# DIGGE!



## Satisfying in small spaces

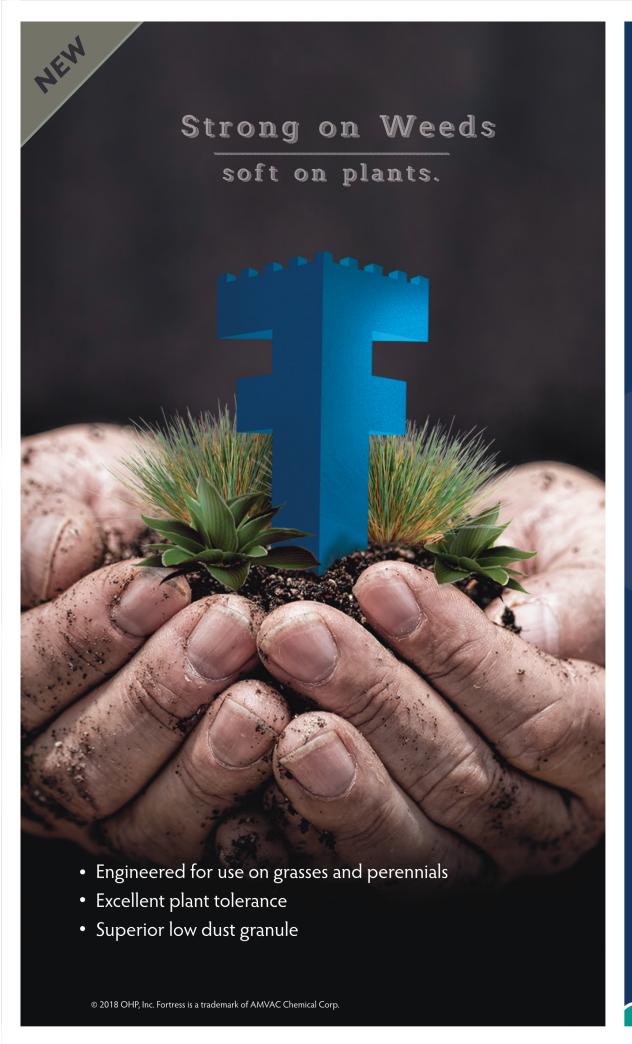
Trees, conifers and weepers that fit the bill

Solving irrigation drip tape damage

PAGE 27

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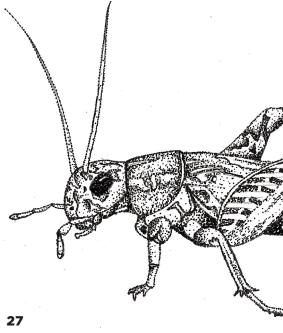
August 21-23, 2019 www.FarwestShow.com

FARWES I



# July 2019 vol. 63 No. 7





## Satisfying in small spaces

Growers share their favorite selections of small trees, conifers and weepers that consumers are looking for, but are still feasible to produce in wholesale quantities.

#### 15 Meet the Leader: Amanda Staehely

Growing plants has been a part of Amanda's work and home life for as long as she can remember, and she enjoys volunteering for the OAN.



#### **Farwest Show New Varieties Showcase**

Preview the new plant varieties coming to the Farwest Show. Special supplement after Page 16

## 27 Solving irrigation drip tape damage Managing the pests that are causing irrigation drip.

Managing the pests that are causing irrigation drip tape problems

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On the cover: Scarlet Fire® dogwood (Cornus kousa 'Rutpink'). Photo courtesy of rutgers university On this page: Left: Acrocona Norway spruce (Picea abies 'Acrocona'). Photo courtesy of wikimedia Right: Grasshopper. Photo courtesty of oregon state university



## AN INDUSTRY FIRST ... DEBUTS AT 2019 SHOW



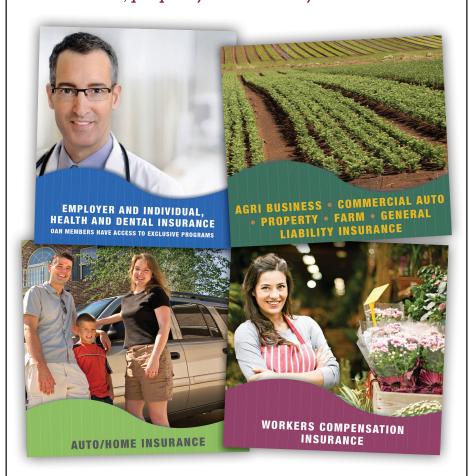
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#### **STAFF**

Jeff Stone jstone@oan.org EXECUTIVE DIRECTOR 503-582-2003

**Beth Farmer** bfarmer@oan.org COMMUNICATIONS & 503-582-2013 WEB DESIGN MANAGER

Bill Goloski bgoloski@oan.org PUBLICATIONS MANAGER 503-582-2009 khood@oan.org

Kelsey Hood **EVENT & PROGRAM** 503-582-2010 COORDINATOR

**Debbie Hopkins** dhopkins@oan.org ACCOUNTING & DATABASE 503-582-2004 MANAGER

**Curt Kipp** ckipp@oan.org DIRECTOR OF COMMUNICATIONS 503-582-2008 & PUBLICATIONS

> Zen Landis zlandis@oan.org **EVENT & EDUCATION** 503-582-2011 MANAGER

aniemi@oan.org Allan Niemi DIRECTOR OF EVENTS 503-582-2005

**Blair Thompson** bthompson@oan.org ADVERTISING 503-582-2012 ACCOUNT MANAGER

Stephanie Weihrauch sweihrauch@oan.org DIRECTOR OF FINANCE & ADMINISTRATION

#### **DIGGER**

Curt Kipp ckipp@oan.org EDITOR 503-582-2008 Bill Goloski bgoloski@oan.org ART DIRECTOR 503-582-2009 Blair Thompson bthompson@oan.org **ADVERTISING** 503-582-2012

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#### 2018-2019 **EXECUTIVE COMMITTEE**

Mike Hiller PRESIDENT KCK Farms LLC 11483 SE Amity-Dayton Hwy.

Dayton, OR 97114 hillermike@ymail.com 503-864-9422 FAX 503-864-4412

Jim Simnitt PRESIDENT-ELECT

Simnitt Nursery 138 NE 22nd Ave. Canby, OR 97013 simnittnsy@canby.com 503-266-9640 FAX 503-263-6330

Josh Robinson VICE PRESIDENT Robinson Nursery Inc. P.O. Box 100 Amity, OR 97101 josh@robinsonnursery.com 877-855-8733 FAX 503-835-3004

Kyle Fessler TREASURER Woodburn Nursery & Azaleas Inc. 13009 McKee School Road N.E. Woodburn, OR 97071 kylef@woodburnnursery.com 503-634-2231 FAX 503-634-2238

Josh Zielinski PAST PRESIDENT

Alpha Nursery 5050 Hazelgreen Rd. N.E. Salem, OR 97305-3519 josh@alphanursery.com 503-390-1286 FAX 503-390-2639

Denece Messenger SECRETARY

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**Todd Nelson** MEMBER AT LARGE

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#### **BOARD OF DIRECTORS**

Tom Brewer ASSOCIATE MEMBER HC Companies Inc. ProCal tbrewer@hc-companies.com 503-686-8448

