

Digger

JUNE 2025

FARWEST
HIGHLIGHTS
INSIDE



Shrubs Issue

The excitement of
color chameleons

PAGE 19

Make the right move
when shifting pots

PAGE 33

Nurturing the soil
with cover crops

PAGE 27

PUBLISHED BY



OREGON
ASSOCIATION OF
NURSERIES™



BLOOM · *ables*®

Stop selling plants. Start selling a garden.

And while you're at it, start selling the way you want. With Bloomables® you can build a program that works for you.

- **No Brand Mandates:** Choose from any of our 400+ varieties
- **No Brand Minimums:** Book quantities that support your goals
- **No Brand Memberships:** Get full access without extra fees



▲ ▲
Scan to get started!

Contact our team for orders and availability:

1-800-457-1859

www.StarRosesandPlants.com/BLOOMABLES



GWEN'S GARDEN CENTER

We take your business insurance personally.

Your business is personal. That's why you deserve a personalized insurance plan specially designed to meet your needs.

American National agents have proven experience and success protecting green industry professionals like you. They take the time to understand your business, creating tailored plans that can include coverages for plant stock and store merchandise, as well as Commercial Auto, Commercial Umbrella, Cyber and Employment Practices Liability Insurance.

We recognize the challenges that come with building a business, and it would be our privilege to help protect yours. With a wide selection of business coverage solutions and life and annuity options, combined with the personalized service of an American National agent, we can fulfill all your individual insurance needs.

For a no-obligation Professional Insurance Review, scan the QR code.



**FLORISTS • WHOLESALE NURSERY GROWERS • GARDEN CENTERS
GREENHOUSE GROWERS • LANDSCAPERS • LAWN MAINTENANCE**



PROUD MEMBER OF



OREGON
ASSOCIATION OF
NURSERIES



Products and services may not be available in all states. Terms, conditions, and eligibility requirements will apply. Life insurance and annuity products may be underwritten by American National Insurance Company, Galveston, Texas. Property and casualty products and services may be underwritten by American National Property and Casualty Company or American National General Insurance Company, both of Springfield, Missouri.

25.025.61150.0125





19



17

Shrubs Issue

- 19 A kaleidoscope of color**
Shrubs that change colors with the season keep the garden interesting all year long.
- 17 Chameleons of the garden**
It's not hard to find trees and other plants that dazzle with colorful new growth.
- 27 Nurturing the soil**
Cover crops improve soil structure, add nutrients, and prevent erosion, helping to grow better plants.
- 33 Making the right move**
Timing is key when shifting plants up to the next container size to ensure healthy, attractive plants.
-
- 41 Early warning**
Research-backed 'Pheno Forecasts' help growers know when to expect pest activity and be prepared.

COLUMNS

- 6** President's Message
17 What I'm Hearing
46 Director's Desk

DEPARTMENTS

- 8** Calendar
10 Northwest News
37 Classifieds
41 Growing Knowledge
45 Digger Marketplace



Printed in Oregon on domestic recycled paper when available.

On the cover: Double Play® Candy Corn® *Spiraea* (*Spiraea japonica* 'NCSX1' PP28313, CP6176). PHOTO COURTESY OF SPRING MEADOW NURSERY

On this page: Left: First Editions® Tianshan® Seven-Son Flower (*Heptacodium Miconioides* 'Minhep'). PHOTO COURTESY OF BAILEY NURSERIES Right: *Canna* 'Cleopatra'. PHOTO BY MIKE DARCY

Gowan[®]

USA

Turf and Ornamental

Disease Control Tools



FENSTOP[®]
FUNGICIDE

- **NOW LABELED FOR OUTDOOR NURSERIES!**
- EXCELLENT CONTROL OF WATER MOLD DISEASES (PYTHIUM, PHYTOPHTHORA, DOWNY MILDEW)
- UPWARD SYSTEMIC MOVEMENT
- REI 12 HOURS

Badge[®] SC
Fungicide/Bactericide

- BROAD SPECTRUM FUNGICIDE AND BACTERICIDE
- OPTIMIZED DUAL COPPER FORMULATION (COPPER HYDROXIDE AND COPPER OXYCHLORIDE)
- FALL/WINTER PROTECTANT FOR PATHOGENS SUCH AS FIRE BLIGHT, BACTERIAL LEAF SPOT, NEEDLECAST, CHERRY CANCER, AND MORE



EcoSwing[®]
BOTANICAL FUNGICIDE



- FLEXIBILITY AND VERSATILITY FOR YOUR DISEASE CONTROL PROGRAM
- CONTROLS POWDERY MILDEW, BOTRYTIS, RUSTS, MONILINIA AND OTHER FOLIAR DISEASES
- REI 4 HOURS

All Stage Mite Control



HEXYGONIQ[®]
MITICIDE

- CONTROLS EGGS, LARVAE, NYMPHS WHILE FEMALES STOP PRODUCING VIABLE EGGS
- EFFECTIVE ON TETRANYCHID FAMILY
- TRANSLAMINAR MOVEMENT AND EXTENDED RESIDUAL
- SOFT ON BENEFICIALS



MAGUS[®]
MITICIDE

- EXCELLENT BROAD SPECTRUM CONTROL OF IMMATURE AND ADULT MITES
- CONTROLS POWDERY MILDEW IN GREENHOUSE, NURSERY, AND LANDSCAPE ORNAMENTALS
- EASY TO MEASURE AND MIX LIQUID SC FORMULATION



Captiva[®] Prime
INSECT REPELLENT / INSECTICIDE



- EXCELLENT TANK MIX PARTNER
- CONTROLS MITES, WHITEFLY, THRIPS AND MEALYBUGS
- COMPATIBLE FOR USE WITH OR AROUND BENEFICIAL INSECTS
- REI 4 HOURS

FOR MORE INFORMATION CONTACT
DAVE BURKHARDT
928.446.9928 | DBURKHARDT@GOWANCO.COM



Captiva[®], EcoSwing[®] & Magus[®] are registered trademarks used under license by Gowan Company, L.L.C. Fenstop[®] & Hexygon[®] are registered trademarks of Gowan Company, L.L.C. The OMRI Listed seal is a registered trademark of OMRI. Always read and follow label directions.

You say goodbye and I say hello ...



Gabriel Mendoza takes OAN President Ben Verhoeven on a tour of Robinson Nursery Inc.

PHOTO BY BELÉN STERNFELD

It's a cool spring morning as I pull into Robinson Nursery Inc. in McMinnville, Oregon. Gabriel Mendoza greets me with a warm smile and a cup of freshly brewed coffee. What a welcome!

Gabriel was the first employee of Robinson. He is now the production manager, helping prioritize tasks for over 100 employees. I've come to learn what improvements and insights he can share.

We hop in his truck for the first of his daily tours of the nursery. He greets everyone he sees by name and asks what's happening with them. This is the first lesson Gabriel teaches me: the value of everyday interactions. You can see his team respond. "If you see someone three times, you need to say hello three times," Gabriel tells me.

On our way, Gabriel shows me one of the inventions for planting that the Robinson team built. It is a series of "beds" attached to a three-point hitch,

with a roof above. Previously the work was done from a standing position, bending double to plant each plant, which was very hard on the back. Now a worker lies on their stomach and plants comfortably, in the shade if there is sun and dry if there is rain. Now the work is more comfortable and faster.

Gabriel introduces me to two of his brothers who also work at the farm. "I treat my brothers just like other employees," Gabriel says. "It's important that people see I am not playing favorites." This is the best leadership lesson of the day: "Everyone is equal."

As we part ways, I'm struck by how happy folks seem. By respecting the work, ergonomics included, and treating everyone equally, starting with hello, you can see why Gabriel and Robinson Nursery are so successful.

Editor's note: This column is also printed on the next page in Spanish this month, at the president's request.



29751 S.W. Town Center Loop West
Wilsonville, OR 97070

PH 503-682-5089 PORTLAND
PH 888-283-7219 NATIONWIDE
FAX 503-682-5099 MAIN OFFICE
FAX 503-682-5727 PUBLICATIONS
info@oan.org EMAIL
www.oan.org OAN WEBSITE
www.diggermagazine.com DIGGER WEBSITE

STAFF

Jeff Stone JStone@OAN.org
EXECUTIVE DIRECTOR 503-582-2003

Tess Chapman TChapman@OAN.org
MARKETING COORDINATOR 503-582-2004

Stephanie Collins SCollins@OAN.org
DIRECTOR OF FINANCE & ADMINISTRATION 503-582-2001

Beth Farmer BFarmer@OAN.org
DIRECTOR OF MARKETING & MEMBER SERVICES 503-582-2013

Curt Kipp CKipp@OAN.org
DIRECTOR OF COMMUNICATIONS & PUBLICATIONS 503-582-2008

Tana Klum TKlum@OAN.org
OFFICE COORDINATOR 503-582-2012

Jamie Moore JMoore@OAN.org
EVENTS AND EDUCATION COORDINATOR 503-582-2010

Vacant
DIRECTOR OF EVENTS

Vic Panichkul VPanichkul@OAN.org
PUBLICATIONS MANAGER 503-582-2009

DIGGER

Curt Kipp CKipp@OAN.org
EDITOR & DISPLAY ADVERTISING 503-582-2008

Vic Panichkul VPanichkul@OAN.org
MANAGING EDITOR & ART DIRECTOR 503-582-2009

Tess Chapman TChapman@OAN.org
E-DIGGER PRODUCER 503-582-2004

Dr. Lloyd Nackley Lloyd.Nackley@OregonState.edu
GROWING KNOWLEDGE SERIES COORDINATOR Oregon State University

Jon Bell, Mike Darcy, Erica Browne Grivas, Emily Hoard, Mitch Lies, Kym Pokorny, Debbie Teashon CONTRIBUTING WRITERS

Copyright © 2025 by the Oregon Association of Nurseries (OAN). Digger magazine is an official publication and a member service of the Oregon Association of Nurseries, 29751 S.W. Town Center Loop W., Wilsonville, OR 97070.

