and the before-and-after energy usage to calculate a custom incentive amount. They are available for greenhouse reglazing and condensing boilers. The incentives only apply to natural gas heating.

ETO's incentives can help offset a significant portion of an investment in upgraded heating measures — if not cover the entire cost — in just a few years.

"I get the impression that a lot of growers look at the up-front cost and not much beyond that," said Steve Ziemak, a senior program analyst with ETO. "What we do as part of our analysis is we take the energy savings and the value of that savings and we let the nursery grower know what the simple payback would be based on energy savings."

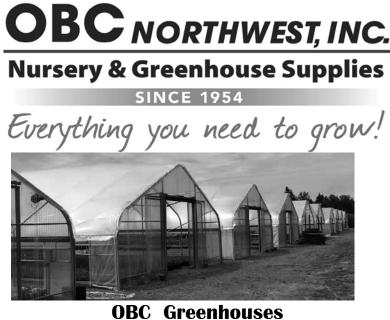
He added that calculated incentives have to have a payback period of less than eight years.

"That being said, we see a lot of projects that have a much better payback, sometimes between one and three years," Ziemak said.

#### Steps to take

Nursery growers and greenhouse owners have an array of options to consider when looking into improving the efficiency and effectiveness of their heating systems. Some are the type of upgrade that





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would make more sense with the assistance of an ETO incentive or rebate. Others are simple steps that can make a noticeable difference with minimal effort.

Take a look — Guntermann said a simple quarterly walkthrough can help identify areas where heat might be escap-

ing or where other improvements could be made. He also suggests conducting that walkthrough late at night to get a sense of what's going on when no one's around. "Do it at 2 in the morning in your bunny slippers and you'll feel exactly where the cold air is coming in," he said. This condensing natural gas unit heater which shows the benefit of in-and-out venting using plain pvc pipe rather than stainless steel. It brings in outside air, burns it, then vents it back outside. The condensate line is shown, along with an acid neutralizer. PHOTOS COURTESY OF CHRIS GUNTERMANN

Condense it — If you have yet to upgrade to condensing boilers, look into it. Annual savings can top 30%, and payback range is usually between three and eight years. ETO can help with a rebate for new boilers, too.

**Plug the gaps** — It seems obvious, but be sure to seal any gaps where heat might be escaping. Also, insulate all pipes, and consider upgrading your greenhouse shell to help conserve energy.

Higher heat — Consider specific heating systems depending on the type of crops and plant material. More efficient options could include radiant floor heating, under bench units or direct-vent heaters.

Seize the controls — Analog control systems don't do a good job of maximizing efficiency. Digital systems automate everything to ensure the heat is being delivered only when it should be and



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#### Feeling the heat

that venting is done properly. Some systems come with data loggers to help growers become even more efficient over time.

Get online — There are valuable tools online to help growers improve their greenhouse heating an efficiency. Among them: The USDA's Virtual Grower (tinyurl. **com/np8st4d2**) tool, which allows greenhouse owners to determine heating costs and do simulations to determine where improvements can be made, and ETO's "Greenhouses Energy Savings Guide," (**tinyurl.com/s6wkxras**) which offers tips and suggestions on potential upgrades.

# Soliculture brings power and light together as one

California company's solar panels turn greenhouses into power plants

It almost sounds more science fiction than horticulture.

Scientists from the University of California/Santa Cruz and NASA teamed up with greenhouse growers and Silicon Valley to create solar panels that not only enhance light for growing crops in greenhouses but generates electricity, too.

Today, a California company called Soliculture specializes in these panels, called greenhouse integrated photovoltaic panels, and helps growers maximize crop production while generating clean energy.

Glenn Alers, president and CEO of Soliculture, was one of the original researchers in the physics department at UCSC looking into ways to incorporate building integrated photovoltaics — essentially power-producing solar panels installed on building facades and roofs — into greenhouses. Their particular panels convert green light to red light, which has been shown to be better for both crop and power production.

"We were all physicists and didn't know how to grow anything," Alers said, so we partnered with growers to really figure it out."

Soliculture completed its first commercial installation in 2015. Since then, the company has been installing panels in greenhouses in places like California, New York and Ontario, Canada.

Alers said renewable energy incentives can help cover the cost of installation, but even without any incentives, payback is usually between five and nine years. A federal solar incentive on a new greenhouse, which comes in the form of a 26% tax credit and applies to the entire structure of the greenhouse, would likely cover the entire cost of the panels.