Adam Farley CONTAINER GROWER Countryside Nursery afarley@countrysidenursery.com 503-678-0511

Ron Kinney

Monrovia CONTAINER GROWER rkinnev@monrovia.com 503-868-7941

Columbia Nursery amandastaehely@gmail.com

Amanda Staehely CONTAINER GROWER

503-810-2598

Jesse Nelson FIELD / BARE ROOT GROWER

Hans Nelson & Sons Nursery Inc. inelson@hansnelson.com 503-663-3348

Chris Robinson FIELD / BARE ROOT GROWER

Robinson Nursery Inc. chris@robinsonnursery.com 877-855-8733

**Jav Sanders** FIELD / B&B GROWER KG Farms Inc. isanders@kgfarmsinc.com 503-678-3245

Ben Verhoeven GREENHOUSE

Peoria Gardens Inc. benv@peoriagardens.com 541-753-8519

Mark Leichty GREENHOUSE

Little Prince of Oregon Nursery mark@littleprinceoforegon.com 503-678-5687

Gary S. English RETAIL

Landsystems Nursery gary@landsystemsnursery.com 541-382-7646

## OAN goes to Washington, D.C.

I traveled to Washington, D.C. along with our OAN executive director. Jeff Stone, and the chairwoman of our Government Relations Committee, Leigh Geschwill of F & B Farms & Nurserv.



Mike Hiller OAN PRESIDENT

We were there to represent the Oregon Association

of Nurseries, and to lobby for the needs and priorities of Oregon's nursery industry.

This was my first trip to our nation's capital and it was one of the best experiences of professional life. We had a full docket of meetings lined up with key officials and members of Oregon's Congressional delegation — 14 meetings in two days! There was not one cancellation. Each meeting was meaningful and laid the groundwork for future progress.

One of the main reasons for our success was the previous visits to D.C. that the OAN has made. Over many years of in-person meetings, the OAN has developed an ever-growing list of contacts and has built relationships with new, up-and-coming staff. This investment in time and relationships over the years ensures that our voice is heard by the right people, and they in turn can ensure our message is echoed in government.

In our face-to-face meetings, we covered several important topics.

One was a new trucking bill that would allow trucks to be loaded without having the time count against the driver's maxi-When we speak out, it makes mum number of hours on the road.

Another was labor. We need a legal, available and willing workforce.

a big difference. Finally, we invited many of the people to tour some of Oregon's growing operations so they can make connections with businesses in their district (if applicable) and

simply see what we do and what challenges we face. We will be following up with officials, so please let us know if you're an OAN member and wish to host a tour. One of my many takeaways from this experience was that the government is very large — not much of a surprise with that. It does demonstrate the importance of casting a wide net of connections. We can fill an important role by connecting and streamlining

how difficult this task of aligning parties to help our industry thrive. Our voice needs to be heard. When we speak out, it makes a big difference. When Tom Fessler went to the Oregon Legislature to discuss the effects of the state's proposed carbon tax legislation on his business, and all our businesses, it turned a lot of heads.

the communication between all entities. Just the sheer size of government alone shows

It doesn't mean we will prevail on this particular issue. At press time for this issue, it didn't look great. Sometimes it's about containing the damage, or just getting our objections on record. The effort on behalf of our growers and our industry is always necessary and worthwhile, nonetheless.

Thank you to all of you who make our industry strong and whose relentless support echoes over many years. Though our industry evolves, we will always need a few basic things — water, labor and sun.

I hope this is a great growing season for you that will yield the results you are looking for. Please remember to support or industry. Mile Heller If you are unsure of how to help, just reach out to us and the OAN office and we can connect

you to make sure your voice is heard.

People noticed and they listened.



### **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.

#### **JULY 19**

#### TRUCKS TO SUMMER TRADE SHOWS

July 19 is the deadline for sending pallets to IGC Chicago. Space is limited and reservations are on a first-come, first-serve basis. OAN must have a least 10 confirmed pallets for IGC Chicago to carry out shipment. Trucks may be subject to cancellation if participation minimums are not met. To make a reservation, contact Kelsey Hood, OAN event and program coordinator, at khood@oan.org or call 503-582-2010.

#### **JULY 10**

#### MT. HOOD CHAPTER PITCH AND PUTT

Inspired by the movie Caddyshack, the OAN Mt. Hood Chapter is hosting a golf event for growers to cheer, "It's in the hole! It's in the hole! It's in the hole!" The tournament will be held at McMenamins' Edgefield Golf Course (2126 S.W. Halsey St., Troutdale, Oregon). Player packages include a sponsor bag, a rental putter and pitching wedge (or you can bring your own equipment), one ball and one beer. Each guest will take a shot at the mandatory closest-to-the-pin competition. A 50/50 raffle to benefit the chapter is also planned. For more information, contact Scott Ekstrom at scott\_ekstrom@yahoo.com or 503-926-4321.

#### **JULY 13-16**

#### **CULTIVATE'19**

Presented by AmericanHort, Cultivate offers educational and networking opportunities and exhibits featuring technology, new products, services and plant varieties. Cultivate'19 will take place at the Greater Columbus Convention Center in Columbus, Ohio. For more information, visit www.cultivate19.org.

#### JULY 25-29

#### APLD 2019 INTERNATIONAL **DESIGN CONFERENCE**

The Association of Professional Landscape Designers (APLD) offers a range of garden tours, sessions with CEU credits, and networking opportunities at their ALPD International Design Conerence, held in Renaissance Seattle Hotel, 515 Madison Street, Seattle, Washington. The opening reception will take place in the Amazon Spheres, a conservatories where more than 40,00 plants from the cloud forest regions of more than 30 countries will be on display. For more details, visit www.apld.org.

#### **JULY 28-AUGUST 2**

#### PERENNIAL PLANT SYMPOSIUM

Presented by the Perennial Plant Association and held in conjunction with All-America Selections and National Garden Bureau, the 2019 National Symposium will be in Crowne Plaza Chicago O'Hare Hotel & Conference Center, 5440 North River Road, Rosemont, Illinois. This



#### **AUGUST 21-23**

#### **FARWEST SHOW**

The biggest green industry trade show in the West will take place at the Oregon Convention Center, 777 N.E. Martin Luther King Jr. Blvd. in Portland, Oregon. The show, produced by the OAN, attracts exhibitors and attendees from across the country and the world. For more information, log on to www.farwestshow.com.

event is the largest educational and trade show program devoted solely to herbaceous perennials in North America. Visit perennialplant.org for more information.

#### **AUGUST 8-10**

#### **NURSERY/LANDSCAPE EXPO**

San Antonio, Texas will host this year's showcase of the latest nursery and landscape products. Gain a new perspective by meeting face-to-face with industry experts and participating in more than 32 education sessions and two notable keynote presentations. For more information, go to www.nurserylandscapeexpo.com.

#### **AUGUST 11-14**

#### ISA INTERNATIONAL CONFERENCE

The International Society of Arboriculture (ISA) will host its annual conference and trade show in the Knoxville Convention Center, 701 Henley Street, Knoxville, Tennessee. Join industry leaders from around the world and learn about the latest developments in equipment, technology and research. For more information, log on to www.isa-arbor.com.