REPRINTS AND SUBMISSIONS Digger allows reprinting of material with written permission; requests should be directed to the editor. We are not responsible for unsolicited freelance manuscripts and photographs. Contact the editor for contribution information.

SUBSCRIPTION AND CHANGE OF ADDRESS Circulation is controlled. Domestic subscriptions are complimentary to qualified U.S. nursery industry members. Non-qualified U.S. subscriptions are \$42. Qualified foreign subscriptions are \$35 to Canada; \$45 to Mexico; and \$80 for all other countries. Single copy rate is \$6 while supplies last. Notify OAN Publications of change of address. Please allow 3-4 weeks for address change.

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 1st of the month preceding the month of publication.

2024-2025 EXECUTIVE COMMITTEE

Ben Verhoeven PRESIDENT	Peoria Gardens Inc. 32355 Peoria Road S.W. Albany, OR 97321 BenV@PeoriaGardens.com 541-753-8519
Amanda Staehely PAST-PRESIDENT	Columbia Nursery 29490 S. Jackson Road Canby, OR 97013 Wayne@Columbia-Nursery.com 503-263-2623
Patrick Newton PRESIDENT-ELECT	Powell's Nursery Inc. 5054 S.W. Boyd Road Gaston, OR 97119 PowellNursery@gmail.com 503-357-0631
Darcy Ruef VICE PRESIDENT	Al's Garden & Home 1220 N. Pacific Hwy. Woodburn, OR 97071 DRuef@Als-GardenCenter.com 503-981-1245
Jesse Nelson TREASURER	Hans Nelson & Sons Nursery Inc. 31020 S.E. Waybill Road Boring, OR 97009 JNelson@HansNelson.com 503-663-3348
Chris Robinson SECRETARY	Robinson Nursery Inc. PO Box 100 Amity, OR 97101 Chris@RobinsonNursery.com 877-855-8733
Tyler Meskers MEMBER AT LARGE	Oregon Flowers Inc. PO Box 311 Aurora, OR 97002 Tyler@OregonFlowers.com 503-678-2580

BOARD OF DIRECTORS

Patrick Peterson ASSOCIATE MEMBER	Simplot Turf & Horticulture Patrick.Peterson@Simplot.com 541-214-5802
Sam Pohlschneider CONTAINER GROWER	Pohlschneider Nursery Sam@PohlschneiderNursery.com 503-969-1310
Dave Daniel CONTAINER GROWER	Fall Creek Farm & Nursery Inc DaveD@FallCreekNursery.com 541-937-2973
Blake Nelson CONTAINER GROWER	Bountiful Farms Nursery Inc. Blake@BountifulFarms.com 503-981-7494
Jason Burns FIELD / B&B GROWER	Patterson Nursery Sales Jason@PattersonNurserySales.com 503-668-6000
Sam Barkley FIELD / BARE ROOT GROWER	J. Frank Schmidt & Son Co. SamB@JFSchmidt.com 503-663-4128
Vladimir Lomen FIELD / BARE ROOT GROWER	John Holmlund Nursery VladimirL@JHNSy.com 503-663-6650
Andrea Avila Aragon GREENHOUSE	Smith Gardens Andrea.Avila-Aragon@ SmithGardens.com 503-678-5373
Noah Fessler GREENHOUSE	Woodburn Nursery & Azaleas Inc. NoahF@WoodburnNursery.com 503-634-2231
Gary S. English RETAIL	Landsystems Nursery Gary@LandsystemsNursery.com 541-382-7646

Tú dices adiós y yo digo hola...



Gabriel Mendoza lleva al presidente de OAN, Ben Verhoeven, a un recorrido por Robinson Nursery Inc. FOTOGRAFÍA DE BELÉN STERNFELD

Es una fresca mañana de primavera cuando llego al Vivero Robinson en McMinnville, Oregón. Gabriel Mendoza me recibe con una cálida sonrisa y una taza de café recién hecho. ¡Qué bienvenida!

Gabriel fue el primer empleado de Robinson. Ahora es el gerente de producción y ayuda a priorizar las tareas de más de 100 empleados. He aprendido qué mejoras y perspectivas puede compartir.

Nos subimos a su camioneta para el primero de sus recorridos diarios por el vivero. Saluda a todos los que ve por su nombre y les pregunta qué les pasa. Esta es la primera lección que Gabriel me enseña: el valor de las interacciones cotidianas. Se puede ver la respuesta de su equipo. “Si ves a alguien tres veces, tienes que saludarlo tres veces”, me dice Gabriel.

De camino, Gabriel me muestra uno de los inventos para plantar que construyó

el equipo de Robinson. Se trata de una serie de “camas flotantes” unidos a un enganche de tres puntos, con un techo encima. Antes, el trabajo se hacía de pie, agachándose para plantar cada planta, lo cual era muy duro para la espalda. Ahora, un trabajador se acuesta boca abajo y planta cómodamente, a la sombra si hace sol y seco si llueve. Ahora el trabajo es más cómodo y rápido.

Gabriel me presenta a dos de sus hermanos que también trabajan en la granja. Gabriel señala: “Trato a mis hermanos igual que a los demás empleados. Es importante que la gente vea que no tengo favoritismos”. Esta es la mejor lección de liderazgo del día: “Todos somos iguales”.

Al despedirnos, me sorprende lo felices que parecen todos. Al respetar el trabajo, incluida la seguridad y comodidad, y tratar a todos por igual, empezando por saludar, se entiende por qué Gabriel y Robinson Nursery tienen tanto éxito.



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*.

JUNE 13

NEW VARIETIES SHOWCASE TIER 2

The 2025 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 and greenest trade show in the West. The show is August 20-22 at the Oregon Convention Center in Portland, Oregon. Tier 1 deadlines have passed but Tier 2 submissions are still being taken. Tier 2 entries will be featured online at FarwestShow.com and displayed in the New Varieties Showcase on the floor with Hip Labels plant tags. Each Tier 2 submission costs \$90. The Tier 2 submission deadline is June 13. Questions? Contact Jamie Moore at JMoore@OAN.org or 503-582-2010.

JUNE 12-14

TRACTOR AND UTV BASIC MAINTENANCE

Chemeketa Community College is hosting a Tractor and UTV (utility terrain vehicle) Basic Maintenance class from 8 a.m.-5 p.m. June 12, 13, 14 at Chemeketa Community College's Brooks campus. Using the Kubota maintenance procedures on compact tractors, zero turn mower and UTV, learn and practice system service and maintenance. Class will cover oil, fuel and air filters and service, lubrication service, cooling system service and hydraulic transmission and axle service. Cost is \$399. Register at TinyURL.com/CCCTractorUTV.

JUNE 13

GREEN AND GROWING GALA

Seed Your Future will host its first Green and Growing Seed to STEM Gala June 13 at The Penthouse Hyde Park in Chicago. The evening brings together green industry leaders, passionate advocates, and changemakers who are committed to building a prepared, inclusive horticulture workforce. Seed Your Future leads a national movement to promote horticulture and equip educators with the tools to introduce students, many for the first time, to the vast number of professional opportunities that await them in the green industry. To learn more about the event or to support the program, contact Courtney Dyal at Courtney@GardenMediaGroup.com.

JUNE 27

SUMMER TRUCKS TO TRADE SHOWS DEADLINE

Registration is now underway for the OAN Summer Trucks to Trade Show. This program helps members ship booth and plant materials — conveniently and economically — to Cultivate'25, taking place July 12-15 in Columbus, Ohio. OAN reserves the truck. You palletize and deliver your materials to the host nursery for loading. Your materials are then delivered to the show. It's as simple as that! Cost is \$595 per pallet, with a minimum of



OAN FILE PHOTO

AUGUST 20-22

FARWEST SHOW

Meet the experts, discover innovative ideas, products, and services to grow your business, and see the industry's most stunning plants at the Farwest Show, August 20-22 at the Oregon Convention Center, 777 N.E. MLK Jr. Blvd., Portland, Oregon. With nearly 350 exhibitors, Farwest is your ticket to the nursery and retail garden center industry. Whether you're a grower, retailer, wholesale buyer, supplier, or landscape professional, you'll find that Farwest offers you the complete trade show experience. Show hours are noon-5 p.m. Wednesday, 10 a.m.-5 p.m. Thursday, and 10 a.m.-2 p.m. Friday. The tours — three of them! — are on Tuesday, August 19. Register now at FarwestShow.com.

