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April 2024 Vol. 68 No. 4



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Printed in Oregon on domestic recycled paper when available.

On the cover: Emerald Avenue® Hornbeam (Carpinus betulus 'JFS-KW1CB' PP22814) from J. Frank Schmidt & Son Co. is a great streetscape tree. It has a strong central leader and sturdy branch arrangement and was developed for heat tolerance. Photo COURTESY J. FRANK SCHMIDT & SON CO.

On this page: Left: Carpinus betulus 'Frans Fontaine' has deeply ridged leaves, providing texture, and is better suited as a narrower street tree. PHOTO COURTESY J. FRANK SCHMIDT & SON CO. Right: From left: Rod Parks, Joy Guidry, Doug and Jamie Zielinski, Rick Anderson (son of George Anderson), Allen Burden, Kathleen (Kathy) Polley, Charlie Burden (sons and dauter of Irene and Ray Burden, and Jan Barkley (grand-daughter of J. Frank Schmidt Sr.) PHOTO BY VIC PANICHKUL

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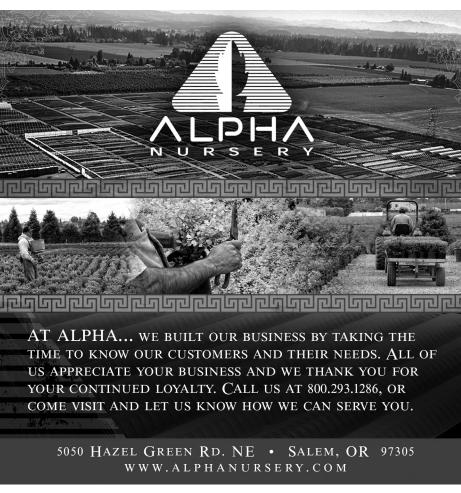
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Postmaster: Change of address correction requested to above address.

ADVERTISING Contact OAN Publications at ads@oan.org for display and classified advertising rates. Deadlines are the $\bar{1}^{\text{st}}$ of the month preceding the month of publication.

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The legacy of trees

On August 6, 1945, a plane dropped an atomic bomb on Hiroshima, Japan.

That bomb created an enormous fireball that destroyed everything within a onemile radius, and left black ash and radiation for an even greater distance and time.

Through the devastation, one remarkable thing survived: the ginkgo. Its leaves were singed, and outer branches and bark were burnt to a crisp. But by the following spring, 170 ginkgo trees, now known as "A-bombed trees," were blooming again.

They continue to grow and flourish to this day and are a reminder that even through humanity's darkest moments, nature has a way of withstanding our destruction.

When I saw that this April issue was dedicated to trees, I immediately started thinking about which trees stand out to me and why? A good friend of mine, Rick Cate, immediately said to look up this ginkgo story within minutes of asking him what tree is "cool." I was blown away.

A little closer to home, I learned that a bristlecone pine somewhere in the White Mountains of California is about 5,000 years old, which makes it the oldest known non-cloned organism on Earth. The tree's location is a secret, but its other close relatives are scattered throughout the mountains and share a close ancient birthday. I've sold that species for years!

Although the ginkgo and the bristlecone pine have incredible stories, some trees are simply known for their beauty, character, survivability, or even a cool name.

And who was the person lucky enough to discover it? That is something that always amazes me. There are an incredible number of trees in this world, but there are still more discovered constantly and even more that have yet to be created.

We are lucky to be surrounded by some incredible propagators who were instrumental in introducing new varieties. Where would we be without Talon Buchholz, Iseli Nursery, or Wells Nursery, to name just a few?

To think of yards without a Picea pungens 'Iseli Fastigiata' or a Chamaecyparis nootkatensis 'Green Arrow' (first introduced by Buchholz)



Amanda Staehely

is almost unfathomable. And **J. Frank Schmidt & Son's** Red Sunset Maple (Acer palmatum 'Franksred') graces landscapes across the country. The thousands of maple varieties have some of my favorite names, like 'Red Dragon', 'Autumn Moon', and a beautiful new variety, 'Pink Panther', introduced by Cristy Nursery.

Some people are just drawn to introducing new varieties. My husband and I are both more interested in growing things that others have introduced. We are honored to carry them at our nursery. Our 5-year-old, however, is the opposite.

A couple years ago, he saw a maple seedling that we have at our nursery that was unnamed. He asked what the name was, and when he learned that it didn't have a name yet, he was in complete shock. "But, why? It is so pretty."

I told him if he wanted to name it, he could, but he would have to help me cut scion wood so we could graft it and begin its legacy here at Columbia Nursery.

Ever since then, he has checked on his "babies" throughout the heat waves and ice storms, and cut more scion wood for propagation. Every time he sees a truck leave, he asks if his maples are on it. They have a few more years, but when you see 'Pancakes and Maple Syrup' hit the market, you'll know it came from a child with a passion and desire to continue this legacy of discovery.

So, who will be next? And what will it be? I hope we see many new and young up and coming propagators that will satisfy the thirst we have for new and "cool" trees.

amanda Jackely



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*.

VARIOUS DATES FIRST AID/CPR CLASSES AT OAN

Need a first aid/CPR certification renewal for yourself or one of your employees? The Oregon Association of Nurseries is holding sessions in English on June 18, July 18, September 18, October 16 and sessions in Spanish on June 20, July 19, September 19, October 17. Class times are 8 a.m. to 12:30 p.m. The cost is \$60 per person. It's the same for first-time certifications as well as renewals. Certification is good for two years and includes instruction and a certification card. Classes are held at the OAN office, 29751 S.W. Town Center Loop West, Wilsonville, Oregon. Register at OAN.org/Page/CPRclass

APRIL 5-6 HORTLANDIA

The Hardy Plant Society of Oregon sponsors this annual plant and art sale April 5–6 at The Wingspan Event and Conference Center, N.E. 34th Ave. and Cornell Road, in Hillsboro, Oregon. Vendors from all over the Northwest will provide the latest plant introductions alongside old favorites. Handmade, one-of-a-kind garden art made from materials like metal, wood, glass, ceramic, fabric and stone will be on display throughout the event. Early shopping on Friday night (5–8 p.m.) is \$25 admission. Saturday admission (9 a.m.-4 p.m.) is \$5. Admission is free after 2:30 p.m., but the doors close at 3 p.m. before the event ends at 4. For more information and advance tickets, go to HardyPlantSociety.org.

APRIL 12 FARWEST SHOW NEW VARIETIES SHOWCASE TIER 1 SUBMISSIONS DUE

Growers and breeders, now's the time to enter your plants to be included in Tier 1 of the New Varieties showcase, presented by the 2024 Farwest Show. Tier 1 entries will be showcased in the July edition of *Digger* magazine and featured online at FarwestShow.com. To be eligible, plants must be new to the marketplace in the last two years, be available from at least one 2024 Farwest Show exhibitor, and represent an improvement over existing selections. Submit your new plant at TinyURL.com/NVShowcase.

APRIL 13 NEXGEN TULIP FEST SOCIAL

NexGen, a new group in the Oregon Association of Nurseries that aims to connect new and up-and-comers in the nursery and ancillary industries, is hosting a Tulip Fest Social in conjunction with Oregon Farm Bureau's Young Farmers & Ranchers at the Wooden Shoe Tulip Farm, 33813 S. Meridian Road in Woodburn, Oregon, from 4–7 p.m. on April 13. Meet industry peers, tour and explore the tulip festival and flower production. Includes admission to the Tulip Festival. RSVP at TinyURL.com/NexGenTulip.



PHOTO COURTESY AGFEST

APRIL 27-28 OREGON AG FEST

Ag Fest is an annual fun-filled event where families will learn about local agriculture. The two-day event, aimed to help Oregonians better understand where their food, fiber and flora come from, is a unique experience. Hands-on exhibits, including a booth by OAN's Plant Something Oregon program, make learning about Oregon's vast agricultural industry educational and entertaining. The ag-stravaganza will take place Saturday–Sunday, April 27–28, at the Oregon State Fairgrounds, 2330 17th St. N.E., Salem. The cost is \$9 for anyone 13 or older; younger children get in free. Discounted tickets are available from **OrAgFest.com** and from Wilco stores.

APRIL 15 ONF HORTICULTURAL SCHOLARSHIP APPLICATIONS DUE

Do you know a high school, college or graduate student who is considering a career as a nursery or landscape professional? If so, applications are being taken until April 15 for 20 scholarships ranging from \$1,000 to \$3,000 from the Oregon Association of Nurseries Foundation. The scholarships are sponsored by individual OAN chapters, as well as members who have endowed particular scholarships. Go to OAN.org/ONF for more information, or contact OAN Director of Finance Stephanie Weihrauch at 503-582-2001 or Scholarships@OAN.org.

APRIL 22

Earth Day is an annual reminder about the importance of caring for the environment, and recognizing the role that nurseries play in mitigating the effects of climate change through carbon sequestration, environmental stewardship and community service. Learn more at EarthDay.org.

MAY 4-5 CLACKAMAS COUNTY MASTER GARDENERS SPRING GARDEN FAIR

Nearly 100 vendors will be participating May 4–5 at the Spring Garden Fair, 9 a.m.–5 p.m. on Saturday and 9 a.m.–4 p.m. on Sunday at the Clackamas County Event Center in Canby. It will include free pH soil testing, new plant introductions featuring a silent auction, the Garden Fair raffle, free plant check, plant taxis where students tow your purchases for tips, and a potting station to purchase pots and plant them up with garden soil at the fair. Go to SpringGardenFair.org for all the details.

JUNE 6 ONPAC/DUFFERS CLASSIC GOLF TOURNAMENT

Registration is live for the Oregon Nurseries' Political Action Committee (ONPAC) annual golf tourney, teeing off at Stone Creek Golf Club, 14603 South Stoneridge Drive in Oregon City, Oregon. Reconnect with friends while supporting a strong nursery industry voice in Salem and Washington, D.C. Check-in begins at 7 a.m. Take advantage of a \$15 discount by registering before May 31. Sponsorship packages begin at \$250, and many include complimentary playing spots. Go to OAN.org/Duffers for more information



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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**.



PHOTO BY VIC PANICHKUL

New Plant Something Oregon Road Map now available

The Oregon Association of Nurseries has launched the 2024-25 edition of the Plant Something Oregon Road Map, with garden centers, specialty nurseries, public gardens and more! All 121 OAN retail member locations are included, along with 38 locations offering landscaping services, and 21 member firms offering mail or web orders.

About 35,000 copies of the map will be distributed over the next two years through events, garden clubs, retailers, master gardener groups, extension groups and public gardens. "This is our promotion for the consumer side of the nursery industry," OAN Director of Publications Curt Kipp said.