#### **AUGUST 13-15**

#### **IGC CHICAGO**

Independent garden center retailers and vendors from all across the country and around the world gather at the Independent Garden Center (IGC) Show for the annual event's trade show, order-writing specials, inspirational keynotes, continuing education and peer-to-peer networking. Go to www.igcshow.com for details.

#### SEPTEMBER 24-28

#### **IPPS WESTERN REGION** ANNUAL CONFERENCE

The International Plant Propagators Society (IPPS) Western Region Conference will be held in Northern California at the Hilton Santa Cruz/Scotts Valley, 6001 La Madrona Drive, Santa Cruz, California. Attendees will be able to network with horticulturists from around the world. Come and learn how new plants are discovered and find out how they get introduced into the market, from original concept through development of offshore stock plant production. There will also be presentations about the latest in chemical and biological control of diseases and insects. Go to wna.ipps.org for more details.

#### SEPTEMBER 25-26

#### **CANWEST HORT SHOW**

Western Canada's premier horticulture show will take place at Tradex, the Fraser Valley Trade and Exhibition Centre in Abbotsford, B.C. For more information, go to www.canwesthortshow.com.



### **Northwest News**

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

OAN leaders visit with members of Congress, federal officials in D.C.

OAN President Mike Hiller, Government Relations Committee Chair Leigh Geschwill and Executive Director Jeff Stone met with all of Oregon's members of Congress, and with several federal officials, in Washington, D.C. in late May.

It was Hiller's first trip to the nation's capital, and it gave him a new appreciation of the size of government and the importance of networking in order to protect and advance the interests of the nursery industry. He saw that such trips not only deliver outcomes, but lay the groundwork for future discussions and positive resolutions of issues. "It was the experience of a lifetime," Hiller said. "It was a great honor to be there talking about issues with our government officials, and they were attentive in listening to our issues."

Issues addressed in the OAN delegation's various meetings included securing a longterm labor supply; funding agricultural research; supporting pest and disease programs; protecting agriculture in trade policy; a fix for policy where loading hours count against truck drivers' limits; rescinding the Internet sales tax; and securing funding for transportation projects and water efficiency pilot programs.

For a full report on the D.C. trip and the issues that were discussed, see our member-exclusive report on www.oan.org (login required).



FFA students helped with the OAN Willamette Chapter Plant Sale during the Oregon Ag Fest. Above, from left: McKay High School students Gerald Hosler, Lillianne Benson Zayne Eads, Kristina Telepenko, Elijah Boardman, Nicole Billington, and Rebekah Major. Below, from left: Gervis High School students Rebekah Hobson, Arlette Tapia, and Salma Betancourt. Photos courtesy of Oan WILLAMETTE CHAPTER

#### WILLAMETTE CHAPTER PLANT SALE **RAISES \$6,013 FOR EDUCATION**

The OAN Willamette Chapter Plant Sale raised \$6,013 at its annual plant sale, held April 27 and 28 as part of the Oregon AgFest at the Oregon State Fairgrounds in Salem. It is the chapter's second best year for total sales.

Proceeds of the sale go to four participating event partners: the Gervais High School Future Farmers of America (FFA), the McKay High School (Salem) FFA, the Salem-Keizer Education Foundation School Garden Program, and the chair's choice of education group. The chair this year was Tucker Ifft of the Gervais FFA Alumni.

Plants were donated by several nurseries and augmented by more than 20 annual flowering baskets grown by Chemeketa horticulture students. Students stationed the booth at all times and were paired by volunteer sales staff, to learn firsthand about the plants, their growth habits and their exposure, as well as proper sales and customer service practices. Meanwhile, FFA students were there to deliver plants curbside and help customers load their purchases.

The Willamette Chapter wanted to send a special thanks to the plant donors: Alpha Nursery Inc., Cousin's Nursery, Heritage Seedlings & Liners Inc., Kraemer's Nurseries



Inc., McKinnon Nursery, Schiedler Family Nursery Inc., Van's Nursery Inc., Villarreal Nursery, Woodburn Nursery & Azaleas Inc., and Youngblood Nursery Inc.

The event was also made possible with the help of Gervais FFA Alumni volunteers, FFA advisors from Gervais and McKay, Brenda Knobloch of the Salem-Keizer Education Foundation, and the Willamette Chapter board members. In terms of extra help, Holden Wholesale Growers Inc. and Van's Nursery provided hand trucks and wagons for the event.

#### OAN SUNSET CHAPTER TACO **TUESDAY TOURS BAILEY**

About 40 OAN members and their



#### **Northwest News**

Jeff Stoven (center), progragation manager, shows guests the progagation facilities at Bailey. Photo BY ZEN LANDIS

guests had a great time June 4 at the OAN Sunset Chapter's Taco Tuesday, held at **Bailey Nurseries Inc.** Attendees were given a glimpse behind-the-scenes of Bailey's propagation, shipping and container production at their Yamhill, Oregon facility. Nursery tours like these are a great opportunity for all kinds of green industry professionals to network with other members and exchange ideas over lunch.

An album of candid photos of the event has been shared on OAN's Facebook page. Please feel free to tag people, add your comments and share the photos on your feed.

## VALLEYBROOK GARDENS LTD. SOLD TO JOSAMI HOLDINGS LTD.

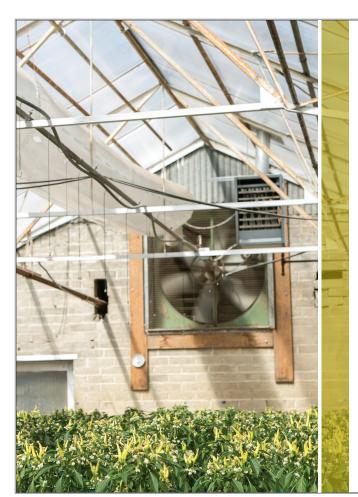
The shares of **Valleybrook Gardens Ltd.**, have been sold to Josami Holdings



Ltd.., according to a release by the companies. Joe Abi-Ad, CFO of a large Canadian nursery, will take over the Abbotsford, British Columbia nursery, retain the existing management team and produce Vallebrook-licensed plants.

The Schroeder family sold the Niagara-on-the-Lake, Ontario Valleybrook Gardens Ltd. location two years ago, but will continue to manage Valleybrook International Ventures, Inc, which licenses the production of Heritage Perennials®, the blue pots, Jeepers Creepers®, Backyard Fresh® and Rock Stars® plant products.

"We found a buyer who values what we have built, and who plans to build on that foundation together with our existing staff and management," Jon Schroeder



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Phytophthora ramorum has been found on rhododendrons sourced from a nursery in Canada and another in Washington. PHOTO COURTESY OF WIKIMEDIA.

said. "After 40 years at the helm, this was a perfect opportunity for us to move on to new adventures." For more information, visit www.valleybrook.com.

**INFECTED PLANTS TRACED TO** 

causes sudden oak death (SOD). None of the infested plants have been traced to or from Oregon, "either forwards or backwards," according to Bill Wesela, national policy manager with USDA Animal and Plant Health Inspection Service (APHIS).