11 pallets needed by June 27 to carry out shipment. Space on each truck will be reserved on a first-come, first-served basis. To reserve your space, payment for each pallet must be paid in advance by check or credit card. Questions? Please contact Jamie Moore at 503-582-2010 or JMoore@OAN.org. Reserve your space today at OAN.org/T2TS.

JULY 10

MT. HOOD CHAPTER PITCH & PUTT GOLF TOURNAMENT

Golfing OAN members are invited to tee up at the Mt. Hood Chapter's Pitch & Putt Golf Tournament, Thursday, July 10 at McMenamins' Edgefield Golf Course, 2126 S.W. Halsey St. in Troutdale, Oregon. Check in starts at 1:30 p.m. and shotgun start is at 2 p.m. Player packages are \$30 and included one ball and one beverage ticket. Registered golfers may bring their own equipment or use the putter and pitching wedge provided with registration. Please join us for a good time at our golf mixer! Questions? Contact Vladimir Lomen at VladimirL@JHNSY.com. Register at TinyURL.com/MtHoodPitchPutt.

JULY 12-15

CULTIVATE'25

General registration is now open for Cultivate'25 at the Greater Columbus

Convention Center in Ohio from July 12-15. Unlock endless opportunities to grow your business in the green industry. Attend any of the more than 150 educational sessions, half- or full-day workshops, or industry production tours to learn new skills and network with your peers. For more information or to register go to CultivateEvent.org.

VARIOUS DATES

FIRST AID/CPR CLASSES AT OAN

Need a first aid and CPR certification renewal for yourself or one of your employees? The Oregon Association of Nurseries is proud to offer first aid/CPR training to members at no charge through OAN's partnership with the State Accident & Insurance Fund (SAIF). The certification is valid for two years. The classes are offered in English and Spanish from 8 a.m.-12:30 p.m. The sessions in English are offered June 17, July 16, September 17, October 15, November 19, December 17. Sessions in Spanish will be June 18, July 17, September 18, October 16, November 20 and December 18. Classes are held at the OAN office, 29751 S.W. Town Center Loop West, Wilsonville, Oregon. Register at OAN.org/Page/CPRclass. Download the English and Spanish First Aid/CPR breakroom flyer at OAN.org/2025CPRFlyer. ©

FARWEST

PORTLAND 2025

MEET US AT THE
BIGGEST & GREENEST TRADE
SHOW IN THE WEST

Kathy & Greg Wilmes
KG Farms Inc.
Farwest Exhibitor

Pete & Wendy Brentano
Brentano's Tree Farm LLC
Farwest Exhibitor

Discover **GROWING
EXCELLENCE**

August 20-22, 2025

Farwest is where the nursery industry moves forward. Meet the experts, discover innovative ideas, products, and services to grow your business, and see the industry's most stunning plants. Do it all at Farwest!

Register now at **FarwestShow.com**

Produced by



OREGON
ASSOCIATION OF
NURSERIES



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.



Emily Iverson

Emily Iverson awarded Oregon Tourism Rising Star Award

Emily Iverson of **Wooden Shoe Tulip Farm** (Woodburn, Oregon) received one of seven Oregon Tourism Rising Star Awards at the recent Oregon Governor's Conference on Tourism.

Iverson is a dedicated advocate for Oregon agriculture and currently serves on the state board of the Oregon Young Farmers and Ranchers Committee, according to the Oregon Farm Bureau. Travel Oregon describes her as someone who "displays endless passion and creativity in the world of agritourism."

In addition to her statewide role, Emily also serves on the board and marketing committee for the North Marion Tourism Collaborative. For the past year and a half, she has taken on the role of farm manager and general CEO of Wooden Shoe Tulip Farm.

Her advocacy "has already made a big impact, increasing visitation and awareness of agritourism across the state. She's always on the lookout for new ideas and ways to innovate in order to maintain relevancy in a highly competitive tourism industry," according to OFB.

The award was presented as part of the recent Travel & Tourism Industry Achievement Awards.



Todd Nelson, co-owner of Bountiful Farms Nursery Inc., spoke about the impact of tariffs on his business at a press conference announcing that Oregon is joining other states in suing the Trump administration over tariffs. PHOTO BY JEFF STONE

AMERICANHORT RELEASES NEW AMERICAN STANDARD FOR NURSERY STOCK

AmericanHort has updated the American Standard for Nursery Stock and released ANSI Z60.2.

For decades, AmericanHort has served as the administrator and owner of the American Standard for Nursery Stock. This standard establishes common terminology for sizing and describing nursery stock to help facilitate commercial transactions between buyers and sellers across the industry.

A major revision process began in January 2005 and continued through August 2013, leading to the approval of ANSI Z60.1 in April 2014. Building on that foundation, a more targeted/lighter update began in January 2024 and was completed in April 2025.

Download it at TinyURL.com/ANSIZ602

2025 FARWEST SHOW KEYNOTE SPEAKER ANNOUNCED

Sometimes, the horticulture industry takes better care of its plants than its people. For well-known green industry consultant and speaker John Kennedy, that's one problem that must be corrected.

Kennedy will be the keynote speaker at this year's Farwest Show. In "Plant Your People," he

will share innovative approaches to employee investment and team development, offering a four-step plan to nurturing and supporting well-rooted teams, so they are ready to grow on day one.

"We are thrilled to feature him as our keynote speaker at Farwest on the opening day of the show," said Jamie Moore, events and education coordinator for the Oregon Association of Nurseries, which produces the show. "His inspiring presentation will provide the ideal launch point for three days of making and renewing connections, recharging knowledge, finding great plant material, enjoying great company, and adding to your toolbox of success."

The Farwest Show will take place Wednesday–Friday, August 20–22, 2025, at the Oregon Convention Center in Portland, Oregon. Kennedy's keynote will happen at 11 a.m. Wednesday, August 20. The same session will also include an update on the state of the nursery industry from OAN Executive Director Jeff Stone.

Make plans to attend Farwest and register now at FarwestShow.com.

OREGON SUES TRUMP OVER TARIFFS

The state of Oregon, along with Colorado, Connecticut, Delaware, Illinois, Maine, Minnesota, Nevada, New Mexico, New York and Vermont sued the Trump administration

on April 23, seeking to block four executive orders on tariffs, according to the *Statesman Journal*, a newspaper in Salem, Oregon. “When a president pushes an unlawful policy that drives up prices at the grocery store and spikes utility bills, we don’t have the luxury of standing by — especially when so many Oregonians live on fixed incomes,” Attorney General Dan Rayfield said at a press conference announcing the lawsuit. Joining Rayfield to discuss the impact of tariffs on businesses was Todd Nelson, co-owner of **Bountiful Farms Nursery Inc.** and a former president of the Oregon Association of Nurseries.

The suit filed in the U.S. Court of International Trade in New York contends the International Emergency Economic Powers Act, which Trump cited in announcing tariffs, does not give him power to impose tariffs. The suit notes other presidents have not used the act to impose tariffs. The suit said tariffs will hurt

states through increased costs to research equipment and on goods purchased domestically that use imported materials.

Nelson said his nursery has already seen a 30% drop in sales. Both trees and relationships take a long time to grow, Nelson said, and the tariffs have caused some Canadian customers to move away from American products.

Nelson was also part of a roundtable on April 16, where Oregon Gov. Tina Kotek and Treasurer Elizabeth Steiner heard from a group of business owners about the impacts of the tariffs. The tariffs could cost Oregonians an extra \$3,800 a year.

AG OT WILL HURT OREGON FARMS AND WORKERS, OSU ECONOMIST SAYS

Decreased paychecks for workers will be the result of the Oregon’s new agricultural overtime rules, according to a

recent economic analysis by Oregon State University. The analysis also said the rules will negatively impact farm profitability, reports Pacific NW Ag Network, an agricultural news website.

The Oregon Legislature passed agricultural overtime in 2022, joining California and Washington which previously passed agricultural overtime laws.

When the idea requiring overtime pay in the farming industry was first floated, supporters said farm workers across the state would benefit from larger paychecks. OSU economist Tim Delbridge said while a noble idea, the data does not support that claim. “Our analysis showed that there’s a lot of workers, probably a majority of workers, are going to see stagnant total wages, or perhaps a decrease in total wages earned because they’re going to be working fewer hours,” he said. Delbridge likened the issue to fast food or the service industry, where he pointed out it’s very »



OUTSTANDING
VALUE

GROWN IN THE HEART OF THE
WILLAMETTE
VALLEY

Blue Ribbon Attention
Expanded Ornamental Offerings
High Quality Nursery Stock
YOU CAN COUNT ON US

WillametteNurseries.com

 **WILLAMETTE**
NURSERIES
Canby, Oregon



**Quality Bark at
Wholesale Prices**

**Fir and Hemlock Bark • Sawdust
Compost • Hog Fuel • Fines
Rock, Chips, Bark Rock**

Marr Bros. Bark has been serving the area with quality products and competitive pricing for over 30 years. And we deliver anywhere in the Willamette Valley!