Plant Something Oregon is the OAN's consumer gardening program, which provides localized, expert advice and information to gardeners. PlantSomethingOregon.com has blog posts, a searchable directory of OAN-member retailers, recipes and much more. There's an email newsletter too, published 18 times a year which readers can subscribe to on the website.

Order your free copies of the map, or sign up for the newsletter, at TinyURL.com/PSORoadMap.



From left: Oregon Association of Nurseries Executive Director Jeff Stone, State Rep. E. Werner Reschke (R-Crater Lake) and former OAN President Kyle Fessler at the capital after the Oregon House passed the bill. PHOTO BY KATIE MCDOWELL THORNRUN PARTNERS

OAN, FARM GROUPS PASS AG EQUIPMENT TAX FIX

The Oregon Association of Nurseries and other farm groups have won passage of a bill clarifying that certain farm machinery and equipment are exempt from property taxes in Oregon.

House Bill 4111 passed the Oregon House 53-0 (with 7 excused) and the Oregon Senate 28-0 (with 2 excused), during the February 2024 short session of the Legislature. The bill heads next to Gov. Tina Kotek's desk for her signature.

Up to now, ag equipment has been exempted from personal property taxes. However,

some assessors have been taxing some equipment, including nursery potting lines, as real property. It sometimes came down to whether the equipment was bolted down for safety on the day they were there, and thus considered part of the structure for tax purposes. Treatment of the same equipment often



NURSERIES

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differed from one property to the next.

This practice no longer reflected legislators' intent that this equipment not be taxed, so farming groups pushed for a fix. "This is not farming in 1973," OAN Executive Director Jeff Stone told the *Capital Press* agricultural newspaper (Salem, Oregon). "The equipment has really progressed."

The bill had broad support but was opposed by a group called Tax Fairness Oregon, which opposes tax exemptions for agricultural equipment entirely.

Agriculture worked with county officials over a period of years to craft language for the bill, making sure it didn't have unintended effects. The resulting legislation focused on the function of the equipment, rather than its characteristics, exempting it if used for planting, cultivating, irrigating, harvesting or otherwise managing crops or livestock. Officials estimated the revenue reduction for various taxing districts at \$3.2 million statewide for the next fiscal year.

"It was about getting the assessors to a place where they're sure we're not getting one over on them," Stone said.

The OAN made use of members as citizen lobbyists, having them explain to legislators through testimony and/or personal meetings how the uncertainty affected them. Participants included Leigh Geschwill (F & B Farms and Nursery), Kyle Fessler (Woodburn Nursery & Azaleas), Tyler Meskers (Oregon



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Flowers Inc.), Jim Simnitt (Simnitt Nursery), Mark VanHoef (Oregon Pride Nurseries) and Paul Bizon (Bizon Nursery LLC).

HOUSING PACKAGE HEADS FOR **GOVERNOR'S SIGNATURE**

The Oregon Legislature has passed a housing production package that Democratic Gov. Tina Kotek made her top legislative priority for 2024, Oregon Public Broadcasting reported.

The legislation is intended to address a tight Oregon housing market, where availability is low and prices are high. Bipartisan support was strong in both chambers.

The package sets a housing production goal of 36,000 new housing units annually, up from the 22,000 builders created most recently. It is comprised of three bills, which together provide \$376 million in state funds for boosting housing production, funding infrastructure, and supporting renters.

The bill also allows cities a one-time opportunity to more easily expand their urban growth boundary, or UGB. The UGB process, enshrined in Oregon's landmark Senate Bill 100 growth planning rules, was intended to protect farmland from development for future generations.

The move to potentially develop more farmland elicited the expected degree of concern from agricultural groups. After opposing the governor's 2023 legislation, the OAN took an official stance of neutral on the 2024 legislation based on changes that were made to it.

For OAN, the key difference was that the 2023 package contemplated tapping land from officially designated rural reserves. Oregon leaders had promised a decade ago not to tap that land, as part of a grand compromise. The 2024 package, on the other hand, honors that promise.

"The governor's office heard our complaints about the last process," OAN Executive Director Jeff Stone said. "They not only listened, they heard."

The OAN still registered some concerns, however. Among those were



The New Varieties Showcase is an annual highlight at Farwest, the biggest green industry trade show and conference in the West. OAN FILE PHOTO

acknowledgement of the right to farm, which is often a concern next to new housing, as new residents object to the farming that pre-existed them.

Other concerns included making sure any acreage included in this bill is subtracted from the 20-year land supply jurisdictions are required to keep available for development, the next time it is calculated. The OAN also asked to walk back a proposed exemption to landscaping requirements, which the bill's framers inserted to expedite development. The OAN will continue to monitor these concerns going forward.

ENTRIES SOUGHT FOR 2024 NEW VARIETIES SHOWCASE AT FARWEST SHOW

The 2024 Farwest Show is now accepting submissions of new plant introductions for the upcoming New Varieties Showcase.

The showcase is an annual highlight at Farwest, the biggest green industry trade show and conference in the West. The show is August 21–23 at the Oregon Convention Center in Portland, Oregon. Hip Labels is once again sponsoring the New Varieties Showcase for 2024.

"New breeding and new introductions drive consumer interest, improve garden performance and push the industry forward," said Allan Niemi, director of events for the Oregon Association of Nurseries. "This trade show feature is a great opportunity for breeders and growers to reach and inspire more than 4,000 passionate retailers, brokers, garden writ-



ers, and industry leaders who browse the dazzling exhibit in search of the latest and the greatest new plant introductions." For 2024, two tiers of entry are being offered:

Tier 1 entries will be featured on FarwestShow.com and displayed in the New Varieties Showcase on the floor with Hip Labels plant tag labels. Added-value incentives for Tier 1 entries include a layout in the July issue of Digger magazine (\$750 value) and Hip Labels plant tag take-aways for attendees. Each Tier 1 submission costs \$250. Registration deadline is April 12.

Tier 2 entries will be featured online at FarwestShow.com and displayed in the New Varieties Showcase on the floor with Hip Labels plant tag labels. Each Tier 2 submission costs \$90. Registration deadline is June 28.

To enter, go to TinyURL.com/ **NVShowcase.** Questions? Contact Iamie Moore at **JMoore@OAN.org** or 503-582-2010.

WASHINGTON HOUSE REJECTS BID TO ALTER AG OVERTIME LAW

Washington House Democrats nixed an amendment to reduce farm labor costs by altering that state's agricultural overtime law, the Capital Press agricultural newspaper (Salem, Oregon) reported.

State Rep. Mary Dye (R-Pomeroy) proposed raising the overtime threshold to 50 hours a week for 12 weeks a year on farms that donate to food banks. House leaders ruled the amendment out of order.

As Washington legislators did this, Oregon Association of Nurseries Executive Director Jeff Stone was watching to see what would happen. Like Washington and also California, Oregon also has a recently approved agricultural overtime law. The effect in other states has been to reduce hours and overall compensation for the

worker.

"The question I would pose to Washington legislators is 'who wants this?'" he said. "There was a rally of over 300 farm workers opposing the ag overtime bill and asking for relief — all to be ignored."

The OAN is crafting a proposal for the 2025 session to modify Oregon's agricultural overtime law, which was passed in 2022 and is still being phased in. Currently, in Oregon, agricultural overtime pay is triggered once the worker reaches 55 hours in a regular workweek. The threshold will drop to 48 hours on January 1, 2025 and is currently scheduled to drop to 40 hours in 2027. The OAN's proposal for the 2025 session will be to leave the threshold at 48 hours permanently, and create a 55-hour threshold during a designated 15-week peak season.

OREGON FARMLAND VANISHING. RAISING RED FLAGS

Oregon lost 4% of its farmland from 2017 to 2022, the 2nd highest among western states behind Washington, according to a report by Oregon Public Broadcasting.

There are now 35,000 farms and ranches in Oregon, down 5.5%, on 15.2 million acres of farmland, down 4% from 2017, according to 2022 Census of Agriculture. Oregon lost 660,000 acres of farmland despite land-use laws enshrined in Senate Bill 100.

One reason is exclusive farm use (EFU) land being re-zoned for urban use. Since 1989, about 28,000 acres of farmland have been rezoned. A bigger reason is that Oregon has increasingly permitted more non-farm uses on EFU land





Northwest News

without changing the zoning, allowing landowners and developers to misinterpret the law to develop golf courses, dog kennels or wedding venues.

Jim Johnson, the land use and planning coordinator for the Oregon Department of Agriculture, said farmland loss also could be due to more utility-scale solar developments on farmland, as well as a years-long drought. The drought has forced some farmers, especially in central Oregon, to cease production on their land due to a lack of water.

PACIFIC POWER SEEKS APPROVAL FOR 17% RATE HIKE

Pacific Power has asked the Oregon Public Utility Commission to approve a nearly 17% residential rate hike, effective next year, according to a report by Oregon Public Broadcasting. General service rates would rise from 9.2% to 15.8%, depending on the usage category. The company says the average residential bill will go up about \$30 a month.

Pacific Power said it's trying to raise \$304 million to pay for renewable power sources, upgrades to the grid, and also to pay for costs associated with wildfires. The utility's parent company, PacifiCorp, is facing multiple lawsuits over its role in Southern Oregon wildfires and has already agreed to pay hundreds of millions of dollars to settle some of those suits. It estimates that it could face \$2.4 billion in losses.

Small general service rates would rise 15.8%, General service rates for those using 31-200 kW would rise 9.2%, general service rates for those using 201-999 kW would rise 11.5% and large general service rates for those using more than 1,000 kW would rise 11.3%, according to the filing.

Meanwhile, Portland General Electric has spent \$30 million repairing damage from the January snow and ice storms and the bill is mounting, KOIN-6 TV (Portland, Oregon) reported. There were 165,000 power outages all at the same time, according to a filing with the



Fall Creek Farm and Nursery, a blueberry genetics and nursery company in Eugene, Oregon, has made a minority investment in FineField, a mechanical harvesting solutions provider headquartered in the Netherlands. PHOTO COURTESY FALL CREEK FARM AND NURSERY

Portland Utility Commission. 1,800 were working on the outages and some crews were brought in from out of state.

How will that cost affect customers? It won't — for now. However, PGE is laying the groundwork for a rate increase in the future with the filing.

USDA EXPANDS INSURANCE OPTION FOR NURSERIES

The U.S. Department of Agriculture is expanding crop insurance tailored for nursery producers to all counties in all states, according to a USDA press release.

Nursery Value Select (NVS) is a pilot program that lets nurseries pick the amount of coverage that fits their needs. Its expansion is part of USDA's Risk Management Agency (RMA) efforts to provide insurance options for a broader group of producers, including specialty crop growers.