WASHINGTON, CANADA Rhododendrons sourced from one nursery in Washington and one in Canada have been found to be infested with Phytophthora ramorum, the pathogen that

No information on the exact nurseries where the infested plants originated has been released — the traces are still pending. "All of the affected states have been notified, so they're working now to do inspections and such," he said.

The Indianapolis Star (Indianapolis, Indiana) reported that more than 70 Walmart and 19 Rural Kings stores in Indiana were carrying infected plants (tinyurl.com/y5fqd6tb). The Indiana Department of Natural Resources is visiting stores and destroying plants that are testing positive for the pathogen. Meanwhile, KETV-TV 7 in Omaha, Nebraska reported that a small number of plants ended up in Nebraska and are also being searched for and destroyed (tinyurl.com/y552f7bs).

In 2011, the Oregon Association of Nurseries collaborated with researchers at USDA, Oregon State University and Washington State University to publish Safe Procurement and Production Manual: A Systems Approach for the Production of Healthy Nursery Stock. This book outlines numerous best practices for







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#### **Northwest News**

all aspects of production that nurseries can adopt to prevent the introduction and spread of P. ramorum and other pests and pathogens on their nurseries.

#### RESEARCHERS STUDY WOODY PLANT POST-STRESS RECOVERY

The journal *Tree Physiology* published a new article about how trees recover after heat and drought stress.

The study, "Beyond the extreme: recovery of carbon and water relations in woody plants following heat and drought stress," looked at the hydraulic and metabolic function inside woody plants to examine their resilience after a period of stress. Researchers looked at leaf water potential, leaf gas exchange, and carbon costs during repair and regrowth periods.

The article was written by Nadine Ruehr of Karlsruhe Institute of Technology, Karlsruhe, Germany, with the assistance of Rüdiger Grote, Stefan Mayr, Almut Arneth.

To access the full article by visiting tinyurl.com/y2dfvjl4.

#### PPA TO HOST 'NEW TO THE MARKET FORUM' DURING **NATIONAL SYMPOSIUM**

During the Perennial Plant Association (PPA) 2019 National Symposium, a New to the Market Forum will be held Tuesday, July 30, according to a post by the association.

The symposium will be July 28-August 2, Crowne Plaza Chicago O'Hare Hotel & Conference Center, 5440 North River Road, Rosemont, Illinois.

Plant breeders have the opportunity to enter any combination of plants or products totaling three entries. Photos and descriptions of entries will also appear in the Perennial Plant Association newsletter after the event. Current entries include features from Plants Nouveau, J. Berry Nursery, Ball Horticultural, Terra Nova Nurseries, BASF and more.

Read more at tinyurl.com/y5l87az4.

## Lessons from a rebrand

ILLAMOOK CREAMERY — and the cheese, ice cream, yogurt, and butter it produces — is an Oregon Coast institution with international reach.

Its products are available around the globe. I'm passionate about Tillamook cheese. It's the only cheese I will buy, and their ice cream is a treat.

Recently, in celebration of their 110<sup>th</sup> anniversary, Tillamook Creamery updated their brand. Now calling themselves simply Tillamook, they introduced their new look earlier this year. Here are four lessons you can learn from what they did:

1. Reinforce that nothing fundamental has changed. When you update your brand, your customers may worry that something about the way you do business will change, too. Will your products and services be as good as they always were? Have your company values or outlook changed? A rebrand can be exciting, but also raises these questions.

Tillamook addresses this issue head-on when you visit their webpage about their rebrand. Greeted by the headline, "New Look, Same Tillamook," they want you to know that though their look has changed, their commitment to great dairy products has not.<sup>1</sup>

2. A rebrand is usually not a complete overhaul. Think about national rebrands you've seen. Usually, companies keep some elements of their previous brand. Starbucks changed their logo in 2011, but their iconic mermaid remained.

UPS updated their look in 2014, but they own the colors brown and yellow and don't dare change them.

Tillamook kept their navy-blue color — adjusting the tint a bit — and their light orange as an accent color. They also updated the boat in their logo, which represents the Morning Star, a ship used by farmers in 1854 to carry their dairy products to market in Portland.

It's rare that a company throws out everything about its former brand. Generally, keeping some design elements, colors, and so on maintains a connection to the past even while a company moves forward.

3. Something old, something new, something borrowed, something blue (retro is in). The new Tillamook brand look is decidedly more modern than their previous logo and design. The simple look of their cursive logo and the bold capital letters of their secondary font brought them firmly in step with current design trends.

It might surprise you, then, to learn that the cursive treatment of the word "Tillamook" is an updated version of their logo from the 1950s. They describe this as "creating a unique, hand-drawn wordmark that is more ownable, and distinct, yet with a nostalgic wink to our past."<sup>2</sup>

Tillamook used an old element of their brand but made it fresh. Are their elements from your old logo or look that, if you updated them, would have a clean retro feel?

**4. Once you update, go all the way.** Within weeks of introducing their new



Ian Doescher

Ian Doescher is the Director of Nonprofit Marketing at Pivot Group, a marketing agency in Portland, Oregon. He can be reached at ian@askpivot.com.

look, Tillamook's packaging and products were updated in every store. Considering their breadth, this was remarkable. By contrast, too often companies make one of two mistakes: (1) they are not prepared for their rebrand, so they announce it before they have updated their packaging or marketing materials — such as business cards, letterhead, brochures, website, and so on — and (2) materials with the old logo and look are still being used long after the rebrand.

When you announce your new brand, make sure you are ready to roll it out. Have employees turn in their old shirts and hats for new ones. Replace product packaging, marketing materials, and signage so that, on the day the new brand goes live, you are moving forward exclusively with your new look.

The first three points above aren't hard and fast. Sometimes, a company does fully change direction (the opposite of #1) or throw out its old look completely (ignoring #2 and #3). Most companies that take such bold steps, though, are trying to overturn negative opinions about their existing brand. Assuming your customers' opinions of your brand are just fine, if you are thinking about updating your look, altering your logo, or even changing your company name, take a page from the Tillamook playbook.

Now, go eat some cheese and ice cream to celebrate!

<sup>2</sup> Ibid.



Tillamook Creamery's previous brand identity (left) was refreshed to a cursive wordmark (right). PHOTOS COURTESY OF TILLAMOOK CREAMERY

<sup>&</sup>lt;sup>1</sup> New Look, Same Tillamook (2019, February 18). Retrieved April 29, 2019, from https://www.tillamook.com/our-story/new-look.html.









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#### TELL US ABOUT YOURSELF.

I grew up in a family fully immersed in the nursery industry. My parents own Simnitt Nursery, a wholesale plant nursery in Canby, Oregon that specializes in rhododendrons and Pieris. As a kid I saw my dad go to Oregon Association of Nurseries (OAN) meetings, get involved with the different boards — and I remember how my family always looked forward to the OAN Clackamas Chapter's Christmas parties. When I was young, it felt like a special privilege to go with my parents to the Farwest Show every year and see all of their friends and business partners. Currently, I run the office at Columbia Nursery LLC in Canby, Oregon. My husband, Wayne Staehely, founded the nursery in 2005, and we grow field- and container-grown Japanese maples and rare conifers. It is a great opportunity to stay involved with the people and industry I grew up with, as well as introduce my three children to this wonderful lifestyle.