**When you want the best ...
Marr Bros. is your only choice!**

**Call 503-838-1830
to schedule a delivery**

Conveniently located at:
875 S. Pacific Hwy, Monmouth, Ore.


Marr Bros. Bark

challenging for employees to get overtime work; with hours typically capped at 35–40 hours. And those reduced hours translate into smaller paychecks for farm workers.

Farmers will have to manage payroll costs moving forward, Delbridge said. “Everybody is going to have to adapt in their own way. Some are going to invest more in automation. Some are going to hire more workers, some are going to change their production plans to minimize labor,” he said. “Everybody’s going to have to do that, and everybody has to keep a close eye on their labor costs to make sure that they can stay viable. Honestly and unfortunately, I do think that there are going to be some farms that are kind of struggling as it is, and they may not be able to adapt profitably.” Delbridge added the increased overtime wage could also lead to an increase in farm consolidation.

Read the OSU analysis at TinyURL.com/OSUOTAnalysis.

KEY TAKEAWAYS FOR OREGON IN LATEST U.S. CENSUS DATA

An analysis of the latest U.S. Census data just released shows some continuing growth trends and some surprises, according to Oregon Public Broadcasting.

Central Oregon remains the state’s fastest growing region. Between 2023 and 2024, both Deschutes and Crook counties experienced the highest population growth in the state. Both counties grew by about 1% between 2023 and 2024. Since 2020, Deschutes has seen a 6% population increase, while Crook witnessed a 10% spike in residents. Altogether, the Bend-Redmond-Prineville metro area accounts for 265,000 people, ranking 191st in the nation’s largest metro areas.

Multnomah County’s population is finally increasing after a pandemic-era dip. After a decade of growth, Multnomah County saw an exodus of residents following the COVID-19 pandemic: a 3% decrease between 2020 and 2023. Between 2023 and 2024, the county saw its population grow by 0.2%. That’s a net increase of about 1,600 people.



Angela Labrum, the tissue culture department head for Bailey Nurseries in Dayton, Oregon, was featured in the Leading Women of Horticulture feature in the April issue of Nursery Management magazine. PHOTO COURTESY NURSERY MANAGEMENT MAGAZINE

Neighboring counties are outpacing Multnomah County. Between 2023 and 2024, Clackamas County grew 0.3%, Washington County grew 1%, and Clark County, Washington expanded by 1%.

Portland metro area lost its position as the 25th largest U.S. metro last year to Austin, Texas. The Austin area has about 12,000 more residents than Portland, which now sits at 26th place.

One of the fastest shrinking counties in the nation is Curry County, which came in fourth. Curry County is in the state’s southwestern corner, and home to Brookings, Gold Beach and Port Orford. It experienced a 2% population drop between 2023 and 2024 — accounting for a net loss of about 500 people. But it’s not the state’s fastest shrinking county. That label goes to rural Gilliam County along Interstate 84, whose population of 1,971 reflects a 3% decline from 2023.

ANGELA LABRUM OF BAILEY’S OREGON OPERATION FEATURED IN LEADING WOMEN OF HORTICULTURE

Angela Labrum, the tissue culture department head for **Bailey Nurseries** in Dayton, Oregon, was featured in the Leading Women of Horticulture feature in the April issue of Nursery Management magazine. Labrum manages the lab she started for Carlton Plants 15 years ago. When Bailey acquired Carlton in 2018, she stayed on. Currently, her lab produces 1.4 million plants each year. She manages 22 people along with four lab leaders. In

the Q&A, Labrum talks about her job, her challenges, and her hobbies outside of work.

To read the Q&A, go to TinyURL.com/LabrumQA.

Announcements

HC COMPANIES AND CLASSIC HOME & GARDEN MERGE

The **HC Companies**, a leading North American manufacturer of horticultural containers, and Classic Home & Garden, a premier provider of decorative and functional products for the lawn and garden market in North America, have merged and united under a new brand, Growscape, according to a press release from HC.

“Rooted in the brand idea of ‘growing together,’ Growscape represents our unique industry-leading position as the one-stop shop for horticulture growers, retailers and distributors,” the HC release said. The company combines world class, eco-efficient U.S. manufacturing expertise in injection molding, extrusion, thermoforming, and blow molding for grow pots, decorative containers, and backyard décor — complemented by a comprehensive global sourcing network with a long-term, proven track record of delivering innovative, value-driven, sustainably designed and manufactured products in a variety of materials to its customer.

The combined company will be dual headquartered in Twinsburg, Ohio and Shelton, Connecticut.



SoilWright said it uses a unique process to manufacture its compost. PHOTO COURTESY OF SOILWRIGHT

SOILWRIGHT LAUNCHES BIOLOGICALLY COMPLETE COMPOST AND SOIL AMENDMENT

A new Oregon-based company, **SoilWright**, has launched what it calls a “biologically complete compost” that incorporates active microbial species. According to the founders, their mix unlocks essential nutrients for plant uptake, builds plant resilience, and reestablishes a functioning soil food web.

According to the company, beneficial protozoa, nematodes and fungi are typically missing in today’s agricultural soils. They say their production process helps reestablish these microbes by setting high microbial targets and monitoring and testing to ensure that they’re met.

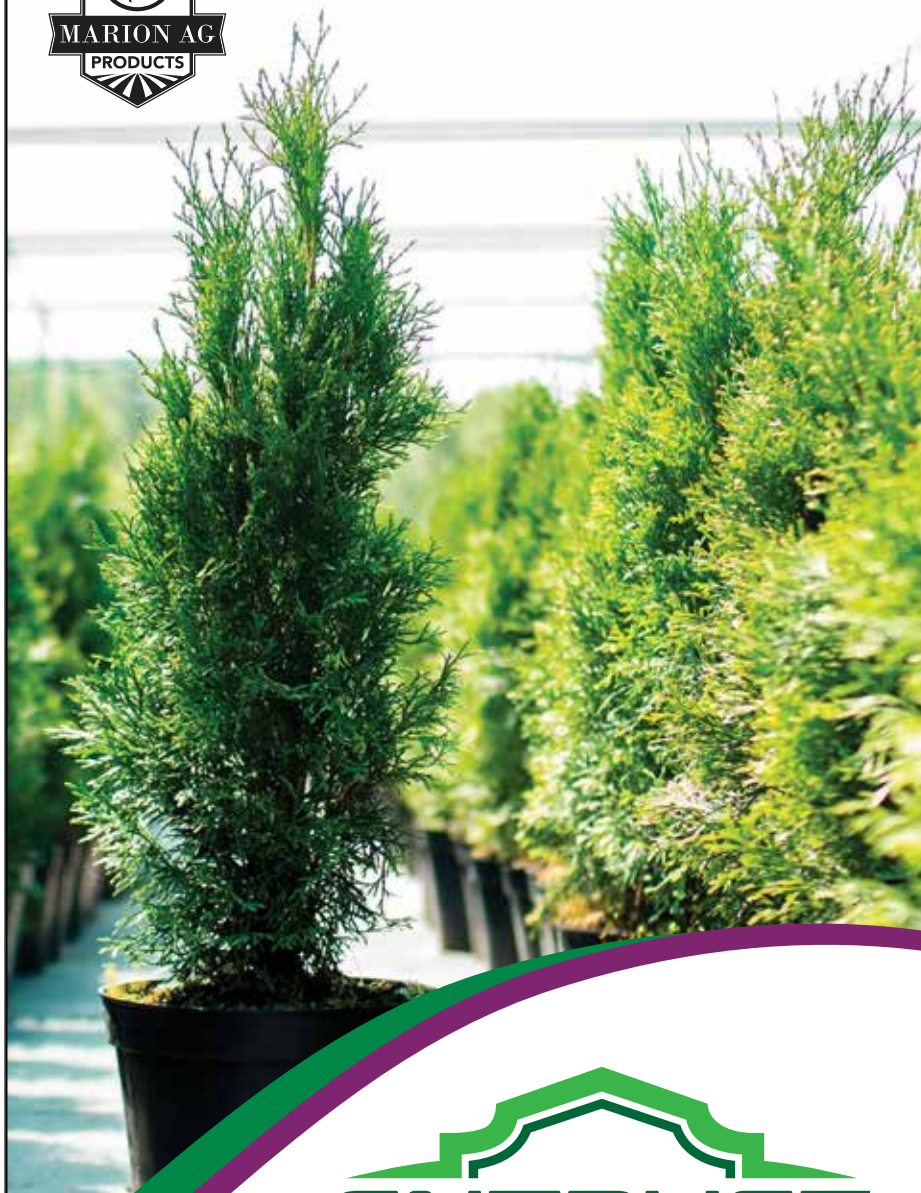
The company said it employs a unique process to manufacture the compost, beginning with high carbon and lignin feedstocks to promote fungal decomposition. Aerobic conditions are maintained through continuous monitoring and turning. Windrows are injected with compost extract during their last turn to boost mesophilic microbial diversity and activity. Then, cool-down protocols allow minimal windrow disturbance and aerobic conditions through the maturation stage. The final finished compost remains in windrows until sold and large woody particles are screened out of mature compost and used to inoculate subsequent windrows.