Much of the interest in Soliculture's panels has been coming from California and some sunnier spots in the Midwest. Alers said the technology is most applicable in those kinds of locales, especially where power is expensive. In places like Oregon, where there is less sunlight and plenty of cheap power, the panels don't make as much sense. However, Alers noted that places like southern and eastern Oregon, where cannabis has become a popular crop, would be a good fit for Soliculture's systems.

He said greenhouse growers are often skeptical of promises to improve crop yields, but there's no denying the power-generating benefits of Soliculture panels.

"It can be hard to quantify the crop yields," Alers said, "but they definitely understand the electricity side of it."

For more information, visit www.soliculture.com

#### Making comparisons without an audit

The USDA Virtual Grower tool, which is downloadable software available for free, is particularly helpful for growers who want to evaluate possible greenhouse improvements and even make comparisons, said Michelle Moore, CEO of Adapt8 in Brooks, Oregon, which makes Solexx greenhouses and greenhouse coverings.

It allows the grower to input all the parameters of their current greenhouse — height, width, length, covering, heat source, temperature requirements and when those requirements apply — and then create virtual greenhouses to compare it to, with different parameters. The costs of the fuels used for heating are taken into account in the cost projections.

"The primary benefit is that you can do an analysis to determine the best investment for your money that has the highest return," Moore said. "You can quickly compare multiple scenarios. You can look at the type of heater, the type of fuel, the type of covering, the greenhouse design, and also the lighting."

Growers can look at their cost savings very quickly to determine the payback period or return on investment for various upgrades.

"They can use the data to apply for various incentives, while saving the expensive energy audit that they normally would have to do to qualify for an energy rebate," Moore said.

Adapt8 used the tool recently when it created its own test greenhouse at the corporate headquarters. By using the Virtual Grower tool, Adapt8 had hard data that enabled them to apply for an ETO rebate on the improvements they made. "We didn't have to hire anybody to do an energy audit because it was straight out of the USDA database," Moore said.  $\textcircled$ 

Jon Bell is a freelance journalist based in Oregon who writes about everything from craft beer and real estate to the great outdoors. He can be reached at jontbell@comcast.net.

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# Nursery Guide LIVE clicks into place

# (CONTINUED FROM PAGE 20)

to showcase our items and also our different divisions that a lot of people might not really know about."

Though it's busy season for nurseries and he didn't have too much time to peruse other booths during Nursery Guide LIVE, Fessler said the event was a good marketing tool for Woodburn Nursery & Azaleas.

"I think it went really well," he said. "We used it more as a marketing tool and working on building our brand. There was a lot of good information out there, and I think it's really something that can grow and be a good tool for the association."

# The hybrid ahead

And that, in fact, is just how the association is looking at Nursery Guide LIVE for the future.

Niemi said the technology will

continue to evolve, making the virtual marketplace experience even better with new advances. He also said OAN is thinking about making Nursery Guide LIVE an annual event that would occur in the winter, sort of a virtual supplement to the annual in-person Farwest Show in August. The latter trade show is currently scheduled for August 18–20 in Portland, though the association will be watching COVID-19 restrictions and requirements closely.

Staddon, from Everde, said the online option for trade shows seems likely to become more commonplace, especially as a component of a hybrid option that features both in-person and online options. It won't ever replace the traditional trade show, which is a key aspect of the nursery industry, but there's a lot of opportunity for it to enrich the entire industry in the future.

"As an industry, we are very social. We

like to see each other, meet new people and maintain relationships we've had. We like to see the plants, what they look like and feel like, what their fragrance is," Staddon said. "But there's also a lot of opportunity (in online platforms) and I think OAN should not back down from it. There's an opportunity to really think out of the box and put something great together." ©

Jon Bell is a freelance journalist based in Oregon who writes about everything from craft beer and real estate to the great outdoors. He can be reached at jontbell@comcast.net.

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# GROWING KNOWLEDGE

Series content is coordinated by Dr. Jay Pscheidt, professor of botany and plant pathology at Oregon State University in Corvallis, Oregon.