NVS provides similar but improved coverage to the longstanding Nursery Field Grown and Container program. NVS also covers field grown and containerized nursery plants and offers coverage levels between catastrophic and 75 percent.

Prior to this expansion, NVS was only available in select counties in these states: Alabama, Colorado, Florida, Michigan, New Jersey, Oregon, Tennessee, Texas, and Washington. Beginning with the 2025 crop year, NVS will now be available in all counties in all states. The sales closing date for the 2025 crop year is May 1, 2024, or September 1, 2024, as provided in the actuarial documents.

Crop insurance is sold and delivered solely through private crop insurance agents. A list of crop insurance agents is available at all USDA Service Centers and online at the RMA Agent Locator. Learn more about crop insurance and the modern farm safety net at **rma.usda.gov** or by contacting your RMA Regional Office. Locate your RMA Regional Office at **TinyURL.com/RMAOffice**.

FALL CREEK FARM INVESTS IN EQUIPMENT MANUFACTURER

Fall Creek Farm and Nursery, a

blueberry genetics and nursery company in Eugene, Oregon, has made a minority investment in FineField, a mechanical harvesting solutions provider headquartered in the Netherlands.

"FineField's state-of-the-art harvesters reduce fruit bruising, improve pack outs, and are environmentally friendly," Cort Brazelton, co-CEO of Fall Creek, stated in a news release. FineField incorporates solar-powered robotic harvesters designed to reduce fruit damage and improve harvest quality. Fall Creek said that, as a minority investor, it will help support and offer expertise to FineField as it develops new solutions for blueberry growers.

"We are truly excited about the potential of this collaboration, which brings together Fall Creek's innovative work in variety development with FineField's cutting-edge robotic harvesting technology," Fall Creek co-CEO Oscar Verges stated in the release.

NEXGEN HOLDS FIRST MEETING AS OAN LEADERSHIP GROUP

NexGen recently held its inaugural meeting as the first recognized Oregon Association of Nurseries leadership at the Evergreen Space Museum in Dayton, Oregon and elected a slate of officers. About 50 people attended the event, the largest to date.

President: Elizabeth Brentano, **Robinson Nursery**

Vice president: Dalton Dunn, Robinson Nursery

Treasurer: Henry Golb, Marion

Ag Services

Marketing: Erika Willis, Wilbur-Ellis Event coordinator: Skye Cuevas-Arevalo, Kraemer's Nursery

After the election, attendees broke into teams and enjoyed a friendly but competitive game of horticultural and aerospace trivia and toured the museum's aerospace exhibits.

The group's next meeting will April 13 from 4–7 p.m. at the Wooden Shoe Tulip Farm, 33813 S. Meridian Road in Woodburn, Oregon, in conjunction with the Young Farmers and Ranchers (part of the Oregon Farm Bureau). Meet industry peers, tour and explore the tulip festival and flower production. Includes admission to the Wooden Shoe Tulip Festival. To attend, RSVP at TinyURL.com/NexGenTulip.

Announcements

DÜMMEN ORANGE PROMOTES NORTH AMERICAN EXECUTIVE

Dümmen Orange has promoted Frank Magnusson as its new regional head in North America,

the company announced.

Magnusson has been with Dümmen Orange as a senior member of the North



Frank Magnusson

American region for the past 12 years. Magnusson led mergers and acquisitions (M&A) and integrations of more than a dozen companies including Ecke Ranch, Fides, and Dümmen USA, Inc. into what has become Dümmen Orange. Before his new role as regional head, he was vice president of finance.

KATIE DUBOW GIVEN GREEN **ACHIEVER AWARD**

Katie Dubow, president of Garden Media Group, has been awarded the Pennsylvania Landscape & Nursery

Association's 2024 Green Achiever Award.

The Green Achiever Award recognizes an individual relatively new to the hor-



Katie Dubow

ticulture industry who is an upcoming leader within PLNA and the industry. The award was created in 1999.

AMERICANHORT EXPANDS ADVOCACY TEAM

AmericanHort has made several changes to beef up its Washington, D.C. advocacy team.

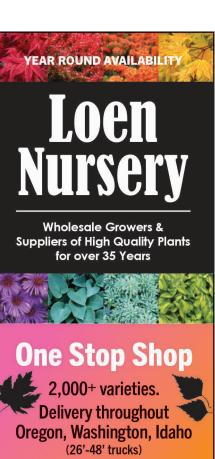
Rachel Pick has been named senior

manager for advocacy and government affairs in Washington, D.C. She is an Iowa native with experience in agricultural policy and government affairs,



Rachel Pick

providing perspective and commitment to specialty agriculture. Her responsibilities will be to promote the interests of horticulture members, and develop



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Northwest News

advocacy capability to defend and enhance the industry.

Matt Mika, vice president for advocacy and government affairs, has assumed



Matt Mika

leadership of the Washington, D.C.-based advocacy team, taking over that role from long-time industry advocate Craig Regelbrugge. Regelbrugge will support the advocacy and research team but primarily focus on phytosanitary/plant health and trade issues

NWREC DIRECTOR SURENDRA DARA STEPS DOWN FROM ROLE

Dr. Surendra Dara has stepped down as director of Oregon State University's North Willamette Research and Extension Center in Aurora, Oregon.

Dara said he will pursue his interest in research and extension and will become a professor of horticulture based on OSU's



Surendra Dara

main campus in Corvallis, according to a statement from the university. Dr. Shawn Donkin and Dr. Sam Angima are serving as co-directors of NWREC on an interim basis until NWREC begins a search for its next leader.

In memoriam

FORMER OAN LOBBYIST TED HUGHES PASSES AWAY

The Oregon Association of Nurseries

is saddened to report that longtime lobbyist Ted Hughes has passed away.





Ted Hughes

Hughes & Associates, began in 1962 and continued until his retirement in 2019. Former OAN Executive Director Clayton Hannon has praised Ted for his role in the selection of Silverton as the city to be the location for the Oregon Garden. "I will miss Ted's professionalism and he served as a mentor to many," OAN Executive Director Jeff Stone said.

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From left: Rod Parks, Joy Guidry, Doug and Jamie Zielinski, Rick Anderson (son of George Anderson), Allen Burden, Kathleen (Kathy) Polley, Charlie Burden (sons and dauter of Irene and Ray Burden, and Jan Barkley (grand-daughter of J. Frank Schmidt Sr.) Photo BY VIC PANICHKUL

BY VIC PANICHKUL

instrumental in the Oregon nursery industry were inducted into the Oregon Nurseries' Hall of Fame Class of 2024 on February 29, to the applause from about 100 attendees at the Abernethy Center in Oregon City.

"This event is special, not only because of the titans of the industry we induct into our Hall of Fame, and not just because of our master of ceremonies, my uncle Jim Simnitt, who will lead us through this evening, but it is special because of all of you," OAN President Amanda Staehely said. "There is no industry without you, and we celebrate tonight together as a nursery and greenhouse family."

"It is wonderful to see so many members here to share their love and admiration for those being honored tonight,"
OAN Executive Director Jeff Stone said.

The eight inductees joined 53 previous inductees. They included the following:

George Anderson (deceased) founded **Anderson Die and Manufacturing** on Macadam Avenue in southwest Portland, Oregon in 1954. Originally the firm was a

Oregon in 1954. Originally the firm was a custom die-maker and the manufacturer of various injection-molded plastic products. Only a few years after their founding, in 1957, the first Anderson nursery container — a 2-inch square pot with drainage holes — hit the market as their first plastic nurs-

OREGON NURSERIES'

HALL FAME

ery pot.

George was a leader in the Oregon nursery industry's movement from growing in used food containers and tin cans to the reusable plastic containers of today. Anderson Die & Manufacturing was one of the first companies to offer plastic pots for growing and propagation in the Northwest. The ready availability of George's containers helped propel the growth of Oregon's nursery industry.

Growth in the nursery pot business led to a move to a new location off McLoughlin Avenue in Milwaukie, Oregon in 1965. Many additional plastic pot designs were soon in full production, and it wasn't long before Anderson Pots were known throughout the world.

With the growing concern about throw-away plastics going into landfills, Anderson's long-standing reputation for long field life and their pots' water saving qualities, continues to be a valuable commodity in the nursery industry.

"Certain people introduce new product technologies that are transformative to the growth of an industry, and our first Hall of Fame inductee did just that," said Pete Brentano, who presented the award to Rick Anderson, George's son, who runs the business today.

"Dad was an innovator, not a businessman," Rick said.

J. Frank Schmidt Sr. (deceased) was among the pioneering nurserymen of east Multnomah County who made a name for Oregon-grown nursery stock by establishing East Coast markets early in the 20th century.

Born of German immigrant parents on May 21, 1888, John Frank Schmidt began his nursery career in the 1920s by growing plants for East Coast customers of Avery Steinmetz of Portland Wholesale Nursery. Located on Sandy Boulevard west of Fairview, J. Frank Schmidt Nursery quickly became known for top quality grafted Japanese maples, beech, dogwoods, and specialty conifers. In the late 1940s, Frank changed the name to Schmidt Ornamentals Nursery.

Throughout his nursery career, Frank maintained a close friendship and business relationship with Steinmetz (1991 OAN Hall of Fame) and sold most of his plants via this wholesale channel. He was an active member of the Portland Nursery Club and served as OAN President in 1938.

Hall of Fame

Frank and his wife Edna's four children followed their father's career path. Twin sons Dan and Don founded Schmidt Brothers Nursery. Don later established Don Schmidt Nursery, continued today by Frank's great-grandson, Eric Schmidt.

After Frank's death in 1968 at the age of 80, daughter Betty continued Schmidt Ornamentals under the Weedin Nursery name. Third-born son and namesake J. Frank Schmidt, Jr. founded J. Frank Schmidt & Son Co. in 1946.

"This family has created a dynasty of nurseries," said Kathy LeCompte, who presented the award to Jan Barkley, Frank's granddaughter.

"I'm proud to accept this honor on behalf of Grandpa," Barkley said. "I remember me and my cousins running around all over the place and Grandpa would just sit there at his table grafting his trees."

Irene and Ray Burden (both deceased) set the standard as pioneering leaders at the OAN.

Julia Hausch, co-owner of Roseway Nursery in Beaverton, was OAN's first woman president in 1948. She was inducted into the OAN Hall of Fame in 1993. Irene became the OAN's second woman president 31 years later, in 1979.

"Sometimes you need to break the glass ceiling twice," said Rod Park, owner of Park's Nursery.

As Irene Burden took the helm, the association was amid a battle to be considered part of agriculture. It was also dealing with subsequent high insurance costs. This sowed the seed for our long-standing relationship with the State Accident & Insurance Fund (SAIF).