For more information, go to **SoilWright.com** or contact **Info@SoilWright.com**, 541-321-8775.

EASON HORTICULTURAL RESOURCES REBRANDS

EHR is the new brand identity for Eason Horticultural Resources, the company said in an announcement.

The updated brand builds upon EHR’s rich legacy, modernizing key elements to better reflect the com- »



PERFORMANCE YOU CAN TRUST

People

80+ years of plant nutrient and service excellence

Product

Innovative controlled-release fertilizer

Process

In-house blending and bagging for fast delivery

Available exclusively through Marion Ag Service

www.marionag.com - support@marionag.com - 1-888-814-5727

Northwest News

pany's inclusive, employee-owned structure and forward-thinking approach. "This rebranding signifies a pivotal moment for EHR," said Mike Pezzillo, president and COO. "Our refreshed identity showcases our ongoing dedication to going above and beyond for our customers and vendors, ensuring all stakeholders benefit mutually."

The refreshed brand strongly highlights EHR's employee stock ownership plan (ESOP), showcasing collective success, innovation-driven culture, and continued dedication to customer service excellence.

EHR's iconic leaf logo has been refined, carefully maintaining its recognizable form while introducing an updated, contemporary style. The modern typography accentuates EHR's position as the "gold leaf standard" in horticultural brokerage.



Plumas Wood Fiber is testing a new potting substrate made from West Coast conifer forest biomass. PHOTO COURTESY OF PLUMAS WOOD FIBER

STARTUP COMPANY SEEKS NURSERIES TO PARTICIPATE IN POTTING SUBSTRATE TRIALS

A California company is conducting trials for a new potting substrate made from West Coast conifer forest biomass.

Plumas Wood Fiber was started by Jeff Greef, a retired building inspector from San Jose, California, who had

built a retirement cabin for himself in the mountains. In 2021, the Dixie Fire came across his property but didn't do any damage because he had removed biomass as a precaution. "I ran across this idea on the internet of processing excess forest biomass from conifer trees for a horticultural wood fiber substrate as a substitute for peat moss," Greef said. "I've been pursuing it ever since."

MATERIAL FLOW AND CONVEYOR SYSTEMS INC.

21150 Butteville Rd. NE
Donald, OR 97020

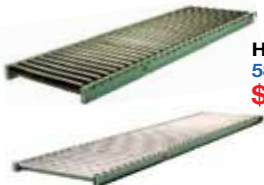
Toll Free 800-338-1382
Phone 503-684-1613
Fax 503-684-5133

Visit Our Website:
materialflow.com
All pricing F.O.B.
Donald, Oregon

**SALE ON MANY PRODUCTS
USED/SURPLUS RACKING,
CONVEYORS, CONV. BELTING,
SHELVING, PLASTIC BINS,
LIFTS, CASTERS & MUCH
MORE. 2 miles off I-5 just
south of Wilsonville.**



IN-STOCK



**HAND TRUCKS
58PMP
\$141**

100s of Hand Trucks

IN-STOCK



**Powered
Conveyors**

Prices subject to change without notice



IN-STOCK

Rivet
Shelving
Various
Colors
Available



**CPT2748E
4400 Lb. Cap.
27 x 48
\$264**



1,000s IN STOCK



MF5055 - \$1,014
MF7555 - \$1,116
MF10055 - \$1,229
MF15055 - \$1,399
MF20055 - \$1,565

**OUTDOOR ALL-
TERRAIN TRUCK**

\$1,149

IN-STOCK

Assembly Required

**ALUMINUM
DOCK PLATES**

IN-STOCK

**STEEL
DOCK BOARDS**

IN-STOCK

**Many Sizes
Available
\$334 to \$589**

IN-STOCK

\$1,602 to \$3,523



MFRLC357
shown

**ALUMINUM
DOCK BOARDS**

IN-STOCK

\$930 to \$2,044

**INDUSTRIAL STEEL
ROLLING LADDERS**

Capacity 350 lbs.
F.O.B. Donald, OR.

Top Step - 16 3/4" x 24" W

Model No.	Steps	Height to Top Step	Wgt.	Price
MFRLC354	4 Step	40"	165	\$499
MFRLC355	5 Step	50"	196	\$634
MFRLC356	6 Step	60"	229	\$782
MFRLC357	7 Step	70"	260	\$839
MFRLC358	8 Step	80"	293	\$940

Assembly Required



Terra Nova worked with Chongqing Tianmu Agriculture to force and finish a selection of Terra Nova's top-performing varieties for the Guangzhou market. PHOTO COURTESY OF TERRA NOVA NURSERIES

Greef has attended the Farwest Show a couple of years to try to understand what the need is. "People want to decrease the use of peat moss and wood fiber substrate has been proven in Europe and the East Coast. It has not been produced in the West Coast yet, and that's my objective."

Plumas received a grant to do a pilot trial that would look at reducing excess biomass in forests to prevent wildfires by turning it into wood fiber substrate. Plumas will use a hammermill to produce a limited amount of wood fiber substrate for the trial using ponderosa pine. "We're looking for a dozen to two dozen nurseries for the trial," Greef said. The goal is to deliver the test substrate to nurseries by late June or July, have the nurseries conduct growing trials over the summer, and have the nurseries send their assessments in early November.

Nurseries interested in participating in the trial should respond by the end of June by emailing Jeff Greef at Kaptarian@gmail.com. For more information, go to PlumasWoodFiber.com or stop and visit Plumas at Booth 11059 at the Farwest Show.

TERRA NOVA SHOWCASES VARIETIES AT WHOLESALE MARKET IN CHINA

Terra Nova Nurseries (Canby, Oregon) sent a representative to the Guangzhou Lingnan Flower Wholesale

Market, the largest single horticultural wholesale market in China, to showcase varieties for the spring sale season, the nursery stated in a release.

Terra Nova worked with Chongqing Tianmu Agriculture to force and finish a selection of Terra Nova's top-performing varieties for the Guangzhou market. The plants were developed at a high-elevation nursery with cooler temperatures before being transported to Guangzhou. The warm and humid climate in Guangzhou allows these varieties to bloom as early as February, while plants in other regions are still dormant.

"Guangdong, as the southernmost province in mainland China, experiences the earliest spring," said Kevin Chen, Terra Nova's Asia representative. "While other regions in China are still unable to source finished flowers or plants, the varieties we've coordinated with Chongqing Tianmu Agriculture are already blooming or reaching maturity in Guangzhou. We believe this early performance will translate into strong sales and successful market reception."

In memoriam

ROGER WAYNE HOLLINGSWORTH

The OAN was saddened to learn recently that Roger Wayne Hollingsworth, founder of The Plantsmen nursery in Damascus, Oregon, and former OAN »



**Celebrating
100 Years!**

Purple Prince Flowering Crabapple



**Quality Shade and
Flowering Trees
Since 1925**



American Sentry™ Linden

For more information
please visit our website:
www.surface-nursery.com

Phone:
503-663-5224

Fax:
503-907-8099

Email:
trees@surface-nursery.com
33740 SE Lusted Rd
Gresham, OR 97080

president (1987) passed away December 12, 2024.

Hollingsworth was born in Nebraska to Wava and Wayne Hollingsworth, before eventually finding his permanent home in Oregon, where the family planted roots in Damascus.

He met his wife Elizabeth in school before joining the U.S. Navy as a hospital corpsman and shipping off to Boston, while she remained in Oregon and attended nursing school at Lewis and Clark College. Upon his return to Oregon, they were married on Halloween 1954 and had three children together in the following years.



Roger Hollingsworth

After his naval service, Hollingsworth worked in banking for 25 years, and was a member of the Milwaukie, Oregon planning commission as well as the Milwaukie Jaycees. In 1969, he and his wife opened their wholesale nursery, The Plantsmen. Hollingsworth owned and operated the nursery for 34 years. During that time, he served as president of the OAN. He was honored with the Outstanding Service Award in 1992 and an Honorary Life membership. He touched a multitude of lives with his horticultural gifts, teaching many how to care for plants and the soil in which they grow.