#### WHAT'S YOUR GUIDING PRINCIPLE?

We strive to make our nursery a family affair. With three kids ranging in ages between 9 months and 5 years old, it is important for us to involve all of them in our nursery activities as much as possible. We want them to grow up knowing that the amount of time and care that you put into something — such as a plant, for example can be rewarding. Right now, they are more interested in riding tractors and catching frogs, but I am sure we will get there.

#### WHAT'S THE BEST BUSINESS **DECISION YOU'VE EVER MADE?**

I believe that one of our best decisions was purchasing our current property, previously known as Steve Germany Nursery Inc. The opportunity to take over their location came up after we had already made some significant financial decisions. We were young entrepreneurs that had just settled into our first location and had even expanded the infrastructure of the operation. Plus, we were also going through some big life changes that



#### **Amanda Staehely**

Office Manager Columbia Nursery LLC **OAN member since 2009** 

- Clackamas Chapter past president
- OAN board of directors.

included a big house remodel and the birth of our first son. It was the hardest financial decision for us to make as a new family business, but it was ultimately the best decision.

#### WHO IS YOUR MOST **SIGNIFICANT MENTOR?**

One of my greatest mentors in this industry is obviously my dad, Jerry Simnitt. He has answered so many questions about the ins and outs of this line of work. I have also learned a lot from him as I have become more involved with the OAN. He really values the work of the nonprofit trade association. He has enjoyed all of his different roles throughout his time there and has helped me get involved with my own board work. Another huge mentor would be my mom, Roberta. She manages the office at their nursery, so I have taken advantage of her expertise in all of my office practices. I feel like I call her almost daily, whether it is about bookkeeping, shipping documents, or even just parenting advice. Her help is immeasurable.

#### WHAT IS YOUR GREATEST **CHALLENGE?**

My greatest challenge is definitely learning all of our plants' scientific names. These plants are so different from the ones I grew up with and I have had a hard time. And so many varieties can look the same! I am learning ... Aside from that, it is a huge challenge to run a nursery business while juggling our kids' schedules and still have quality family time.

#### WHAT MOTIVATES YOU TO GO TO WORK EVERYDAY?

My husband motivates me to go to work every day because I see how much he loves it. He wants the nursery to grow and continue to succeed, which motivates me to learn the plant material, go through orders in the rain, or work through what is needed.

#### WHAT DO YOU LOVE MOST **ABOUT THE NURSERY INDUSTRY?**

What I love most about the nursery industry is the people. When my husband was starting out, so many people came to his aid. They all wanted to help him succeed. What other industry is like that? I also love raising our kids in this kind of lifestyle - it's one that seems hard to find these days.

#### WHAT ARE YOU MOST PROUD OF?

I am the most proud of how hard my husband had to work when starting the nursery. We entered this industry in the middle of the Great Recession and had to work extremely hard to make it through. We both had multiple jobs and would come home and work until late in the evening on the nursery.

#### IN YOUR OPINION, WHAT ARE THE MOST CRITICAL CHALLENGES **FACING THE NURSERY INDUSTRY TODAY?**

It is hard to find a good and consistent labor force that is economical. I don't know what the answer is, but something has to change soon. New statewide regulations are also stressful and they have a huge potential to cripple small businesses like ours.

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## Satisfying in small spaces

Trees, conifers and weepers that fit the bill with beauty, versatility and easy maintenance

BY TRACY ILENE MILLER

MALLER YARDS HAVEN'T changed homeowners' need for shade or beauty. But, they have changed what will fit into a yard, which has changed the market and by extension, growers' business focus.

We asked growers to share favorite selections of small trees, conifers and weepers that fit today's yard while still providing benefits of versatility, beauty, easy maintenance and in some cases, drought tolerance.

#### Small trees

Burgundy Jewel vine maple (Acer circinatum 'Burgundy Jewel'; Zones 4-8) bumps up the utility and adaptability of native vine maples in urban settings, said Richie Steffen, director and curator of the Elisabeth C. Miller Botanical Garden (Seattle, Washington). In the spring, leaves emerge with a deep reddishpurple color that holds through summer, followed by a vibrant red finish in fall. As a low branching, multi-stemmed tree, this tree will stay under 20 feet tall for many years.

"We have grown ours in a large container for several years, and it has become a beautiful vase-shaped specimen," Steffen said.

Sister Ghost (Acer palmatum 'Sister Ghost'; Zones 5-9) has unique variegation, which emerges as a pale creamy white with green veins and glows gracefully in the landscape.

"As it ages," Steffen said, "the creamy white color will go to chartreuse and then to pale light green, but the veins will always keep their color." In the fall, red, orange and yellow highlights emerge. For partial to dappled shade, it matures at 6-8 feet tall and grows well in containers up to six years.

Suminagashi (Acer palmatum 'Suminagashi'; Zones 5–9) is a slow-growing, deeply cut red-leaf cultivar. It stands approximately 18 feet tall after 25 years of growth at the Miller Garden.

"It comes out this really bright red, and then tones down to a greenish bronze, not as dark as 'Bloodgood,' and then in the fall, it erupts into flaming red," Steffen said. "With a little sun, the ground glows red. It's an older cultivar that should be out there more than it is."

"Fox Valley® dwarf river birch (Betula nigra 'Little King' Fox Valley; Zones 4-9) is an absolutely charming miniature version of birch that will fit into nearly any garden," Steffen said. Very resistant to bronze birch borer, it has salmon, ivory

#### **Small spaces**

Previous page: The display garden at Peace of Mind Nursery (Silverton, Oregon) showcases their offerings. PHOTO COURTESY OF PEACE OF MIND NURSERY

and fawn-colored peeling bark and is a moderate grower when young that slows once it matures, reaching only 12 to 15 feet tall. It tolerates drought and heavy clay soils, but will also grow well in wet soils.

Ruby Falls redbud (*Cercis canadaensis* 'Ruby Falls' PP22097; Zones 5–9) is made to offer color, according to Sandy Dittmar, consumer marketing representative for Iseli

Nursery (Boring, Oregon). With cascading, wavy branches of bright pink flowers in spring, and heart-shaped leaves that emerge with a deep purple-red color, the tree then matures to have green undertones. The bright red foliage in fall adds to the year-round interest of the 10 foot high by 8 foot wide tree.

Pink Dawn chitalpa (Chitalpa tash-kentensis 'Pink Dawn'; Zones 6–9) doesn't get any bigger than 15 feet tall despite its parentage, is drought tolerant and sports pink foxglove-like flowers in summer that persist. "It's a well-behaved tree in the landscape," Steffen said.

Harlequin glorybower (*Clerodendrum* trichotomum 'Fargesii'; Zones 6–9) is a personal favorite plant of Cody Hahnlen, sales manager at Youngblood Nursery (Salem, Oregon). He has one in his front yard. It's a small tree with large dark green peanut butter-scented leaves, which features pink-to-red flowers in late summer that smell like fruit loops, followed by



a metallic blue fruit in the fall. Maturing at up to 16 feet tall, it does well even with no direct sunlight.

Golden Shadows® pagoda dogwood (Cornus alternifolia 'W. Stackman'; Zones 3–8) makes up for a less dramatic floral showing than other dogwoods by providing spectacular variegated foliage In early spring, bright fresh green foliage emergs with a chartreuse edge. The leaves mature to a bright golden yellow with a deep green interior. An excellent small tree that reaches about 15 feet high by 8 feet wide, Steffen thinks that it radiates elegance with layered branching.