Ray Burden, served as president in 1971, at a pivotal time for the OAN. The association had grown into the top five nursery groups in the nation but needed more progressive management to continue its pace with the rapidly increasing Oregon nursery industry. Ray was instrumental in transferring all management of the OAN at the time to the Agri-Business Council and new executive officers Jim Heater and Carl Hatfield. Jim and Shirley Heater would later be inducted into the

OAN Hall of Fame in 2006.

"Ray and Irene made an excellent team" said Staehley, who presented the award to their daughter, Kathleen (Kathy) Polly, and sons Allen and Charlie Burden. "Ray was the expansion visionary, and Irene was very prudent at keeping the nursery financially well balanced. Both enjoyed helping others."

"Mom and Dad didn't talk much about what they did," Polly said. "They led by example."

Rod Park and Joy Guidry became steadfast leaders in the nursery industry and their own community.

Harry and Rocky Park started what would be called Park's Nursery in 1947 and went into greenhouse production in 1950 in time for a freeze that hit the operation hard.

Rod has served the Oregon Board of Agriculture as its chairman and his 12 years of service at Metro shaped policy on land use and water and still resonate today. Rod was the Young Nursery Professional of the Year in 1986 and OAN president in 1991. He earned a plethora of other meaningful awards before being awarded the Clayton W. Hannon Distinguished Service Award in 2006. In 2018, he was inducted as an Honorary Life Member.

OAN Executive Director Jeff Stone presented the hall of fame honors to the Parks.

"Resilience is a hallmark of the Park family," Stone said. "In the 1960s the operation went into nursery production and the hook was set for the lives of Rod and his spouse Joy."

"Joy's humanity and high school teaching background (with two master's degrees) matched Rod's considerable intellect and nursery experience," he said.

Rod and Joy are both fighters and deflect public attention for their love for industry and the community. "Joy's battle with lymphoma is an inspiration to many and the number of nursery workers who had her in the classroom is legendary," Stone said. "Rod is respected for his ethics and strategic thinking. His warm personality made fertile ground for friendships in the industry. Service over self is a defining

characteristic for Rod and Joy."

"I look at this industry as self-regenerating," Rod said. We take care of each other and that's what makes us like family."

Doug and Jamie Zielinski are continuing to write the story of Alpha **Nursery**, already one for the ages.

Doug's father, Ernie, had taken over the Zielinski family farm when Doug was just 15 years old, after Doug's grandfather, Charlie, suddenly passed away.

The farm had never grown nursery crops, but Doug wanted to change that. He felt it would generate year-round work while diversifying revenue. So, he threw some gravel for containerized plants on a small portion of the family's prime farmland and asked three seasonal farm employees to help him start the nursery operation.

It was a humble beginning; with one greenhouse, a table for propagation and a single order of liners. That was it.

Doug's involvement is an inspiration: 1990 Young Nursery Person of Year; 1999 OAN President; 2002 Political Awareness Award; 2012 OAN Outstanding Service Award; 2018 Jamie & Doug — President's 5 Star Award; and 2021 Honorary Life Membership. Doug and Jamie are worthy inductees into the OAN Hall of Fame.

"Making a life in the industry was not Doug's best decision — it was marrying Jamie," said John Coulter, who presented the award to Doug. "The fact that Jamie is the lesser known Zielinski is fine with her. Make no mistake about it — she is the rock of the operation and makes the organization perform seamlessly. Without Jamie, Doug's success in the nursery world and community would not have been the same."

"I wouldn't be up here without help from a lot of people," Doug said. "First of all, it's about family and first and foremost it's Jamie. She's been with me 45 years through the whole thing. She's the rock. So thank you, Jamie."

Vic Panichkul is publications manager at the Oregon Association of Nurseries and managing editor and art director for Digger Magazine. Contact him at 503-582-2009 or VPanichkul@OAN.org



MEET THE LEADER

The voices of Oregon's nursery industry

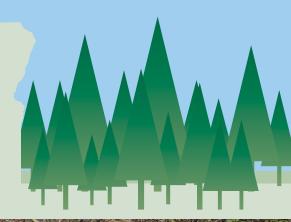




PHOTO BY VIC PANICHKUL

WHAT'S YOUR BACKGROUND?:

I have worked at **Eshraghi Nursery** for 17 years. Prior to that, I was a retail nursery manager and plant buyer for a landscaper in New Jersey. I graduated from the University of Vermont with a Bachelor of Science in plant and soil science.

GUIDING PRINCIPLE?

"Integrity is doing the right thing, even when no one is watching." — C.S. Lewis

All leaders should aspire to the ethical integrity encapsulated in this quote. This sentiment, when approached with compassion, creates champions in the realm of leaders. Often, conventional leadership advises us to maintain a professional distance from folks we work with. I have heard that from many of my colleagues as well. But that is not me. My inclination to care deeply sets a different path. I firmly believe that empathy is a skill frequently undervalued in leadership. Admittedly, navigating complexities of employees' personal lives can be arduous. Introduce integrity and the principle to always do the right thing, even when it's hard, guides leaders to be very effective.

Christopher Lee

Manager

Eshraghi Nursery

OAN Member

Since 2007

2019-2022

Research Committee chair

2014-2022

Research Committee

2016-2019

Government Relations Committee

2010

Climate Friendly Nurseries project

Meet the Leader: Christopher Lee

GOAL YET TO BE ACHIEVED?

I have a goal to create a legacy of continuous improvement. That requires working with a motivated team that likes being the best at getting better. Celebrating this kind of ethos makes it contagious. However, making it stick often necessitates a shift in workplace culture. Making it stick will lend unending excellence. Making it stick is the legacy worth the effort.

BEST BUSINESS DECISION?

My best business decision was made my sophomore year at college. I decided to switch my major to plant and soil science. Little did I anticipate the remarkable career trajectory that followed. Soon after, I was selected as an intern at **Bailey Nurseries** in Yamhill, Oregon, for the summer of my junior year. It was here that I met my future wife, Elizabeth. It was also here that I knew an industry was aligned with my future. As chapters unfolded, it was evident that our paths would lead back to the Nursery State. We have now been in Oregon for 17 years. It's noteworthy that my oldest daughter, Bailey, is now 16.

GREATEST MISSED OPPORTUNITY?

I have always been dedicated to this specific career path. Selecting a singular missed opportunity is a challenge, as I am sure numerous possibilities have slipped away due to my career's single-mindedness and tunnel vision. Some of those external opportunities could have been more lucrative financially. However, I doubt that these opportunities would have been as rewarding. The commitment to my chosen path has provided professional fulfillment that extends beyond financial gains.

MOST SIGNIFICANT MENTOR?

My journey has been marked by three noteworthy individuals, as each of my employers have left an indelible mark:

Glenn Jacobsen of Jacobsen Landscape Design and Construction (Midland Park, New Jersey) stood for diligence and consistency. Consistent hard work is the foundational bedrock of leadership.

J. Clark Brisby from Hedgewick Gardens (Mahwah, New Jersey) gives value to being direct and fair. He embraced honest and transparent communication to vendors (especially growers) and customers. This is important for fostering professional respect and achieving success.

Linda Hockersmith-Eshraghi from Eshraghi Nursery (Hillsboro, Oregon) inspires by navigating the complexities of leadership with grace. Learning from her example, our company has navigated recessions, pandemics and some of the toughest weather events, all while providing customers with the value they deserve. Her resilience and insight have taught me to be open minded and adaptable to any variable.

BEST BUSINESS ADVICE?

Always do your best. Pursue your passion and commit to

becoming the absolute best in your chosen field. Observe and learn from others who excel in a similar field, and from those insights, become more proficient. But the journey does not end there. Surpass your benchmarks, keep embracing your passion, and keep bettering!

WHAT DO YOU LOVE MOST ABOUT THE INDUSTRY?

The dynamic nature of the industry is captivating. You can never just fall into dull routines. Nursery work makes you think, and I like that. Every year, month, week, and day unfolds something new and unique. Each challenge requires thoughtful consideration. The sense of accomplishment accompanying each triumph with our team is what we love. And, oh yeah, the people. I love the people in this business ... we all do ... they are the best ... you already know that.

WHAT IS YOUR GREATEST CHALLENGE?

Adapting to change remains my greatest challenge. While I appreciate consistency, I also relish the challenge. Establishing a set pattern for growing plants would be straightforward. However, there are no consistent routines here. The dynamic nature of our environment, both literal and economic, necessitates continual adjustments. Creating consistent crops amidst variable conditions keeps those synapses firing.

WHAT MOTIVATES YOU TO GO TO WORK EVERY DAY?

Continual improvement drives me out of bed each day. It is important to recognize that as I am present and engaged in the work, there are others doing the same thing. The collective desire to excel is motivating fuel. Working alongside like-minded colleagues fosters a shared commitment to excellence and the future.

WHAT ARE YOU MOST PROUD OF?

I take pride in following my dream. I had a dream of pursuing a career in horticulture and raising a family in the beautiful state of Oregon. I had a dream of being a part of something special. I have that in Oregon at Eshraghi Nursery. I hold my chin high while working with amazing folks growing quality plants for the best customers in the world.

WHAT ARE THE MOST CRITICAL CHALLENGES FACING THE NURSERY INDUSTRY TODAY?

The most critical challenges facing the industry today are most certainly political. The perennial environmental threats and a diminishing workforce are accustomed challenges. However, when these tests are compounded by misguided political decisions, the impact is a heavy harrow. Here in the fertile Willamette Valley, we tread the most productive and farmable land in the world. It's a cruel irony that political regulations can mitigate their potential.

Nurturing Mother Earth though carbon sequestration



Carbon is stored in all parts of a tree, including leaves, bark, branches, roots, flowers, and fruit. PHOTO BY MIKE DARCY

OST GARDENERS would like to think of themselves as being good stewards of the earth people do what they can to care for and nurture our planet.

With the electronic age that we live in, we are often bombarded with information. some useful and some not so much. The gardening world is also full of myths, and it can be difficult to decipher what is true and what is not. It can also sometimes be difficult to know, as gardeners, what role we can play to help our environment.

A question or topic that is often mentioned is that of carbon sequestration. What does it really mean, and what practices can we, as gardeners, do that are beneficial?

To find answers, I talked to Jessica Halofky, director of the U.S. Department of Agriculture Northwest Climate Hub and Western Wildlife Environmental Threat Assessment Center. The content of this discussion is based on what she told me.

Carbon sequestration

When we hear the phrase "carbon sequestration," the carbon refers to atmospheric carbon dioxide. Carbon dioxide is one of many greenhouse gases, and it is the most important one when referring

to climate change. Sequestration means to remove and store something, and in this scenario, it means to remove and store atmospheric carbon. Sometimes this is referred to as "carbon capture." Plants sequester carbon when they photosynthesize, storing carbon in their cells.