An ongoing series provided by Oregon State University in collaboration with the United States Department of Agriculture and in partnership with the Oregon Association of Nurseries

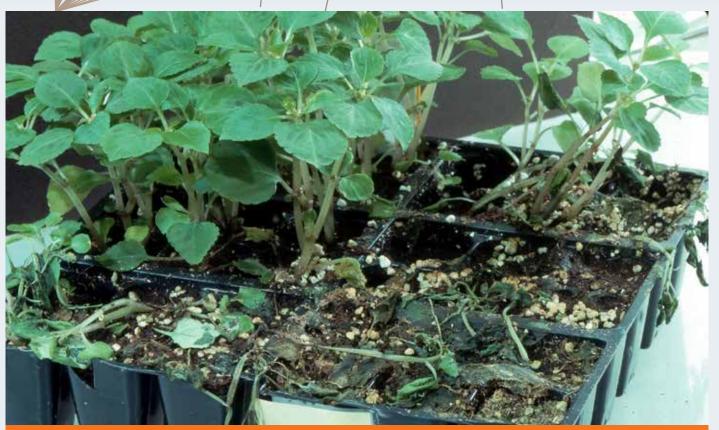


Figure 1: These Impatiens have collapsed due to Rhizoctonia sp. PHOTO BY STACY FISHER, 1990.

# Villains of the greenhouse

# When seedlings fail, Rhizoctonia damping-off, root and stem rot may be the cause

# BY JAY W. PSCHEIDT

HERE IS SO MUCH hope for the future when we plant seeds, but that can be dashed when they don't emerge, or when they fall over soon after popping out of the media. There are many fungi that live and survive in the soil that can be responsible. The usual suspects include *Rhizoctonia* species, *Fusarium* spp., and *Pythium* spp. Each is favored by different conditions, even though symptoms are similar. In this article, we will focus on diseases of greenhouse-grown ornamentals caused by *Rhizoctonia*.

Many different hosts are susceptible to these fungi including *Alyssum*, carnation, *Coleus*, *Crocosmia*, *Delphinium*, Douglas fir,

ginseng, impatiens, lily, pansy, petunia, poinsettia, snapdragon, and tulip.

# Symptoms

Poor emergence or seedling collapse are indicative of damping-off. Seeds or emerging radicles may become rotted. After emergence, stems, roots, and cotyledons may rot at or below the soil.

A light brown fungal growth (mycelium) may grow over the entire seedling and over large sections of trays. Cuttings might develop a brown dry canker on the stem at the infection site. The canker enlarges up the stem and down into roots, followed by

# Villains of the greenhouse

Figure 2: Crown rot of Pansy due to Rhizoctonia sp. OSU PLANT CLINIC IMAGE, 2010.



wilting and cutting death.

Older plants can develop stem lesions, crown and root rots. Lesions on older plants are drier (compared to those by other organisms), reddish-brown to dark-brown and become slightly sunken. Lesions generally occur near the soil/ media line. Stem and root lesions often are shallow, but may extend deeper in young stem or root tissue. Sometimes a brown fungal or web-like growth may be visible with a hand lens on the surface of the lesions. These older plants wilt, collapse, and die if these lesions girdle the stem.

Densely planted seedlings or plants may develop a web blight where this fungus grows over and mats the leaves. It can also occur when leaves are in contact with the soil medium. In poinsettia, browncankered crown rots can occur without root rot. Longitudinal cracking and a dry appearance of the rotted crown tissue often develop on older plants.

Cuttings may be attacked by the fungus during rooting, where it enters through physical wounds or wounds from salt accumulation at the soil line. Other fungi such as *Fusarium*, *Pythium* and *Phytophthora* are also frequently involved with damping-off and cutting rots. It is not easy to tell these organisms apart by visual inspection, so send them to the Oregon State University Plant Clinic (https://bpp.oregonstate.edu/plant-clinic) for diagnosis.

### The fungus

*Rhizoctonia* spp. are soilborne fungi that survive from crop to crop as very small, dense, tightly-packed structures called sclerotia. These fungi can also survive as microscopic strands (mycelia) that colonize bits of organic matter.

Roots become infected as they grow past these survival structures. The fungus then grows along the root surface and forms an aggregation called an infection cushion. This aggregation then pushes into the root where it colonies and kills the tissue.

The fungus can form knots of mycelium that develop into sclerotia. These are released into the soil as plant debris decomposes. *Rhizoctonia* can also grow across the soil/media surface to attack the base of stems or leaves in contact with the ground.