Scarlet Fire® dogwood (Cornus kousa 'Rutpink' PP28311; Zones 5–9) is the first release in 45 years from the Rutgers University breeding program.

"The flower is just spectacular, deep pink to fuchsia," Dittmar said. "This tree is bred to be sturdy and disease resistant and beautiful."

A 20 foot high by 15 foot wide tree,

Jade Butterfly maidenhair tree. PHOTO COURTESY OF WIKIMEDIA

the leaves emerge streaked with purple. In summer come the flowers, followed by purple-pink fruits — about an inch in diameter — that attract birds. In fall, the leaves turn reddish-purple.

Jade Butterfly maidenhair tree (*Ginkgo biloba* 'Jade Butterflies'; Zones 4–9, pictured) is a tall and narrow tree dwarf version of the species, reaching 10 feet by 8 feet over a long period. The foliage shape

is the typical *Ginkgo*, but not the color. Starting out with a hint of green and a bluish hue to the leaves, their color turns to the classic bright yellow color in fall when they hang on very late. According to Dittmar, it has a nice vase shape and tall stature, and when the wind blows, the leaves flutter like a butterfly's wings.

Magnolia 'Genie' (Magnolia soulangeana × lilliflora 'Genie' PP20748; Zones 5–9) is a relatively new cultivar. The tree has large, blackish buds and deep purplered fragrant flowers on a compact upright grower with a rounded leaf.

"I started to see it this year in the landscape, and it has a tight upright oval shape, fairly compact, with an ultimate height of 12 to 13 feet," Steffen said.

#### **Conifers**

Starker's dwarf Korean fir (*Abies koreana* 'Starker's Dwarf'; Zones 4–8) develops a broad, columnar shape with upright pinkish cone clusters that come in even at the 5 gallon size. According to David Grotz, owner of Peace of Mind Nursery (Silverton, Oregon), it's slow growing. The tree only adds about 3 inches a year, and the biggest one Grotz has sold so far was 10 feet tall.

Silver Show Korean fir (A. koreana 'Silver Show'; Zone 5, pictured) is the next generation of A. koreana 'Silberlocke', but is more robust, grows wider and gets huge clusters of 2-to 3-inch dark purple cones — so many, that the branches get heavy and appear to weep. The flat needles of the genus curl up, revealing a white underside, which Grotz considers an attrac-

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Silver Show Korean fir. PHOTO COURTESY OF WIKIMEDIA

tion in the garden. It enjoys full sun and matures at 12 feet high by 7 feet wide.

Grotz loves them all, including 'Silberlocke,' but he doesn't want to leave out Nanaimo Korean fir (A. koreana 'Nanaimo'; Zones 5-7). It is a fabulous dwarf columnar with narrow purple cones that appear at a young age. Taking up a narrow footprint, the tree matures after about 15 years to about 6 feet high by 4 feet wide.

Subalpine fir (Abies lasiocarpa 'Glauca Compacta'; Zones 4–8) is a very bright blue North American fir tree. Sam Pratt, sales manager at Rare Tree Nursery (Silverton, Oregon) believes it's bluer than most of the Colorado blue spruce (Picea pungens 'Glauca'), with the added bonus of having less blight problems. With a young globe shape that soon forms into a pyramid, it matures over a 10-year period

to about 4 feet high by 2 feet wide.

Blue Surprise Port Orford cedar (Chamaecyparis lawsoniana 'Blue Surprise'; Zones 6-9) is grafted to Guardian® rootstock and was developed by Oregon State University to resist Phytophthora lateralis. Pratt believes its vitality is a reason why we should invite people to put this cedar back in their gardens. 'Blue Surprise' has soft and feathery, powder blue foliage that is juvenile, and grows up into a spiral of 5-6 feet tall by "scarcely" 2 feet wide over 10 years. It's blue in the growing season and then gets a plum-colored cast in the winter.

#### Golden Hinoki cypress

(Chamaecyparis obtusa 'Crippsii'; Zones 5-8) is broadly pyramidal growth, reaching 8–12 feet wide by 4–6 feet tall, with feathery leaves that are bright green (almost chartreuse), that turn more



#### Small spaces

#### Hinoki cypress 'Verdoni'.

PHOTO COURTESY OF WIKIMEDIA

golden yellow with chartreuse tips as they get older. In Hahnlen's experience, it is drought-tolerant in sun to part-shade, and will tolerate total-shade.

Chamaecyparis obtusa 'Rainbow' (Zones 4-8) gets its name from the summer hints of red and orange. Otherwise, the extremely slow-growing dwarf with dense lemon-gold growth is slightly streaked

with green. It reaches approximately 4 feet wide by 3 feet tall, "It's one of those shade plants that should be used more," Hahnlen said. It needs only a little bit of sun to get red and orange, but full sun will burn it.

Hinoki cypress 'Verdoni' (Chamaecyparis obtusa 'Verdoni'; Zones



4–8, pictured) is one of Grotz's favorites, with its slow-growing, dense foliage and beautiful blend of gold and green. An upright columnar, it matures at 8 feet tall by 6 feet wide in 25 years. Grotz considers the best feature to be that it will not turn brown in intense sun.

White-tip dwarf Japanese cedar

(Cryptomeria japonica

'Knaptonensis'; Zones 5-9) is a dwarf evergreen shrub with old growth that changes to a darker green for a beautiful contrast to the glowing white/cream juvenile foliage. Conical in habit and a very slow grower to 5 feet tall by 3 feet wide, it takes pruning well. According to Hahnlen, it will brighten up those dark spots as it pushes out its new growth, which turn brown with too much sun.

Unlike Picea glauca 'Conica', which tends to revert to a full-size tree, P. glauca var. albertiana 'J.W. Daisy's White' Alberta spruce (Zones 3-8) stays dwarf. "The color changes are spectacular," Pratt said. Creamy white new growth creates an attractive focal point on a tree that grows only 2-4 inches per year, maturing at

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Acrocona Norway spruce. PHOTO COURTESY OF PEACE OF MIND NURSERY

about 3 feet tall.

Serbian spruce dwarf (P. omorika 'Peve Tiin'; Zones 3-8) has needles with a blue underside, but tips that are gold. Pratt notes the gold is especially noticeable when sun-kissed. It takes 10 years to reach 2 feet tall by 11/2 feet wide, works well in containers. It starts globe-shaped but then matures pyramidal.

Picea pungens 'Ruby Teardrops' is a new dwarf variety. Maturing at about 3 feet tall, the powder blue foliage contrasts with the bright red cones covering the tips starting in April - matched in color by tulips, according to Pratt — that persist through July when they turn brown. Annual growth rate is 2-4 inches, and it matures at about 3 feet

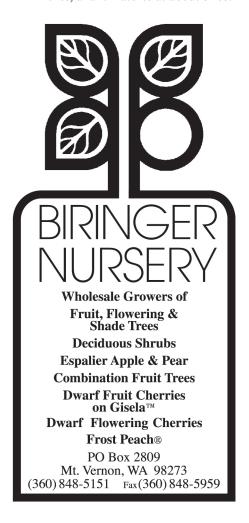
wide by 3 feet tall.