While leaves are the powerhouse of photosynthesis, bark can also photosynthesize. This usually happens in late winter, as trees form buds to leaf out. Sunlight can also penetrate thin-barked trees like birch and aspen.

Carbon is stored in all parts of the tree, including leaves, bark, branches, roots, flowers, and fruit. A young or middle-aged tree would take in carbon dioxide faster than an older tree. However, the older tree takes in more carbon overall and has more carbon stored because the older tree is probably larger. Older trees tend to be more efficient at carbon uptake and they capture more carbon per unit of leaf area.

How much carbon?

Faster-growing tree species would absorb more carbon annually than slowergrowing trees. Maples with large leaves could uptake more carbon in their growing season, but they don't grow in winter.



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.

Hardwoods have denser wood, and they can store more carbon even if they are smaller. Conifers tend to live longer than deciduous trees, which means they store carbon for longer periods of time.

There are many factors to consider regarding the amount of carbon taken in by a tree. In one season, a maple may take in more carbon than a conifer, but when looking at the tree, a conifer stores more carbon than a maple.

Carbon cycle

When a tree dies, the speed at which it decomposes affects how quickly it releases carbon. Slower decomposition gives other organisms a chance to recapture some of that carbon.

In the autumn, as leaves fall from deciduous trees and decompose, the leaves release carbon. Some of the carbon stays in the leaves when they are composted. However, if the leaves are not composted, where do they go?

Sending them to a landfill or burning them are not good options. When leaves are burned, they release much more carbon than through decomposition. When leaves are put in a landfill, over time they release methane gas which is a more powerful greenhouse gas than carbon. So, yes to composting leaves — it is the better option.

Enriching soil

When compost is added back into the soil, it improves the texture and waterholding capacity. It also adds nutrients like calcium, magnesium, and potassium. This essentially makes your composted leaves either carbon neutral or carbon negative.

When a tree dies, much of the carbon the leaves have taken in will end up in the tree. If it is burned or taken to a landfill, it will release more carbon than it stored. If it is made into woodchips and used as mulch or compost, some of that carbon will return to the soil.

Soil health is a key factor to increased carbon storage. Healthy soil is vibrant and alive with healthy microbiome and nutrients to sustain plant growth. Plants grow bigger in healthy soil, which means more carbon sequestered. Healthy microbiomes in soil can slow down decomposition rates, meaning more carbon ends up staying in the soil.

Being a gardener is already a big step towards increasing carbon sequestration capacity on your land. To think about places where you can store carbon, can you plant more trees? Adding biochar (charcoal produced from plant matter) to your soil is helpful. Rather than leaving bare soil after the summer garden is gone, consider planting a cover crop.

When it is time to plant in the spring, till the cover crop into the soil. This will increase the carbon in your garden. Including legumes in the cover crop seed mix will also add nitrogen which improves plant growth.

Perhaps having a goal of encouraging the land to store as much carbon as possible should be on every gardener's mind. Think of your own personal carbon cycle and, how you emit and recapture carbon. That should stimulate you to envision creative ways to store more carbon and help nurture Mother Earth.



Maples with large leaves could uptake more carbon in their growing season, but they don't grow in winter. PHOTO BY MIKE DARCY





Emerald Avenue® Hornbeam (C. b. 'JFS-KW1CB' PP22814) from J. Frank Schmidt & Son Co. is a great streetscape tree. It has a strong central leader and sturdy branch arrangement and was developed for heat tolerance. Photo Courtesy J. Frank Schmidt & Son CO.

Disease resistant and tolerant of conditions, hornbeams make stalwart street or screening tree

BY EMILY LINDBLOM

ornbeams (Carpinus) may be lesser-known trees, but their toughness and versatility makes them suitable in a variety of landscapes, including as street trees or for screening. It's no surprise more and more Oregon nurseries are growing them.

Tiffanie Baker, manager of sales and production at **Bountiful** Farms Nursery Inc. in Woodburn, Oregon, has been growing shade trees for 23 years, including three European hornbeams: Carpinus betulus 'Fastigiata', C. b. 'Frans Fontaine' and C. b. 'Lucas'. Those are the three most popular grafted Carpinus grown at the nursery, and most are grown pot-in-pot, she said.

Growing popularity

Rick Metzger is the sales and production manager at **Heritage** Seedlings & Liners Inc. in Salem, Oregon, which grows nine grafted types plus the European hornbeam (C. betulus), American hornbeam (C. carolinianas) and the Korean hornbeam (C. coreanas).

Hornbeams are becoming more popular than they were, Metzger said. "Some are used for hedges and some as straight street trees, just depending on where they're planted," he said.

Heritage Seedlings sells European Hornbeam seedlings and grafted varieties to other nurseries.

Guy Meacham, new plant development manager at J. Frank



European hornbeam (C. betulus) can be planted in a row and trimed into a tall hedge, said Tiffanie Baker at Bountiful Farms Nursery Inc. PHOTO COURTESY BOUNTIFUL FARMS NURSERY INC

Toughest on the block

Schmidt & Son Co. in Boring, Oregon, said the company has been offering hornbeams since the 1970s.

"They're very resilient, they can take pollution and they're a good city tree," Meacham said. "They don't suffer from too many disease problems."

He said 'Fastigiata' is the most commonly used cultivar.

Then the slightly narrower 'Frans Fontaine' was introduced in the 1990s, and Meacham said for the longest time those were the two most popular *Carpinus*. In the last 20 years, Meacham said, the *C. caroliniana*, the American hornbeam, has become more prevalent.

"If you grow that tree from seed, there's a lot of varieties out in those seedlings," Meacham said. He added that some varieties of the American hornbeam do not shape well, but growers have started developing other varieties that work better in streetscapes and landscaping.

Streetscape trees

Lyle Feilmeier, an arborist with 29 years at **Bartlett Tree Experts** in Clackamas with 35 years' experience in the industry, said he has learned the value of hornbeams and their specific uses.

"A hornbeam has a lot of value in its younger years as a street tree, as a screening tree," Feilmeier said. The foliage comes in with a wall of green leaves that block the light. "As the tree grows, depending on the cultivar, it can become a large monster that overpowers a site."

In its first eight to 10 years, the 'Fastigiata' grows very narrow in a columnar form, but once it reaches about 30 to 40 feet high, it stops growing tall and instead grows very wide — about 25 to 30 feet wide.

Feilmeier said knowing about that fact when selecting the trees helps a land-scaper in the long run.

"Many people plant these trees and only think about the short term," Feilmeier said. "The first five years they're amazing trees, but Mother Nature doesn't stop. In neighborhoods or large developments, they're often used as street trees, and are



The versatility of hornbeams extends to being pruned into shapes, a common practice in Europe. Here a 'Fastigiata' is pruned into a beehive shape. Photo COURTESY BOUNTIFUL FARMS NURSERY INC.

appealing for eight to 10 years. Then they keep growing and they lose visibility, and it depends on that private tree owner and what they're trying to do."

Baker at Bountiful Farms said it's important for city landscapers to know this so they can plan for it in the long term. "They'll plant it and let it go and it will usually end up getting pruned," Baker said.

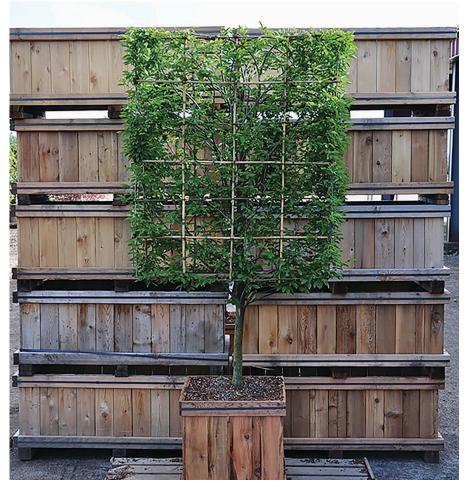
Baker said 'Fastigiata' can be used for residential purposes too.

"Residents use them if they have big properties to line driveways," Baker said.

"Or in small properties if they get fooled to think it's a columnar tree, and then they have to take it out after eight years." The 'Fastigiata' is the fastest growing Carpinus that Bountiful Farms grows.

'Frans Fontaine' is better suited as a narrower street tree. Baker said at a young age it looks exactly like the 'Fastigiata', but doesn't grow as wide. At full growth, the 'Frans Fontaine' is about 35 feet tall and 15 feet wide.

"It's very low maintenance and should be a street tree because it does



A 'Fastigiata' is pruned into a square shape. РНОТО COURTESY BOUNTIFUL FARMS NURSERY INC.

maintain its upright form." She said once established, both the 'Fastigiata' and the 'Frans Fontaine' can have a very long life.

Screening and hedges

Another way hornbeams can be versatile and used in screens is to prune them into patterns and shapes.

Arborist Feilmeier planted several hornbeams in a row and grafted their branches in a criss-cross pattern, pruning the trees to maintain the pattern and size he wanted.

He has also grown a set of three hornbeams together with separate trunks that connect into a thick, well-manicured hedge at the top.

They can grow tall and wide and be shaped into a teardrop with a rounded bottom and a point at the top.

Baker said "hornbeams are very easy to form if they want to hedge it or square it off to make a topiary look."



Toughest on the block



In addition to providing texture with its deeply-ribbed leaves, different varieties of hornbeam can provide a burst of fall color in its leaves and seedpods in the fall. In pairs from top to bottom, left to right: green and fall color of Emerald Avenue® Hornbeam (C. b. 'JFS-KW1CB' PP22814), green and fall color of Rising Fire® American Hornbeam (C. c. 'Uxbridge'), and green and fall seed color of Native Flame® American Hornbeam (C. c. 'JFS-KW6'). PHOTOS COURTESY OF J. FRANK SCHMIDT & SON CO.

The 'Fastigiata', 'Frans Fontaine' and 'Lucas' at Bountiful Farms all have branches starting at the ground for a complete hedge. The farm also grows European hornbeams called that can be grown in a row and shaped to have full trunks under their hedges.

A *C. betulus* can be grown into a 12-foot tree, with a six-foot trunk and a

six-by-six-foot-square hedge on top.

"Growers do a lot of manipulating and shaping of trees in Europe, and we have a portion we do that with here," Baker said.

Feilmeier said hornbeams can be molded into many kinds of shapes and can be used purposefully, as long as the landscaper knows what to expect. "It just depends on how much formalness a landscaper wants and how much they're willing to spend to get that formalness with the amount of maintenance involved," Feilmeier said.

He added that they are less expensive to maintain than other types of hedges, including laurel hedges.

Weather tolerance

Hornbeams also have a wide tolerance for weather and are suitable for many regions.