JOHN T. NICKEL

John T. Nickel, 89, chairman of the board and founder of Greenleaf Nursery Co. (Park Hill, Oklahoma), passed away peacefully in Tulsa, OK on April 19, 2025. He was a lifelong nurseryman, con-

servationist, and philanthropist. Born on August 10, 1935 in Muskogee, OK, John grew up working in his parent's [Harold R. Nickel and Rebecca Ann Todd] retail landscape nursery in Muskogee. At the age of 22, John established Greenleaf Nursery Company on Lake Tenkiller in Park Hill, Oklahoma.



John Nickel

Nickel is survived by his wife Julie, his five children, and his grandson. He also leaves behind many extended family members as well as over 1,000 employees that John considered extended family. ©

HORTICULTURAL PUMICE

Quality Pumice for all your Potting Soil Requirements

- Added Drainage
- Increased Yields
- Promotes Root Health

- 3/8" - 1/16"
- 3/8" Minus

- 3/8" - 1/4"
- 1/4" Minus

(Additional Sizes Available!)

SUPER SACKS/TOTES. SEMI. RAIL...

WE DELIVER!

Delivery available throughout North America - 7 days a week!

(458) 205-8749 - Direct

(888) 345-9085 - Main Office

lfdispatch@laneforest.com

LANE
FOREST PRODUCTS

The company to grow with

YouTube Instagram Facebook laneforest.com

BIRINGER NURSERY

Wholesale Growers of
Fruit, Flowering, Shade
Trees and Deciduous Shrubs

Frost Peach ®
Hanna's Heart ® Katsura

Growing since 1974

360-848-5151
FAX 360-848-5959

Mount Vernon, WA

www.BiringerNursery.com

We're surrounded by color shifters



Picea pungens 'Gebelle's Golden Spring' has golden yellow new growth that will hold for 4–6 weeks before the needles turn to blue green. PHOTO BY MIKE DARCY

Roses are not generally grown for their foliage, yet when I visited a garden recently, the new growth I saw was primarily red.

This particular rose garden had more than 1,000 rose bushes, making it much larger than the average home garden. It was quite a beautiful sight to see all of the many shades of red leaves. It was the garden of Rich and Charold Baer, both past presidents of the Portland Rose Society.

Walking through this garden, it quickly became obvious that the color range was diverse, with some bushes having dark purple new growth and others having all green. Why such a difference? Rich said it was in the genetics.

I am not a geneticist and while that response sounded reasonable, it made me wonder why the new growth was red on some plants and not others — and why, in a

few weeks, what was red would turn green.

An abundance

This brief conversation piqued my interest about other plants that have new foliage in a variety of colors. Perhaps when we are looking for a plant that has color-changing foliage, it may seem to be a difficult search, but that is not the case. Plants with this characteristic are all around us, if we just stop to pay attention.

Daphniphyllum macropodum, which has no apparent common name, is a prime example of a plant with leaves that change color. This native of Japan, Korea, and China, is a large evergreen shrub or small tree that is known for the colorful new growth and rhododendron-like foliage. The plant in my garden is probably more than 15 years old and has never had any disease or insect problems. Checking several botan-



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.



Canna 'Cleopatra' has some leaves that are deep purple, others will be solid green, and many will be a combination of the two. PHOTO BY MIKE DARCY

ical gardens that have *Daphniphyllum*, it appears that it receives some shade. While I have never had any sun burn on my plant, it does receive some natural shade from nearby trees. It is a gem of a plant that should be planted more frequently.

A conifer with a “wow factor” with regard to new growth is *Picea pungens* ‘Gebelle’s Golden Spring’. The common name made me laugh because it is like an oxymoron: yellow Colorado blue spruce. This pyramidal blue spruce was discovered as a chance seedling in a field of *Picea pungens* seedlings by Anthony and Anna Gebelle in Huron, Ohio.

The golden yellow new growth will hold for 4–6 weeks before the needles turn to blue green. To achieve the best color, plant it in a sunny location. »

What I'm Hearing



Even though *Pieris japonica* 'Variegata' is variegated, its new growth is salmon pink.

PHOTO BY MIKE DARCY

Even variegated plants can have new growth that is not variegated. Consider *Pieris japonica* 'Variegata' (lily of the valley shrub, Japanese Andromeda). The salmon-pink new growth is in sharp contrast to the mature variegated leaves. The mature green leaf is surrounded by a creamy white leaf edge that bears no trace of the new growth color from the spring.

On a plant with red stems and red new growth, one would think that the mature leaves would at least have a hint of red, but that is not the case. The mature leaves on *Drimys lanceolata* (Tasmanian pepper bush, mountain pepper) are a solid dark green. This evergreen Australian native can make a colorful statement in the garden at any time of the year.

With the brilliant new growth and the red stems throughout the year, there is not much to dislike about this plant. Clusters of creamy white flowers appear in the spring and are often followed by purple berries. The use of "pepper" in the name refers to the spicy leaves that can be used in culinary dishes and the purple berries which, when dried, are grindable peppercorns which can be used as a pepper substitute. With its red stems and dark

green leaves, *Drimys* lends itself to indoor winter holiday decorations and flower arrangements.

What about a plant that cannot decide what color the leaves will be, whether they are new growth or old growth? *Canna* 'Cleopatra' is such a plant. Some leaves will be totally deep purple, others will be solid green, and many will be a combination of the two. Even the flower is multicolored and seemingly cannot decide which color will dominate. The flowers can be all red, all yellow, or a mix of the two colors. It is a great conversation plant in the garden because of all these colors. Even with limited space, try this in a large pot on a deck or patio and watch visitors gravitate to it.

While seeing the new growth on plants as a signal that spring is here is very enjoyable, we probably do not even think about the new growth and how it may change color as it ages. Such color changes emphasize the diversity of plants and the natural beauty of nature. If we stop and consider all these genetic changes, it may open a new world of appreciation in our garden and there is no better place to revel in the beauty of nature than in the garden. ©



Daphniphyllum macropodim is known for the colorful new growth. PHOTO BY MIKE DARCY



The mature leaves on *Drimys lanceolata* are a solid dark green but they start as red. PHOTO BY MIKE DARCY

A kaleidoscope garden

Dynamic color-shifting shrubs keep the excitement going all year long

FALL

BY ERICA BROWNE GRIVAS

Why settle for a static view when your landscape can put on an ever-changing show? Color-changing shrubs keep the garden exciting year-round, and they're a trend that's catching on with gardeners and landscapers. These dynamic shrubs maximize space and enjoyment, and value — ensuring fresh perspectives throughout the year — and growers are serving up great choices, from classics to brand-new cultivars.

“I think that, selfishly, all of us want constant change within the garden,” said Nicholas Staddon, plantsman and consultant. “I think plants within the garden should herald the seasons. I think the more interest we can have in a garden accentuated with color whether through leaf change, flower or bark — I think we need to plant plants that drive us out into the garden 365 days a year.”

More than blooms

Megan McConnell, plant information director for **Monrovia Nursery**, >>



SPRING

First Editions® Tianshan® Seven-Son Flower (*Heptacodium Miconioides* 'Minhep') has beautiful whorls of white blooms that emerge in summer in time for the monarch migration. The sepals turn red (top photo) in fall as the leaves turn yellow, providing great dimension of color as the seasons change. PHOTOS COURTESY OF BAILY NURSERIES

A keleidoscope garden



The large upright panicles of Berry White® Panicle Hydrangea (*Hydrangea paniculata* 'Renba' PP28509) shift, starting at the bottom, from white to dark pink, the hue deepening as temperatures drop. PHOTOS COURTESY OF BAILEY NURSERIES



Love Child® Sweetspire (*Itea virginica* 'Bailteaone' PP31318) is a rounded compact variety with bright green foliage that turns shades of burgundy in the fall. PHOTOS COURTESY OF BAILEY NURSERIES

a California-based grower with its largest farm in Dayton, Oregon, especially appreciates these changes in the shoulder seasons. “I know, for me, getting up close to my plants and seeing them change and grow brings a lot of joy,” said McConnell. “A lot of attention is paid to flowers, but foliage can be a great way to bring color into the garden, especially in early spring or fall, when you might not have as much blooming. I love [it] in spring when deciduous shrubs start to leaf out. Sweet, tiny little leaves signaling that a dreary winter is coming to an end. It’s even more exciting when that fresh growth is an interesting color.”

Shrubs are powerhouses, many offering multi-seasonal interest in relatively compact packages, an attribute more and more home gardeners are tapping into in today’s smaller gardens.

“Shrubs do the heavy lifting of providing gardens with color long after blooms have faded,” said Natalie Carmolli, public relations specialist for **Spring Meadow Nursery’s** Proven Winners® ColorChoice®. “Shrubs start the season with a bang, bringing colors like deep purple, bright chartreuse, and candy apple red, as well as variegated versions that will make you slam on the brakes to take a picture. Then, if that weren’t enough, in a ‘hold my beer’ moment, they then transition in color or offer a late-season floral surprise.”

These shape-shifters reward close observation, noted Ryan McEnaney, marketing and communications manager of **Bailey Nurseries**, the Minnesota-based grower that has three Oregon farms at Dayton, Sauvie Island and Yamhill. Whether in leaf, flower, fruit, or bark, they deliver vibrant costume changes across the season.