Acrocona Norway spruce (Picea abies 'Acrocona'; Zones 3-7, pictured) is a teardrop form of dwarf spruce that gets showy immature raspberry-colored cones at the ends of its lateral branches in April. After staying a minimum of 10 weeks the cones change to green and then brown,

but stay on the 12-foot-highby-8-foot-wide tree all year.

Pratt recommends Pinus sylvestris 'Moseri' to those interested in the golden color of P. contorta var. latifolia 'Chief Joseph' because it is much easier to grow. It turns bright gold in winter, is a more natural dwarf and isn't prone to sunburn. Maturing over 10 years, it develops into a squat pyramid topping 4-5 feet.

Wiethorst hybrid pine (Pinus × schwerinii 'Wiethorst'; Zones 4-7) is a slower-growing variety — 4 feet tall by 3 feet wide over 10 years — of *P. flexilis* 'Vanderwolf's Pyramid' with the long soft needles of its Himalayan parent and the hardiness of its Eastern white pine parent. Pratt thinks it is special because of the >>>







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Dwarf Eastern white pine (Pinus strobus 'Mini Twists'; Zones 3-8) is a 6 foot tall by 4 foot high tree after 10 years, and charms with its twisted and curved needles and blue-green color on a rounded globe-shaped form. Pratt compares the growth habit to P. strobus 'Blue Shag', but the curly needles and slow growth make it a better choice.

Adcock's Dwarf Japanese white pine (Pinus parviflora 'Adcock's Dwarf'; Zones 4–7) is an extremely dwarf upright pine with small needles on short stems. The needles do drop each year, but Grotz thinks they are not a problem. Drought-tolerant, it is a good plant for container growing, reaching only 5 feet wide by 5 feet tall in 30 years. The shape can be flat, round or eventually pyramidal with tightly packed and slightly twisted blue-green needles that fill out to the ground.

Kotobuki Japanese black pine (*Pinus* thunbergii 'Kotobuki'; Zones 5-8) will take 10 years to get to 4 feet tall, and 25 years before reaching 10 feet tall. Along the way is the reward of an easy-to-maintain columnar upright tree with a uniform habit, rich dark green foliage and white candles in spring.

Dittmar suspects that if you were walking through a garden and saw Primo® arborvitae (Thuja occidentalis 'IslPrim'; Zones 4–8), you'd think it was a Hinoki cypress. However, it's a Thuja and is hardier than Hinoki. It's durable, narrow upright form can be multileadered over time, but is mostly single leader. At 4 feet high by 1 foot wide, it fits narrow spots, offers a rich green color in summer and a possible bronzing in winter. It's good in containers and remains small with a natural, sculpted look as it ages.

#### Weepers

Divinely Blue deodar cedar (Cedrus deodara 'Divinely Blue'; Zones 6-10) is tough. Hahnlen states that it is deer-resistant and drought-tolerant. New growth is very light and bright blue-gray, and it has multiple leaders that weep. It can be trimmed for a prostrate or conical shape at 6 feet wide by 6

'The Blues' blue spruce. PHOTO BY CURT KIPP

feet tall. Hahnlen suggests that it makes a natural centerpiece with darker colored mondo grass or purple fountain grass to pull out the colors — even in full-shade.

Pratt considers the best blue color of any Colorado blue spruce comes from 'The Blues' blue spruce (Picea pungens 'The Blues'; Zones 2–8, pictured). It can be trained to be a large weeper.

Dittmar adds that 'The Blues' grows a central leader and the sides cascade from it like a blue waterfall. Otherwise, it is mound shape, and after 10 years it's only 6-7 feet tall by 3 feet wide. It can be trained to fill a space in a container, upright, or even covering a fence or wall.

Fragrant Fountain Japanese Snowbell (Styrax japonicus 'Fragrant Fountain' PP

19664; Zones 5-8) weeps with densely cascading branches and keeps to a neat 6 feet tall by 5 feet wide with a central leader and no staking. A winner of the Farwest 2008 Best in Show award, the tree's flowers are typical to Styrax, with masses of fragrant blooms in early spring to summer.

Thorsen's Weeping western hemlock (Tsuga heterophylla 'Thorsen's Weeping'; Zone 5) is versatile. "You can make it do whatever you want," said Dittmar. A true weeper, it can be staked up to weep down, or it can be made to spread over the garden. Dittmar has one at home staked at about 5 feet tall and less than 2 feet wide, with a skirt spreading to make a nice mat on the ground. It will

take sun to partial shade, and the foliage is durable, dense and green, without much view of the branches.

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

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## GROWING

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





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## Solving irrigation drip tape damage

Managing the pests that are causing the problems

#### BY CAELIN ALBA AND JANA LEE

HO HAS BEEN CHEWING through our irrigation tape? A grower contacted us after detecting a large number of irrigation leaks of uncertain origin.

The grower found holes in the tubes where the leaks had occurred. Many of the holes showed frayed edges and were less than 1 millimeter wide (see Figure 1), similar to a prior report of wireworm damage. This occurred with drip tape from multiple manufacturers.

We searched the literature for answers and found that there are just not very many documented cases of drip tape damage from pests in the Pacific Northwest. Thus, we had to widen our search to find instances of these pests causing damage. We also

wanted to learn how the pests typically are being handled on those occasions when they are encountered.

Below are the commonly reported culprits, the associated damage from each, and some recommendations or ideas for managing each pest.

You can find additional photos of rodent and insect damage online at www.itrc.org/reports/driptapeguide.htm  $^{\,1}$ 

#### Wireworms

The damage from wireworms (Conoderus exsul) is frayed on the edges



and almost perfectly circular, as opposed to damage from other arthropods. This pest has been known to chew through drip tape in Hawaiian sugar cane fields.

Researchers tested the application of dieldrin, an insecticide, and were able to reduce the damage. 1,5

#### Fire ants

Ants (including fire ants, Solenopsis geminata) have smaller mandibles than other



insects. Consequently, they leave comparatively smaller and more felt-like holes. Ant damage has been observed at the periphery of the emitter orifice in Hawaiian sugar cane fields. The pest can be managed by using emitters with ridges that are smaller than the ant's head (see Figure 1). This prevents

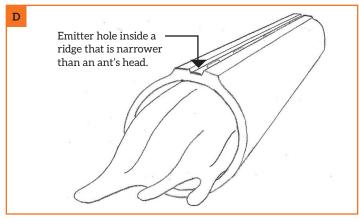
#### Testing the waters

Figure 1. Damage with frayed edges typical from insects (A), potential rodent damage with scratch marks (B), mechanical puncture (C). PHOTOS BY C. ALBA









the ant from chewing on the emitter. 3, 6



#### **Caterpillars**

Caterpillars (such as the legume caterpillar, Selenisa sueroides) drill

through tubes to find a pupation site in the hollow of the tube. They have damaged PVC "spaghetti" tubing in Florida citrus groves, leaving 2 ½-3-millimeter holes. The best remedy is to remove the host vegetation for

these pests if possible. The damage to the tubes has also been reduced experimentally by applying a Teflon coating. <sup>2, 7</sup>

#### Weevil larvae

The characteristic damage from weevil larvae (such as Naupactus leucoloma)

is sub-oval in shape, measuring ½-2½ millimeters, and it shows grooves and scratches This damage has been seen in alfalfa aka lucerne fields in Australia. The idea of making the soil too moist for the larvae's survival has been mentioned for further exploration.<sup>4</sup>

#### **Crickets**

The large mandibles of crickets (*Gryllidae* family) causes shredded edges



that are pointed outwards. Mole crickets and white grubs both leave damage along the

from the larvae's symmetrical mouth hooks.