The fungus can be spread by water, contaminated tools, transportation of infected plants, and propagation of infected plants. Disease is favored by high air temperatures, soil temperatures between 62°F and 79°F and moderately moist soils. Wounding, poor sanitation, and high nitrogen fertility favor disease development.

### Management

Good sanitation and cultural practices are essential, including clean growing surfaces, clean water, and handling practices along with soilless media.

First things first: Start with cultureindexed plants free of the pathogen. This includes the purchase of new, clean seeds.

Next, plan to use a new soilless potting mix. If you must use soil or reuse media it has to be steam-treated for at least 30 minutes at 180°F.

Once it has been purchased or treated, keep field soil out of contact with clean media. Also, avoid reusing pots or trays from a previous crop for propagation. If pots or trays must be reused, then wash off all debris and soak in a sanitizing solution or treat with aerated steam for 30 minutes. Disinfect any tools and equipment that might be used and contaminate the media.

During production, use sound horticultural practices that have been successful in your facility. Maintain adequate fertility for moderate plant growth. Monitor

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# Villains of the greenhouse

Figure 3: This Sisyrinchium sp. root has Rhizoctonia root rot. OSU PLANT CLINIC IMAGE 2019.



strain G-41).

The bacterial based products include: Actinovate SP (Streptomyces lydicus strain WYEC 108) used as a soil drench; Mycostop (Streptomyces Strain K61) which must be applied with enough water to move the product into the root zone; Stargus (Bacillus amyloliquefaciens strain F727) as a soil drench where weekly applications were effective in one Viburnum trial; Subtilex NG (Bacillus subtilis stain MBI 600) as a drench: Triathlon BA (Bacillus amyloliquefaciens strain D747);

soluble salt concentrations regularly. Use media pH and soil wetness appropriate for good crop growth. Water plants such that they are not wet for extended periods of time. Also, manage fungus gnats especially during rooting.

Remove plant debris during production and thoroughly clean and sterilize the greenhouse between production cycles.

These cultural control practices reduce or eliminate the need for chemical drenches.

An accurate diagnosis should precede chemical treatment, since most of the chemicals are not effective against all the pathogens that might cause damping-off. If used, treatments must be made before infection occurs. Rotate among fungicides from different groups with different modes of action. Be sure to check labels for crop safety before application.

Many different chemicals are registered for management of *Rhizoctonia*. These include: Affirm WDG applied as a soil drench; Banrot 40 WP (avoid using the granular formulation); Broadform; Chipco 26019 N/G; Empress can be used for cuttings or seedlings; Fame as a soil drench; Heritage; Pageant used as drench; Palladium (as long as excessive runoff is avoided to small plants, which may result in stunting or chlorosis); ProStar 70 WG; Terraclor 400 (excellent efficacy); and Terraguard SC.

Emblem, Medallion and Spirato GHN are registered but be careful not to use with oils or adjuvants as that can cause plant damage. Thiophanate-methylbased products, such as Cleary's 3336 EG and OHP 6672 4.5 F, are also registered but have resulted in inconsistent efficacy.

# **Biological control**

Several biocontrol products are registered, and are considered organic, but they must be used in conjunction with other control tactics such as thorough sanitation. The fungal based products include: Asperello T34 (Trichoderma asperellum strain T34) which can be incorporated into the potting media but do not mix or use with other fungicides for 10 days; Bio-Tam 2.0 or Tenet WP or Obtego (Trichoderma asperellum and T. gamsii); Prestop (Gliocladium catenulatum strain [1446] can be applied as long as other products are not in the same tank; and RootShield Plus Granules (Trichoderma harzianum Rifai strain T-22 and T. virens

and Zio (*Pseudomonas chlororaphis* strain AFS009) as a soil drench.

# Summary

With good sanitation and attention to the horticultural needs of the crop, these diseases can be avoided. If disease develops, get an accurate diagnosis and follow appropriate recommendations accordingly. C

Jay W. Pscheidt is an extension plant pathology specialist and professor of Botany and Plant Pathology with Oregon State University in Corvallis, Ore. He can be reached at pscheidj@science.oregonstate.edu.

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# A pause for appreciation

# This is my 126<sup>th</sup> column as your executive director, and a lot has happened in the last 10½ years.

As a history nerd, I went back to find the oldest version of *Digger* I could. I was able to locate Issue #2 (ever), from June 1956. The Oregon Association of Nurserymen, as it was known then, was under the leadership of Melvin Surface.