“These aren’t just shrubs that change color — they’re plants that add new blooms, evolving foliage, and developing textures all year long. Spring brings fresh leaves and flowers, summer deepens the colors and fills out the form, fall ignites the landscape with bold hues, and winter highlights both structure and bark.” »

TSS-1 Tag Stringer Machine

FOR NURSERIES WITH IN-HOUSE PRINTING

- Semi-Automatic tag stringer.
- Up to 1,200 tags an hour.
- For nurseries printing tags in-house.

Fischell Machine LLC

innovative specialty products

FischellMachinery.com | sales@FischellMachinery.com



Classic form.
Fresh function.



GEM BOX® *Ilex glabra*
STRONGBOX® *Ilex glabra*

With tidy form and rich evergreen color, Inkberry Holly brings together classic landscape style and the easy-care reliability of the North American native species. Low maintenance, high impact—it’s a natural fit for today’s landscapes.



SCAN TO LEARN MORE

Learn more at ProvenWinnersColorChoice.com

A kaleidoscope garden



Double Play® Candy Corn® *Spiraea*,” (*Spiraea japonica* ‘NCSX1’) starts out candy apple red, transitions to bright green in summer as purple blooms pop out, then develops a gorgeous orange glow in the fall. PHOTO COURTESY OF SPRING MEADOW NURSERY



First Editions® Jade Parade® Sand Cherry (*Prunus pumila* ‘UCONNPP002’ PP33014) has branches completely covered in white flowers that attract pollinators early in the season and the foliage turns blue-green in the summer and a fiery red in the fall. PHOTO COURTESY OF BAILEY NURSERIES

Large shrubs

In the large shrub/small tree category, there are many options that provide a focal point for the small garden.

McEnaney highlighted lesser-known First Editions® Tianshan® Seven-Son Flower (*Heptacodium Miconioides* ‘Minhep’), which tops out at 8–12 feet tall by 5–7 feet wide. “Tianshan has beautiful whorls of white blooms that emerge in summer in time for the monarch migration. The sepals turn red in fall as the leaves turn yellow, providing great dimension of color as the seasons change. As this large shrub/small tree matures in the landscape, the stems thicken up and bark begins to exfoliate. The structure of the plant itself combined with the exfoliating bark makes a statement in the winter garden.”

A columnar selection of serviceberry, First Editions® Standing Ovation™ Serviceberry (*Amelanchier alnifolia*

‘Obelisk’), another McEnaney pick, stands out with spring white flowers, summer berries and fall color. It can reach 15 feet while spanning 4 feet wide and could make a great three-season hedge or privacy screen.

Arbutus compacta is a lovely small shrub Staddon admired for its appeal throughout the year. Cinnamon bark shines against glossy emerald foliage, then pink and ivory flowers, yellow-emerging fruit which turns strawberry red.

At *Youngblood Nursery* in Salem, Oregon, office manager Mackenzie Allaert said vase-shaped *Viburnum bodnantense* ‘Dawn’ is a perennial best seller, beloved for its changing features, from cinnamon bark and pink fragrant flowers in winter to bold autumn color and blue fruit.

Medium-sized options

Among shrubs in the 4–7 foot range, Staddon called out upright-

growing *Grevillea* ‘King’s Celebration’, whose change is in the foliage. The needles emerge green, gradually sporting a silver stripe that gives the plant a luminous gray cast. It’s red-and-white bicolor flowers create high contrast, and delight hummingbirds.

Camellia ‘Nuccio’s Bella Rossa’ is a more subtle shifter whose velvet crimson blooms not only last exceptionally well, but Staddon enjoys the distinctive blue edge the flowers develop with age.

Carmolli recommended *Camellia* Just Chill Red Tip™ (*Camellia* ‘FARROWCJRF’ PPAF), named for striking foliage that emerges red with a lime green midrib and shifts to green before soft pink flowers arrive in autumn. It also makes a great specimen reaching 5–8 feet tall and 5–6 feet wide.

While its foliage persists year-round, “evergreen” doesn’t feel like a fair



SHADE CLOTH SEASON IS HERE AND WE'VE GOT YOU COVERED

- * WIDTHS FROM 12' TO 56' WIDE
- * PERCENT BLOCKAGE FROM 30 TO 80%

starting at
12 cents per
square foot

BUILDERS OF HEAVY DUTY GREENHOUSES

20357 HWY 99E * AURORA, OR 97002 * 503-678-2700
www.ovg.com * info@ovg.com

A kaleidoscope garden



Golden Child™ Arborvitae (*Thuja occidentalis* 'Mirjam' PP 20127) has chartreuse foliage that turns golden yellow at the ends. In the winter it turns a nice copper color. PHOTO COURTESY OF MONROVIA NURSERY



'Tres Amigos'® Abelia (*Abelia grandiflora* 'Mincautri') has tricolor foliage in romantic tones of green, cream and pink dramatically set off by deep red stems. PHOTO COURTESY OF SPRING MEADOW NURSERY

description for non-edible Orangena™ *Vaccinium brevipedicellatum* 'HINO GV'). McConnell noted it puts on an everchanging show as the new leaves are continually emerging an orange-red contrasting to the mature leaves' deep green. At 4 feet tall and wide' and easily pruned, it makes a colorful boxwood alternative.

Another uncommon ever-green McConnell recommended is Sweetmaroon™ Myrtle (*Myrtus communis* 'Monfazed' PPAF). "Winter through early spring the branches are tipped with red to maroon foliage By summer, the foliage is bright emerald green, so it's a great backdrop for all your summer blooms. This is also a great boxwood alternative."

For real showboating, Staddon loved native *Physocarpus*, or ninebark, which goes through multiple metamorphoses.

Let's start with pioneering 'Diabolo,' whose leaves start out coppery red, skewing to dark burgundy and almost purple — even before the red flower buds open to white flowers followed by blue berries. Recently, breeders are delivering cultivars for tight spaces like 'Coppertina,' 'Little Devil,' and 'Dart's Gold,' each offering a unique palette.

McEnaney recommended First Editions® Amber Jubilee™ Ninebark (*Physocarpus opulifolius* 'Jefam' PP23177) for extra foliar zing. "As Amber Jubilee wakes up in spring, the leaves emerge with the colors you'd imagine for fall, with orange, yellow, and gold foliage accented by white flowers. In summer, the leaves turn a beautiful dark green. And then in fall, the leaves turn a bright red."

We can't talk about chameleon-like shrubs without mentioning hydrangeas,

whose blossoms shift as the weather cools and as they dry. Staddon pointed out oak-leaved hydrangea (*Hydrangea quercifolia*) and its cultivars. "For any garden, large or small, I think this is a must-have plant," he said.

"You've got these fabulous big leaves, great green foliage, and as the season goes on white flowers maturing to pink or rose and the foliage goes from green to red, sometimes even a dark ruby color. Then you've got this great light brown exfoliating bark. You've got a plant for all seasons that is easy-to-maintain and to grow."

Among cultivars, Staddon recommends 'Munchkin' at 4 feet by 4 feet and 'Ruby Slippers' at 4–5 feet x 4–5 feet, both more compact than the species, which can range up to 12 feet high.

At Bailey's, McEnaney selected Berry White® Panicle Hydrangea (*Hydrangea*

paniculata 'Renba' PP28509) for its floral show. The large upright panicles shift, starting at the bottom, from white to dark pink, the hue deepening as temperatures drop.

Allaert recommended *Pieris japonica* 'Flaming Silver' for its evergreen foliage which emerges vivid red, then mellows to brightly variegated silver and green, offering a two-tone contrast, as well as its pink flowers. This shrub is dense and compact at 4–5 feet x 4–5 feet.

She also highlighted upright *Callicarpa bodinieri* var. *giraldii* 'Profusion'. It's known best for its iridescent violet berries in fall, but don't miss the bronze-tinged new foliage which darkens to purple in autumn before falling.

Compact chameleons

There are also a variety of selections that growers are offering up that are 4 feet or smaller.

Abelia are famous for their mul- >>



Camellia Just Chill Red Tip™ (*Camellia* 'FARROWCJRF' PPAF) emerges red with a lime green midrib and shifts to green before soft pink flowers arrive in autumn. PHOTO COURTESY OF SPRING MEADOW NURSERY



Our team of experts are committed consultants that deliver next level results.

We provide a full line of superior products and solutions all designed to grow vibrant plants that are second to none.

Contact your Simplot Turf & Horticulture representative to learn more, or visit us at www.th.simplot.com

**Call our new Hubbard office number (971) 361-2934
Thank you for your continued support.**



A keleidoscope garden

**Find it
now!**

Scan this QR code and type the name of the plant you're looking for in the search field.



tihued foliage; there's even one called 'Kaleidoscope.' But Natalie Carmolli chose 'Tres Amigos'® *Abelia* (*Abelia grandiflora* 'Mincautri'), which has tricolor foliage in romantic tones of green, cream and pink dramatically set off by deep red stems. "White spring flowers with rosy sepals perch atop this strongly variegated selection. It's a nice compact size too, at just 2–3 feet tall and 3.5 feet wide."