"All these varieties like full sun, here (in Oregon), and in Utah to the Midwest," Baker said.

The 'Fastigiata' often shows up on city lists in Zones 4–8, making it a versatile option for different climates in the U.S.

Meacham at J. Frank Schmidt said one advantage to growing the American hornbeam (C. caroliniana) is that it's cold hardier than the European varieties.

Emerald Avenue® Hornbeam (C. b. 'IFS-KW1CB' PP22814) developed by J. Frank Schmidt and Son Co. also has excel-

"Typically the vast majority of seedlings are going to have yellow or orange fall colors, but some have red ..."

- Guy Meachem, new plant development manager at J. Frank Schmidt & Son Co.

lent heat tolerance.

Fall color

Another attractive quality of hornbeams is their fall foliage.

"Typically the vast majority of seedlings are going to have yellow or orange fall colors, but some have red so some people make selections of red leaves and upright forms which are better for planting on landscapes," Meacham said. J. Frank

Schmidt introduced new cultivars of American hornbeams, including the vibrant red Native Flame® (C. c. 'JFS-KW6') and the orange Rising Fire® (C. c. 'Uxbridge').

Mike Yanny of Johnson's Nursery in Wisconsin introduced the more rounded

Fire KingTM and the narrow upright Firespire® American hornbeam varieties.

Yanny bred them especially to turn red in the fall and to be able to handle colder weather in Wisconsin.

The 'Frans Fontaine' has a nice green leaf in the summer.

"Like the 'Fastigiata', it turns yellow to bronze in the fall. They lose their leaves all at once so it's easy to clean up in the fall," Baker said.

She said the 'Lucas' holds its leaves in the winter, making it great for hedging.

"The leaves are a bit darker in the summer and in the fall they turn yellow and brown and hold their leaves," Baker said. "It's a great selection for a hedging plant for homeowners."

The need for maintenance

"Where I find them useful is the small postage stamp properties that need



Toughest on the block

a screen wall because the properties are close to each other," arborist Feilmeier said. "In my previous landscape I created a hedge wall. The hornbeam was the perfect size plant for screening between my property and my neighbor."

But they'll need upkeep.

"They'll either need to maintain them, or not plant them in that space," Feilmeier said. "There's a misunderstanding for how to use hornbeams. People expect if they plant a tree they don't have to maintain it, but because it's in an urban environment, if they don't maintain it, it's going to outgrow their space."

He said that's true for many trees, but especially hornbeams.

The 'Lucas' is a newer variety that differs from other hornbeams, as it is slower growing and very columnar. It reaches 30 feet high but only 10 feet wide.

Baker said Bountiful Farms has been growing the 'Lucas' for about four to five years, and it was fairly new to America from Europe when they got it.

"It's just now starting to gain popularity," Baker said. "In eight years it's probably 12 to 15 feet tall and about three to four feet wide."

Another variety is the very slow growing dwarf European hornbeam, the C. b. 'Columnaris Nana', which is used in smaller landscapes. Baker said one 6-yearold plant is only four feet tall and one foot wide. The Nana is also not as columnar as other varieties.

Feilmeier said the 'Columnaris Nana' is one variety that landscapers can plant and forget about, as long as they know what the use is for. Meacham said the 'Columnaris Nana' will likely grow to 10 feet tall after 20 years.

Asian hornbeams

Other varieties that are more com-

mon in Asia, the Japanese hornbeam (C. japonica) and the Korean Hornbeam (C. coreana), are not as commonly used in the U.S. yet. But Meacham predicts they will start to gain popularity.

Metzger said Heritage Seedlings doesn't sell many of the C. coreana trees, but some of the ones they do go on to be used for Bonsai.

"I think people are always looking for new and different plants," Meacham said. "People like myself are making selections to bring new plants to market."

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Tyler Hoskins of Robinson Nursery in McMinville, Oregon, displays air-root pruned oak seedlings grown with the AirTray Technologies. The plants are easily removed from trays, simplifying transplanting, Hoskins said. PHOTO BY MITCH LIES

Eco-friendly pots

Nurseries use new propagation systems with biodegradable liners

BY MITCH LIES

obinson Nursery is generally pleased with its propagation system, but according to Tyler Hoskins, head of research and development, there is always room for improvement.

"There are some things that we're currently doing that we're not happy with, and there are some things that we're currently doing that we are happy with," he said. "But even in those cases, we believe we could still be doing better."

With that in mind, the Amity, Oregon, nursery is trialing two new propagation systems. The systems, one called AirTray Technologies that utilizes Ellepot liners, and one that includes use of Fertil liners in RediRoot trays, are designed to optimize production and improve plant development, and do so through use of eco-friendly pots.

The main incentive behind trialing the systems, Hoskins said, is to see if the nurs-

ery can build a better root structure in its seedlings and container plants.

"We are really interested in root quality and roots structure at every phase along the process," Hoskins said. "These systems stand potentially to give us a better root system that will be just better for our customers at the end of the day."

"We run trials like this all the time in pursuit of the perfect root system," Hoskins added, "and we get closer each time."

With one year under its belt, Hoskins said it is too early to say whether the nursery will switch to one or both of the systems. But, he said, early results are promising.

AirTray Technologies

Both the AirTray and Fertil systems are built around the concept of keeping roots intact through use of biodegradable liners while exposing them to air pruning. The liners make transplanting easy and minimize root damage during the process. And the systems speed plant development.

The AirTray system, manufactured by Blackmore Company, includes the use of paper-based root liners made by an Ellepot machine that fit into propagation trays. The system also includes racks that elevate trays, which can keep roots from circling the bottom of pots and provide some disease-control by keeping plants off surfaces, some of which may contain bacteria, fungi or other media that can be problematic to plant health. Blackmore rents out the Ellepot machine and sells the paper used to make the liners.

Yongjian Chang, president of **North American Plants** in McMinnville, Oregon, said his nursery has been using the system for more than 20 years and today owns four Ellepot machines, including the original machine he purchased in 2002.

"It is still working today," he





Customer Service and Shipping Manager Clayton Moore Jr. gives a tour of the Ellepot machines and explains how they work at North American Plants in McMinnville, Oregon. Rolls of biodegradable paper spool into the machine and the paper is shaped into a tube and the machine fills the tube with planting medium (above and below). Different papers are formulated to last different lengths of time, Moore said. Photos By VIC PANICHKUL

said, "and we've added three different models."

Chang said the strength of the AirTray system is the efficiency it brings to the transplanting process.

"It helps in the grading and the transplanting," Chang said.

Chang added that the AirTray Technologies racks, which he first purchased about ten years ago, further increased the benefits of the system by preventing roots from circling on the bottom of pots.

The AirTray system also has become a favorite for **Tree Connection**, a wholesale nursery in Dundee, Oregon, that sells potted trees from 12 to 15 nurseries to commercial fruit growers. In addition to facilitating transplanting, Loren Queen, sales manager for Tree Connection, said the company likes that the trays and racks

can be reused, and that the paper-based liners disintegrate in the field after planting, eliminating any need to dispose of plastic pots.

And the system facilitates a quick turn-around, he said, much quicker than standard plastic potting systems.

"It's almost a just-in-time inventory situation," Queen said. "As long as the roots already exist, I can have a tree delivered to a customer in three or four months. And that can be a real advantage, especially when the industry is planting at full force."

One thing to consider when using the system, Queen said, is commercial fruit trees require more attention when brought to the field, at least for the first year.

"They take more work in the field," Queen said. "They take drip irrigation from the moment they are planted for the



Eco-friendly pots

next five to six weeks on a daily basis. And you've got to get the water on the plant, not near the plant. So, you've got to be very accurate with your drip tape. And then, of course, you've got to train that tree, so you've got to keep the stake on it, and you've got to have crews go out and make sure the wind doesn't blow them over. And you've got to keep the weed competition down.

"That first year is a very intensive investment of labor from the grower standpoint," Queen said.

Fertil system

The Fertil system also air-prunes roots, but in this case uses a biodegradable wood fiber cup that fits inside RediRoot trays for its root liner. Like the AirTray liners, the cups hold the soil and roots in place, improving seedling quality and simplifying transplanting, according to Chris Murphey of RediRoot in Damascus, Oregon.

"The roots don't fall apart, the soil doesn't fall off, and they pop up much quicker and easier (when transplanting) if you have the cup than if you don't," Murphey said.

The biodegradable cups are made from spruce and fir trees that are culled from production forests in France at six inches of caliper. The wood product is then ground up then mixed with a slurry and steamed into a mold.

"There is no glue, there are no binders, there's no paper," Murphey said. "It's just wood fibers that are pressed into a mold and then quickly dried."

Also, Murphey said, the cups are manufactured in a way that takes advantage of the air-root pruning benefits of the RediRoot trays. "The pieces of wood are not square, they're not rounded. They're sort of sharp, with the idea that it creates a lot of air space, so the roots grow right through the product."

Trialing both

Robinson is trialing both systems on several species, Hoskins said, including redbud trees, some oaks and



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Eco-friendly pots



Magnolia cuttings grown with the Fertil insert in a RediRoot tray at Robinson Nursery. Photo BY TYLER HOSKINS

some hornbeams. Among promising early results, Hoskins noted that in the AirTray trial, the redbuds had better caliper at the end of a crop cycle than under the nursery's usual system.

"We were actually able to bud sooner in the field because those were larger, and the root structure was just beautiful coming out of those," Hoskins said. The oaks also showed improved development in the Airtray trial.

The nursery also noticed a quicker finishing time on its magnolia cuttings when using Fertil liners in the RediRoot trays. "We were able to finish them earlier than we usually do, so they are transplant-ready by this fall instead of next spring, which is when we usually pot them," Hoskins said. "So that could translate to a quicker finish time on that product as well."

The nursery hasn't tested whether plant quality holds up in their next stage of development, Hoskins said, which is part of the reason it hasn't adopted one or both of the systems. "I think it will, but we don't know that yet," he said.

Like Tree Connection, Hoskins said Robinson Nursery also likes the ecofriendly aspects of the systems, noting that the AirTray and RediRoot trays can be used again and again, and the container cups are biodegradable. "That's something that's been a value of ours for a while," Hoskins said.

For his dollar, Murphey said he believes the combination of RediRoot trays and Fertil liners is the most sustainable system on the market. "From our vantage point this is the most sustainable cup on the market, because there aren't any of the binders that are in some of the other paper cups," Murphey said. And, he said, RediRoot trays can be used 10 to 20 years before replacement.

"The combination of our products is very sustainable," Murphey said.