In this column, I will contrast what was going on back then versus now, reflect on the proud foundation which the industry provided us, and make a couple observations as we kick off April.

# The nation in 1956

In 1956, Elvis Presley's "Heartbreak Hotel" was coursing through the radio as America was introduced to the King of Rock n' Roll on the Ed Sullivan Show. President Dwight D. Eisenhower won reelection easily in a rematch with Adlai Stevenson, and the nation was embarking on fulfilling a top priority of the administration — the interstate highway system.

The federal budget was \$62.4 billion — compare that with the present day, where President Joe Biden just signed a stand-alone spending bill for COVID-19 that was almost \$2 trillion — and only one in three pursued a college education. Gas was 22 cents a gallon, a home cost \$11,700 and the average salary was under \$5,000.

Yahtzee was uttered for the first time, Certs was a cause of debate for why that minty taste did not have any actual mint in it, and the nation was introduced to The Price is Right — but there was no young Bob Barker. Bill Cullen was the host.

# During the 'I like Ike' years

Under this backdrop, our very own nursery industry was gaining attraction from eastern growers. Trains were coming out west to take a gander at the operations in Oregon.

Alfred Tuefel was bringing forward a notion of using temperature control and shipping dynamics that accounted for what happens to a plant on the long journey to its customer. *Digger*'s original focus was Oregon, Washington, Montana, Idaho, Northern California and British Columbia. The contents showcased what Oregon was doing, and the magazine promised it "might give an idea or two."

Pests and diseases were a concern. The "holly leaf miner" had been detected and the Oregon Department of Agriculture gave a clean bill of health to growers in the state.

However, the most intriguing information in the magazine was the Agricultural Census that demonstrated the increasing importance of horticulture. National growth in nursery stock from 1949 to 1954 (reported in 1956) rose to \$450 million. Federal census takers "observed" that ornamental horticulture, particularly the production and distribution of woody products, was on the rise.

A 40% growth rate between the two census reports was a true harbinger of the growth potential of the industry over the next 65 years.

# Things that bind us

Melvin Surface's message in 1956 was, "I know you are busier than the dickens right now." That's as true now as it was then! Trucks continue to bring your bounty to the public, which then affirms the beauty of the plants and trees that our state grows.

Oregon has been blessed by elite growing conditions, available water, and a rigid pest and disease protocol that adds up to the highest quality material in world. Through hard work, dedicated growers and retailers have grown material that has stood the test of time.

In 1956, the association was looking forward to convention in Gearhart, Oregon, and *Digger* Magazine was a tether between the members and the larger industry.

Today, *Digger* is the gold standard for an industry news source and dedicated staff work hard to bring relevant content. For 2021, we are upgrading that convention a tad. The association is planning to make good on its plans to go to Hawaii this November 2–4 (save the dates). Maui sounds nice right about now.

# 2021 and looking forward

When President Eisenhower proposed investing in an Interstate Highway System and in infrastructure needs up and down the



Jeff Stone oan executive director

economy, he had his doubters. His experience in World War II showed him that other countries were well ahead on the basics of moving goods and people, so business markets could be expanded. In 2021, we have the same opportunity to look ahead. The issues may be different, but the common denominator then and now is nurseries.

Climate is a hotly debated issue. Time and again, the OAN has pointed to the benefits of plants and trees to mitigate emissions. Water infrastructure is consistently kicked down the road, but much like Ike's highway project, the economic multiplier effect of delivery of water is 10 times that.

Labor continues to be a challenge that vexes agriculture across the country. There is finally a window that must be taken by Congress to fix the broken immigration system. Otherwise, other investments will not yield their amazing possibilities. President Eisenhower looks smart in the judgement of history — I hope that President Biden is viewed that way in the decades to come. Time will tell.

# Spring is here

2021 started out with some challenges for sure, but to me, April is the growing season when flowers explode on the landscape. Nominal warmth is t-shirt time, and the step — yes, that has a spring to it as well. Even the rain cannot get us down. The public can recite "April showers bring May flowers," as winter's last grasp opens a season when the nursery industry shines.

We still can recognize the ties that bind the industry together. It's you and other people who make this industry as wonderful as it is. Happy spring! C



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