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edge of tubing that is V-shaped. It is recommended to remove trash and debris near fields to lessen the presence of this pest.<sup>6</sup>

#### **Vertebrates**

Gophers, rats, mice, squirrels and other rodents can damage drip tape in



many places. The resulting holes will be much larger than for the other pests mentioned here. Sometimes the shape of the teeth or jaw will be evident in the damage.

There's a lower incidence of damage from rats and mice on drip tubes with 15 mil (0.015 inch) thickness than 4 or 8 mil (0.004, 0.008 inch) thickness.6

Caelin Alba was an undergraduate student studying irrigation tape damage, and spotted wing drosophila-Botrytis interactions at the USDA Agricultural Research Service (ARS), Horticultural Crops Research Unit (HCRU), Corvallis, Oregon.

Jana Lee is a research entomologist studying pest management in small fruits and ornamentals at the USDA ARS HCRU, Corvallis, Oregon. She can be reached at jana.lee@ars.usda.gov.

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## The technology race

## On July 20, the nation will commemorate the 50<sup>th</sup> anniversary of the moon landing.

Apollo 11, led by Commander Neil Armstrong, Command Module Pilot Michael Collins and Lunar Module Pilot Edwin "Buzz" Aldrin, set in motion a technology era with their successful mission in 1969. Less than eight years earlier, President John F. Kennedy had challenged the nation and its scientists to achieve what seemed impossible: "landing a man on the Moon and returning him safely to the Earth."

Advancements in science are critical for adapting to an ever-changing market. We can learn many lessons from the moon landing — lessons we will need to meet the challenges of the iPhone age and beyond.

#### Technology as compared to today

Today's simple pocket calculator has more computing power than the state-of-theart computers that existed in the 1960s.

The iPhone is more than a million times faster than the Apollo Guidance Computer (AGC). Even a simple USB stick or Wi-Fi router dwarfs the AGC in terms of storing or moving data. The comparison may not seem fair — it's akin to placing the first Wright Brothers airplane alongside an F-18 fighter jet. There is no comparison.

At the time however, the National Aeronautics and Space Administration (NASA) responded to Kennedy's call to beat the Russians to a manned mission to the moon. From a technological perspective, they were at least 10 years ahead of their time. The moon landing accelerated the pace of technology development. Nary a decade later, the Apple II computer brought the computer home and made it personal.

This ambition is something the nursery industry, and production agriculture in general, both need to push harder. There will be challenges. The Apollo 1 mission out of the gate was a disaster. A fire killed Roger Chaffee as well as astronauts Virgil "Gus" Grissom and Ed White II two years before the immortal words "the Eagle has landed" were dramatically announced.

#### Technology advances to agriculture

Oregon nurseries have long been inno-

vators. Practical and intuitive, they push the envelope, as the NASA Apollo missions did, by crafting innovative solutions with irrigation, automation and much more. With the rising cost of inputs and production, today's growers have good reason to innovate as much as possible. The rewards are there. By moving from single poly to double poly greenhouse plastic, one can save up to 40 percent in energy consumption.

Woodburn Nursery & Azaleas Inc. and Fall Creek Farm & Nursery are two industry leaders who deserve particular credit. They serve as laboratories for the nursery industry, where new ideas are incubated. Their advancements over the last two decades are a positive indicator for what is needed to compete on a national and global market.

At Woodburn, Tom Fessler is our own version of the 1980s television show, MacGyver. By implementing rolling benches inside, Woodburn saved about 20 percent of its greenhouse space. Outside, Tom connected a spray controller from one piece of equipment to an air blast sprayer from another piece of equipment. He was told it would never work, but guess what? It works great. The operator can adjust spray volume based on the desired speed and/or rate.

Tom was also an earlier adopters of potin-pot production in the late 1990s, which was a game changer for many nurseries.

As for Fall Creek, they are simply the gold standard — or one could say "blue" standard — when it comes to research and development of new blueberry varieties.

On the irrigation side, Oregon is well known for its advancements in recycling water using the bed system that Monrovia devised for best runoff collection. Micro emitters put water in the exact place it needs to be and sensor for soil moisture leads to reducing water use and waste.

Don't forget about the innovative use of GPS systems, drones and computerized sensors. Growers are using GPS to steer tractors and position plants. They're using drones to save labor when inspecting plant health.

Perhaps the biggest breakthrough is the Smart Sprayer, which can reduce pesticide use by 47 to 70 percent while still maintaining the same efficacy, thereby saving growers \$140–280 in pesticide cost per acre annually. This technology is now on the market,



Jeff Stone
OAN EXECUTIVE DIRECTOR

following years of research by Oregon State University, The Ohio State University and the University of Tennessee in tandem with USDA National Institute of Food and Agriculture through the Specialty Crop Research Initiative (Washington, D.C.). It even helps beneficial insects in the area.

The technology also reduces airborne drift by up to 87 percent, and drift on the ground by up to 93 percent. Although the technology was initially tested outdoors, efforts are ongoing to adapt it to greenhouse operations as well.

As we have seen, the best pathway to producing plants in greater quality and quantity is precision in all aspects of the operation. Fewer culls will result in more salable product and of course, less waste.

Oregon is growing higher quality products with increased safety while making more efficient use of space than ever. Bring on the population growth in China and other parts of the world — we are ready to provide the environmental, food and fiber needs of the world, and we will keep improving.

#### What is our moonshot effort?

With ever-mounting challenges of water, labor and environmental regulations, we need to renew the call to use technology to change the very landscape of production agriculture. We need to come together, researchers and industry, to chart the future.

It could take many forms. Research opens the doorway to opportunities. It seems like smart trucks and infrastructure on the nation's highway system are the next horizon. Let's go out and meet it. We need the urgency and vision of the 21st century moon shot — together, we can achieve anything!

ME

## **Cost-effective Pots**

Anderson's NEW #5 Squat





This tough 100% recyclable pot features superior denesting to reduce your labor costs.







GOLDEN SHADOWS® Pagoda dogwood Variegated foliage, native



AVALANCHE® Asian Birch Birch borer resistant



CRUSADER® Hawthorn Thornless, rugged



**LOLLIPOP**® Crabapple Tight, compact head



**SHOW TIME**® Crabapple Fuchsia-red flowers/red fruit



WEEPING EXTRAORDINAIRE

Flowering Cherry

Extra-large, double blooms



PINK SNOW SHOWERS® Flowering Cherry Vigorous grower

## **Branching Out**

How do you top 20 years of offering the best woody plants on the market? By adding an exceptional line of Proven Winners® ColorChoice® ornamental trees to the mix. Outstanding beauty, disease resistant, landscape-friendly - they're the trees you've been waiting for.

For more information contact Maria Zampini, Maria@UpShootHort.com.

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