Tradeoffs

There are tradeoffs to the systems, Hoskin said. For example, adopting the AirTray Technologies system involves the rental or purchase of an Ellepot machine to make the paper liners. In its trialing, Hoskins noted that the Blackmore Company loaned them a machine to test the system. If Robinson Nursery were to go forward, however, it would need to rent or purchase the equipment. There is also the expense of purchasing the paper used to make the liners.

"That would be a capital expenditure for us," he said. "And we would have to evaluate whether the improvements in crop quality are worth the costs involved in changing our system.

"I mean, we have seen some nice developments in product quality," he said of the AirTray system. "But whether it's worth that business decision at the end of the day, that's still unknown at this point."

The Fertil system, conversely, could be incorporated into the RediRoot trays that the nursery currently uses. "We would have some different tray sizes that we would have to buy for different items," he said. "But it would work pretty seamlessly with our current system here." Here again, however, there are additional costs in that the Fertil cups cost between five to ten cents per cup depending on the size, Murphey said.

The bottom line, Hoskins said, is the nursery has yet to decide whether to switch to one or both of the systems or stay with its existing system. "It's still early for us," he said. "We want to go through the whole cycle before making the decision."

But it is clear that one year into the trialing, the systems have the nursery's attention.

Mitch Lies is a freelance writer covering agricultural issues based in Salem Oregon. He can be reached at mitchlies@comcast.net.



Nico Ardans, right, medium cycle value stream leader at Peoria Gardens, marks a task completed during their weekly Policy Deployment meeting while others including owner Ben Verhoven (far left) look on. PHOTO BY VIC PANICHKUL

A shared focus

Policy Deployment management process can help nurseries focus, thrive and achieve their goals

BY JON BELL

INCE ITS FOUNDING in 1984, Robinson Nursery in McMinnville has been run in a fairly typical fashion: Plans, goals, priorities and just about everything else has come from the top and made its way down through the ranks.

It's a system that has worked well for founders Rick and Roxanne Robinson and their two sons, Chris and Josh, both of whom are co-owners.

But a few years ago, the nursery decided to try something different. Something that would keep the company from becoming siloed. Something that would get every employee focused on the same goals. Something that would give everyone a say.

Something called Policy Deployment.

What is it?

Developed in Japan after World War II — and also known as Hoshin Kanri — Policy Deployment is a way to link, align and focus every employee in a company on the same goals and the means to achieve them. It's famously been used by Toyota, but over the decades, its implementation, like that of the related Lean Manufacturing approach, has spread across industries.

In just the past few years, it's made its way into several Oregon nurseries, including Robinson Nursery, and led to some impressive results.

"The top-down system works really well, but I personally like this method better because it's more sustainable," Chris Robinson said. "The goal of Policy Deployment is to link, align and focus on common goals. But you let everybody come up with the goals so that they take ownership and take it on together. In my career, this has been the most powerful thing I've been a part of as far as creating

change and accomplishing the goals that we've set out to."

Rallying the troops

In simple terms, Policy Deployment is a management system that helps companies identify their goals and work together, across the entire company, to achieve them. It involves every level of the company.

"It doesn't matter if you are the executive or at the bottom of the org chart," said Jeff Stone, executive director of Oregon Association of Nurseries, which is now in its second year of Policy Deployment. "Everybody is involved and everybody is accountable."

Robinson said implementing Policy Deployment typically starts with a company identifying its mission, vision and values.

"The first step is to come up with a purpose to your company so you have something to rally the troops around," he said.

A shared focus



From left: Ben Verhoeven, Sarah Noble, Elizabeth Peña, Mark Blye, Eric Morales, Nico Ardans and Zak Burke-Wolfe go over the Policy Deployment updates at Peoria Gardens. Photo BY VIC PANICHKUL

Next comes a SWOT analysis — the acronym stands for strengths, weaknesses, opportunities and threats — which helps identify where a company is strong, where it is challenged and how it can improve. Based on that, the company comes up with three- to five-year goals, one- to three-year initiatives and one-year improvement targets.

All of those make their way onto a large display, which includes the goals and initiatives, followed by the improvement targets, each one of which gets what's known as a "swim lane." Every target has a team lead, as well as goals and deliverables, which are identified and updated via sticky notes across the 52 weeks of the year.

While such a display may seem almost antiquated in this digital day and age, having it out in the open and visible makes it easier for people to visualize what's ahead and be accountable for their various tasks.

"It provides a really nice snapshot for everyone," said Sarah Noble, office manager at **Peoria Gardens**, which implemented Policy Deployment in 2019. "If we didn't have the visual macro plan, I'd have notes on notebook paper, other people might be using their phones. This is all in one spot and is a super useful tool."



Rick Peters conducts a training on Policy Deployment. He said the real benefit is it helps to focus and maximize available resources towards goals set by the organization. PHOTO COURTESY THE PETERS GROUP

Policy Deployment also entails efficient weekly meetings where team leads talk about key wins, progress, setbacks and whether or not they need any help.

Stone said the idea of weekly meetings at first gave him pause.

"Staff meetings for us were few and far between under our old model," he said. "I couldn't stomach the idea of being stuck in meetings and thinking about what else I could be working on. But now, they are a half an hour each week at breakneck speed. It works well."

Executing a strategy

Elizabeth and Rick Peters are business consultants and the owners of **The Peters Co.**, which helps companies implement
Lean principles and Policy Deployment.
They worked with Robinson, Peoria
Gardens and OAN on their respective
Policy Deployment systems.

Rick Peters said a better term for the methodology would be strategy deployment, because it's about not only developing a strategy, but executing it.

"The real benefit is it helps to focus



Robinson Nursery co-owner Chris Robinson meets with his leadership team to go over progress in their weekly Policy Deployment meeting. PHOTO BY VIC PANICHKUL

and maximize available resources and target, ultimately, the longer-term goals that have been set for the organization," he said. "The nice thing is, it also provides a correcting mechanism to get back on target should you deviate. You are checking yourself weekly. If you are deviating or getting behind schedule, it shows up real quick."

"Another good thing, especially for nurseries, is that it helps everybody in your organization know where you are trying to go as a leader," Elizabeth Peters added. "You limit your goals to three or so and learn how to communicate them really well. What happens is, you end up engaging more people."

Implementing Policy Deployment is not without its challenges. For starters, the initial process requires four days, including coming up with a macro plan.

"It's grueling," Rick Peters said.
"The first two days, there is just no way that I know of to cut that short. That's the hard part. The fun part is the following couple days."

Additionally, it can be tough to set up measurable goals in the first year — "Something that's not too hard to achieve but not too deflating if they don't hit it," Rick Peters said — and if you don't stick to the weekly meetings, you'll likely be off track in no time. Companies also



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need to have a solid culture and strong leadership.

"Every organization, even a prison, will have a culture," Rick Peters said. "In the absence of strong leadership, your culture will go south, it'll split into factions."

Long-term benefits

At the OAN, Policy Deployment is helping the organization run even more efficiently than it already was.

"I don't mind bragging that we have the gold standard of staff in this industry," Stone said, "but part of going with Policy Deployment is to not rest on our laurels. Even the best have ways we can do it better."

One of the big goals for OAN is to develop and deliver the next iteration of the association's popular Nursery Guide. Though it was a first-of-its kind when it debuted online 10 years ago, the Nursery Guide is nearing the end of its lifecycle and needs to be reimagined and revamped so that it continues to be a valuable resource to members. OAN is using the Policy Deployment process to move the project forward.

"(Policy Deployment) has really helped staff work better together. I am grateful for forcing this old dog to learn a new trick," Stone said, noting that OAN is also working on other priorities, such as identifying new revenue sources and launching a new marketing department. "We looked in the mirror and said, 'We need to do this.' For that, we are better



Robinson Nursery Producton Manager Gabriel Mendoza updates managers on his progress during the team's weekly Policy Deployment meeting. PHOTO BY VIC PANICHKUL

now than we were two years ago."

At Peoria Gardens, Noble said the company made solid progress on its improvement targets last year, including reducing overproduction.

"I think Policy Deployment just allows you to have valuable conversations that you wouldn't have otherwise," Noble said. "And it really does build teamwork, which is an important part of our culture."

That's happened at Robinson Nursery as well. Because of Policy Deployment, one improvement target had three leads — one from sales, one from marketing and one from maintenance.

"Before, they would have never really interacted on a project," Robinson said,

"but here they had a huge project to work on together. I think that really strengthens the departmental communication, and because of that, morale of the company goes up too."

Gone as well is the top-down system of yore, replaced by one that's more inclusive and gives employees from across the company a chance to offer input on common goals and priorities. Robinson has also seen the fruits of Policy Deployment via the creation of a bilingual supervisor training program that he had long envisioned but could never put together on his own. By involving more people through Policy Deployment, Robinson's longtime dream became a reality.

And, perhaps most importantly, Robinson also said that Policy Deployment has been good for business.

"For us to spend time on something, it really has to affect the bottom line," he said. "I would say it's drastically increasing our profit margin over time. I'm pretty sure we will be doing Policy Deployment for the rest of my career, and I imagine it will live with the nursery as long as it's here."

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

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GROWING

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





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A beautiful threat

Adult flatheaded borer beetle with bright colored underbody exposed. Adults Update on may cue into bright colors like this during flight. PHOTO COURTESY flatheaded borer OF OREGON STATE UNIVERSITY management in specialty tree crops California. By 2019, 90-100% of the newly planted BY KARLA ADDESSO LATHEADED BORERS had visible flatheaded borer damage.

in the genus Chrysobothris are beetles native to North America and found across the United States.

Within the genus, common pest species in the western U.S. include Pacific flatheaded borer (C. mali) and flatheaded apple tree borer (C. femorata).

The threat

The larvae of flatheaded borers cause aesthetic damage and economic crop losses to many nursery, nut, and orchard tree species.

The Oregon Hazelnut Commission recently ranked Pacific flatheaded borer as the number one priority pest in young hazelnut orchards. About half of the acreage in Oregon consists of trees less than 11 years old.

In August 2018, Pacific flatheaded borers were also found attacking smaller limbs and branches of walnut trees in walnut trees in two walnut orchards covering 300 acres

Other species of flatheaded borers are important pest of arborvitae and juniper in western nurseries. In the southeast, flatheaded borer losses routinely exceed 40% of some nursery tree species (Oliver et al. 2010).

In 2018, Hurricane Michael severely damaged about 17% of Georgia's pecan acreage, affecting more than 700,000 trees. In August 2019, new replacement pecan transplants began to show flatheaded borer damage (Acebes-Doria, pers. comm.).

Chrysobothris species have also emerged as a threat to Florida blueberry production, where damage to blueberry canes results in production of fewer marketable fruits.

A team effort

In 2020, a multi-state research project led by Drs. Karla Addesso and Jason Oliver of Tennessee State University was funded by the USDA-Specialty Crop Research Initiative to



Growing Knowledge







Flatheaded borer emerging from a stem of tree. PHOTO COURTESY OREGON STATE UNIVERSITY

coordinate research on this pest group.

The team includes Drs. Lloyd Nackley and Nik Wiman of Oregon State University, focusing on the needs of growers in the Northwest, as well as contributors from California, Texas, Alabama, Tennessee, Georgia, Florida, North Carolina, and South Carolina.

With the support of grower collaborators and industry representatives, the research team has focused on six areas of investigation:

- Reliable borer identification methods,
- Phenology and spatial relationships,
- Trapping,
- Production practices,
- Chemical and biological management and
- Economic impacts.

The following are some insights gained from the work of our team.

Identification

Proper identification of these beetles is the first step to managing them.

This has been a challenge because *Chrysobothris* species are similar in appearance, even to experts. A pictorial guide to identification of key pest species has been developed to assist diagnosticians with microscope identification of specimens.

New molecular data has been assembled of 20 common species of *Chrysobothris*. The data will allow non-experts to identify adult and larval specimens through molecular techniques.

We are also evaluating whether sawdust from old damage can be used to identify the borer species after it has emerged and flown away. Research is also underway to determine whether species can be identified by spectral analysis (ultraviolet and color readings) of their body parts and the wax compounds on their body surface.

Phenology

Understanding the timing of pest activity is critical for developing management recommendations. We are reviewing historic museum collection data for these beetles as well as the dates from our current trapping and field projects to better understand when the different species emerge.

We have found slight differences in activity patterns for different species. In the Pacific Northwest, *C. mali* and *C. femorata* activity overlaps, however, *C. mali* has a narrower period of activity compared to *C. femorata*.

Trapping

Traps can be used as a tool for monitoring borer population activity or to reduce populations in the field.

Experiments have exposed the challenge of trapping borers in different production systems. We have found that tall, narrow purple traps ("pole traps") coated in glue and placed on the ground to mimic a young tree trunk are the most effective means of trapping Chrysobothris beetles in nursery production systems.

This trap design is less effective in fully grown orchard settings of walnut or hazelnut. We have tested several different attractants to try and enhance borer trapping. None have consistently performed better than the trap alone.

Production

Common production practices may unknowingly contribute to borer susceptibility.

We have found that post-emergent herbicide drift can induce borer attacks if the herbicide contacts the trunk or foliage. Even with a shielded sprayer, there is a chance that dying weeds at the base of the

trees can attract borers or transfer herbicide to the trunk.

Early season management of plant rows with pre-emergent herbicides can reduce the chance of attacks. However, clean rows pose a problem of their own.

Borers prefer to lay eggs on the sunny side of exposed tree trunks. If the plant is not protected with insecticide, it is vulnerable.

Winter cover crop plantings within the tree rows can protect trees from borer damage in their first-year post-transplant, however, there is a reduction in tree growth due to competition.

Irrigating newly transplanted trees is another method for reducing borer incidence. Supplemental watering of older trees under drought conditions may also help prevent attacks on established trees.

Some cultivars, such as 'Autumn Blaze' freeman maples, are resistant to

Chrysobothris borers. A specific mechanism for resistance has not yet been determined, however, this plant is faster growing and more drought tolerant compared to popular red maples.

In cage studies, female beetles did feed on 'Autumn Blaze' and laid eggs on it, even in the presence of susceptible red maples. It is therefore likely that 'Autumn Blaze' is preventing newly hatched borers from entering the trunk and establishing, rather than causing the females to reject the tree.

Selecting cultivars of plants with greater drought tolerance should also be considered if no other management options are available.

Management

The most consistent method of protecting trees from Chrysobothris bor-





Growing Knowledge

ers is a soil application of imidacloprid, which can last up to three years.

This treatment poses some problems in terms of time, labor and per acre active-ingredient limits as well as non-target impacts to beneficial insects and pollinators. Other active ingrediets are being tested to protect trees as trunk spray applications.

The timing of these sprays is crucial to ensure protection and may require monthly or bi-weekly sprays during the flight period in susceptible crops. Some promising a.i.s include bifenthrin, cyantraniliprole, and a new active ingredient under review.

Targeted sprays of trunks with intelligent spray technology can minimize off-target impacts and environmental residues. Predators and parasitoids of *Chrysobothris* have been captured and reared from borers in nursery systems. The extent to which they contribute to control of borers may depend on the presence of nectar resources and pesticide residue levels in the field. In additional to conventional chemical controls, some organic and nematode products have shown success in organic orchard production where chemical applications are not possible.

Economics

Consumer surveys have shown that the public has some awareness of borer damage on trees, and they are willing to pay more for fresh fruit if they are grown with pollinator-friendly production practices.

This is more important to consumers when purchasing fresh fruit, rather than an ornamental tree for their yard. After new management tools are identified, cost comparisons of different treatment options will be provided to aid growers in the selection of management options for their specific needs.

Research on *Chrysobothris* management is ongoing and will continued to be shared through Extension activities as we learn more. We are eager to learn from growers and landscape professionals who have experienced past losses, or who are actively working to minimize the effects of ongoing flatheaded borer activity at their



Flatheaded borer larvae on a petri dish full of sawdust. Notice the relatively large flat head, from which the borer gets its name. PHOTO COURTESY OREGON STATE UNIVERSITY



Experimental nursery field planted with cover crops testing whether or not covering the stems of the trees may reduce borer attack. PHOTO COURTESY OREGON STATE UNIVERSITY

production operations, orchards, and client landscapes.

How to help

For more information, or to participate in the team's research efforts, contact Dr. Lloyd Nackley at **Lloyd.Nackley@ OregonState.edu.** Additional information will also be presented at the Southern Integrated Pest Management Flatheaded Borer Working Group site: **TinyURL. com/FlatheadBorer.**

Dr. Lloyd Nackley is a plant physiological ecologist at the Oregon State University North Willamette Research and Extension Center (NWREC) in Aurora, Oregon. He can be reached at Lloyd.Nackley@ OregonState.edu. Dr. Karla Addesso is associate professor, department of agricultural and environmental sciences, Otis L. Floyd Nursery Research Center, Tennessee State University, McMinnville, Tennessee. Reach her at KAddesso@TNState.edu.



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AI: Friend or foe?

Last month, I was struck by a core comment made by Kyle Fessler, Woodburn Nursery & Azaleas.

He was lobbying to pass Oregon House Bill 4111, which updated and solidified consistent taxation on agricultural equipment. This bill is now law, but the comment still rings in my mind.

To paraphrase Kyle: "When I asked my dad (Tom) what the tax system was like back in 1968, you had a tractor and a barn. Pretty easy to understand the tax implications." The law was set in 1973 and has not really changed in over 50 years. It was time.

Farming has never been easy, but the staggering technological advancement since that time produced equipment that not only grew in size, but in complexity. It is no wonder the lines became blurred as to what should have been taxed and what should be exempt. However, we were able to make sense to our state legislators and pass our bill.

Now, technological change of a different sort is accelerating in the blink of an eye. Artificial intelligence, or AI, is here.

Al is exponentially growing

Last June, I wrote a column entitled "My conversation with Open Artificial Intelligence," and talked about the emergence of ChatGPT and its open-source abilities. I found it fascinating.

Type pretty much anything into ChatGPT and it'll spit out a confident, convincing response. Since that time, it feels like this tool is accelerating in its influence and use, in some cases with very dire consequences. The youth of AI is now a teenager.

In this column I will be paraphrasing a lot of different thoughts postulated by others, who are far greater experts in this subject than I am.

The idea of technological adolescence is really thought-provoking, and it speaks to the challenge of navigating the ethical and social implications of technological progress. It's a relevant and timely question, given the rapid pace of advancement we have seen over the last year.

I have basic gnawing questions. Are we prepared to deal with the consequences

of our technological advances? Do we possess the wisdom and self-control to use AI responsibly?

The insights of Carl Sagan

I am a movie guy and admit one of my guilty pleasures is the 1997 movie "Contact" — an adaptation of the book by Carl Sagan, the famous astronomer and author. It asks how to reconcile issues of science and faith in a society that is often not well equipped to tackle such issues.

Jodie Foster plays an astronaut, Dr. Eleanor Arroway, who considers the questions she would have asked if given the opportunity to converse with another life form. Her answer: "How did you do it? How did you evolve? How did you survive this technological adolescence without destroying yourself?"

Sagan correctly directs his readers to the inherent conflict between society and discovery during a big transition.

While AI is not a being from another planet, I would submit we understand very little about the profound impact this technology could have on our lives. We face a serious challenge as we navigate the complexities of an ever-expanding technological landscape. In the span of months, not years, AI can reproduce voices, video and messages that could fool the most trained experts. AI is learning from itself as fast as it is learning from us. That gives me great pause.

Technology is advancing all around us

Our industry is seeing technological advances that come faster every year such as advanced robotics, drones and scientific breakthroughs on plant genetics. Heck, loading a GPS on a piece of equipment is almost horse-and-buggy type stuff now. But what happens when technology makes its own decisions? Are we the zookeepers or the inhabitants?

While I think that is the alarmist in me talking, there needs to be serious guardrails placed on AI as we grapple with pressing ethical, social and existential questions about the implications of our technological evolution. The interconnectedness of our digital world has blurred the boundaries between the physical and virtual realms. We're seeing new frontiers



Jeff Stone

OAN EXECUTIVE DIRECTOR

of exploration and discovery, but we're also exposing ourselves to vulnerabilities and risks that demand thoughtful consideration and responsible stewardship.

Center stage in the 2024 campaign

During the primary election season, we have already seen robocalls — recorded calls sent to voter phone numbers — that mimicked President Joe Biden telling Democratic voters to stay home and not vote. If it sounds like the president, is it really him?

The issue is that many may not be able to tell the difference. With an electorate that is so polarized, this is a terrible time for AI to take center stage and craft realistic videos, saying things to either suppress voters or outright lie about a candidate's position.

This tactic was used against former president Trump by the Lincoln Project – which created an ad of an AI-generated image of his father talking about how disappointed he was in Donald J. Trump. Like or dislike a candidate, this is dangerous ground.

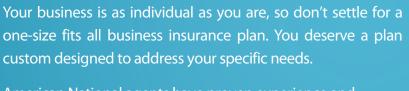
The general public lacks a deep knowledge of the political process, and our fragile democracy is about to be tested by sophisticated "deep fakes." If you can't trust what you see and hear, how can you possibly trust an election?

In agriculture, you hold strong beliefs and demonstrate a faithful love for our country. But sometimes we need to see if something smells or is off. We are in an interesting transition with technology, and it can be a great boon to the nursery and greenhouse industry. Let's just make sure it is on our own terms.

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