Many spiraeas are likewise known for color play, but Carmolli called out one. "Nothing, and I mean nothing, will take you on a wilder color ride than Double Play® Candy Corn® *Spiraea*," (*Spiraea japonica* 'NCSX1' PP28313), she said. "The foliage on this petite 1.5–2.5 foot shrub starts out candy apple red, transitions to bright green in summer as purple blooms pop out on top, then develops a gorgeous orange glow in the fall. [It's] as tough and drought/deer resistant as you

expect a spirea to be, but oh so much more interesting than conventional varieties."

Monrovia's McConnell pointed out Golden Child™ Arborvitae (*Thuja occidentalis* 'Mirjam' PP20127). "The fresh chartreuse foliage turns golden yellow at the ends. In the winter it turns a nice copper color. It's a great compact globe shape, reaching only 18–24 inches tall and wide. But the reason this one was picked, why it really stood out from others in our trials, was it faced the extreme temperatures of the heat dome in Oregon and didn't burn or scorch. That's why we called it our Golden Child."

"If you need a low-growing shrub that brings spring flowers, great summer texture, and bright fall color, First Editions® Jade Parade® Sand Cherry (*Prunus pumila* 'UCONNPP002' PP33014) is my favorite," said McEnaney. "This sprawling shrub is a native selection that only reaches 2–3 feet tall and spreads

up to 5–6 feet. In spring, the branches are completely covered in white flowers that attract pollinators early in the season. In summer, the glossy, blue-green foliage adds texture to the garden as the branches fill in gaps in the garden beautifully. In fall, the foliage turns bright red, appearing like a fiery carpet in the landscape."

Youngblood's Allaert recommended *Cornus stolonifera* 'Kelseyi,' aka Kelsey's Dwarf Dogwood, delivering many costume changes in a small footprint of 2–2.5 feet tall and wide. Known for their bright red winter stems, they also offer white flowers and berries that are a "food source for various species of birds, as well as attract bees and butterflies." ☺

Erica Browne Grivas is an award-winning journalist and gardener pushing zone boundaries in Seattle, Washington. She can be reached at EBGrivas@gmail.com.

The best cedar boxes and trellis options in the industry.

Bowers Forest Products has been manufacturing and supplying the best cedar boxes to the nursery industry for over 20 years. Our quality and service has been proven over time.

Visit bowersforestproducts.com and woodwayproducts.com today.

Other products we manufacture:

Nursery Boxes • Shipping Dunnage • Stakes
Lath • Gate Material • Tilt Stickers • Lattice • Trellis
Post Caps • Balusters • Fence Toppers



info@bowersfp.com | (503) 631-4408

First Class Customer Service with Integrity



Better soil with less toil

Growers using cover crops say they improve soil aeration and nutrients, resulting in better plants

Buckwheat is grown between rows of trees at J. Frank Schmidt & Son Co. to also assist with erosion control. PHOTO COURTESY OF J. FRANK SCHMIDT & SON CO.

BY KYM POKORNY

The benefits of cover cropping run long, but according to research at Tennessee State University, only about 10% of nurseries take advantage of the age-old practice of planting seasonal cover crops to regenerate the soil, produce better inventory and cut costs in the long run.

With five generations of experience behind them, the people at **Motz & Son Nursery** in Portland, Oregon, are one of the 10%. They use cover crops because they've seen the results for a long time.

"We've always used cover crops; we use it as a rotational crop," said Anne Marie Boyd, vice president and production manager for Motz & Son. "You can't plant tree after tree after tree without damaging the soil. You have to have something to build the soil back up as much as possible. To do that, we use cover crops."

So does **J. Frank Schmidt & Son Co.** in Boring, Oregon. The nursery has used cover crops since the early 1970s, testing

18 over the years, according to production manager Sam Doane. From the nursery's perspective, using cover crops helps in a variety of ways. From improving soil structure to disease suppression, the long list of cover crop benefits includes controlling weeds, capturing nutrients, minimizing erosion, conserving water and reducing the use of herbicides and fertilizers.

Cover crops, which are plants usually sown in late summer and grown through the winter in fallow fields or in rows between trees, include sorghum-sudangrass, sunflower, barley, rye, winter peas, cereal grass and nitrogen-fixing clover (sometimes rejected because it can be aggressive).

Benefits of cover crops

Anyone who tries to grow something soon learns the importance of soil. If not, their crop will never flourish. Anthony Witcher, associate professor for nursery production and sustainability at Tennessee State University in Memphis, said his

research shows cover crops help by retaining water, keeping soil from eroding and adding organic matter.

Cover crops in the legume family, such as clover, pull nitrogen from the atmosphere and convert it to a nutrient that is useful to beneficial soil organisms. Those organisms then make it available to plants, giving nutrients back to the soil naturally and reducing applications of fertilizer.

"The soil tilth is going to be improved as well as conserving carbon in the soil," Schmidt's Doane said. "More often than not, we make management decisions that get in the way. If I make four or five passes to put carrot seed in, then mow and disc in at the end of the season, how am I increasing soil structure? Each pass is destructive. We learned the importance of using low-input cover crop solutions. Let the cover crop do the work, not you."

Erosion control counts as an obvious advantage of cover crops. No one wants a repeat of the Dust Bowl of the 1930s ➤

Better soil with less toil



A field trial of potential cover crops at Motz & Son Nursery. The nursery has been using cover crops for many years because it has seen results. PHOTO COURTESY OF MOTZ & SON NURSERY.

when windstorms and years of intensive agriculture turned the soil into viscous storms that carried away precious topsoil from 100 million acres of farmland.

As agriculture began to recover, new practices focused on soil health, and cover cropping became more prevalent. The nursery industry, Witcher said, has been slower to get on board, partly because of the dearth of research specifically about how cover cropping can help the industry. But research is catching up and so are growers.

Doane grows cover crops in fallow fields and in between rows for erosion control. Workers and equipment compact the soil and damage the structure, creating hardpan, a dense compacted layer of soil that is nearly impermeable to water and restricts root penetration. Some cover crops — like radish or sudangrass — grow deeply, breaking up hardpan as they go.

And, he points out, cultivation makes the spaces in the soil smaller and smaller. Cover crops can help mitigate the damage and keep the soil healthy.

Cover crops provide excellent weed control, said Noe Rodriguez, production manager at **John Holmlund Nursery LLC** in Boring, Oregon. They compete for water and nutrients and shade out the weeds.



A mixture of crimson clover and triticale is grown between rows at Motz & Son Nursery. PHOTO COURTESY OF MOTZ & SON NURSERY

A benefit to the business

Science offers much information on cover cropping, but observation is second to none for seeing close-up the ways the practice can help business.

"When I started, I saw that the nursery down the street never used fallow or cover crops," Doane said. "There was decreased uniformity and vigor. When people saw that happen, it shifted a lot of peoples' perception of cover crops. If you do it right, it saves money."

Mike Hiller, production manager at **KCK Farms LLC** in Dayton, Oregon, also saw the difference. His decision to use cover crops was also influenced by other nurseries growing them.

"If you break down the decision," Hiller said, "It was their successful use of cover cropping. 'Well, if it worked for the nursery down the road, I'm going to do it.'"

If a nursery makes the decision to use cover crops, there's information out

there to help. Reach out to the Oregon State University Extension Service, local water conservation districts and National Resources Conservation Service.

"Managing Cover Crops Profitably" a book from the U.S. Department of Agriculture Sustainable Agriculture Research and Education program, is a free PDF, downloadable at **TinyURL.com/CoverCrops**. It has a national focus, but has plenty of information for the West Coast such as seeding rates, timing and projected biomass, Doane said.

Sorghum-sudangrass

Sudangrass is a popular choice as a cover crop. At Schmidt, Doane typically plants sorghum-sudangrass as a large percentage of the nursery's cover crop because it has the highest green manure quality.

The cover crop is drought tolerant, can outcompete weeds, and grows quickly. The roots go deep, breaking up soil as

they go. Boyd, too, is a fan of sudangrass, which she said has dramatically cut her need for herbicides and tilling.

"We are very big on keeping clean fields," Boyd said. "We use sudan because we can use it in conjunction with pre-emergent. The cover crop grows through the pre-emergent. It's easy. If we leave a field fallow it will just be weeds, and I have to send in workers and herbicide. We use the pre-emergent in spring and fall. Other than that, we're not having to use herbicide."

Some nurseries use sudangrass for weed control, said Holmlund's Rodriguez, who grows it successfully on sloped ground. He sows in August and irrigates twice until it settles in. Since it dies in spring, the nursery doesn't have to worry about mowing or biomass building up in a wet spring.

Other cover crops

At Motz & Son, Boyd said they grow cover crops in between the rows of »



Kubota
ORANGE DAYS

RTVX2

- 24.8 Gross HP† 3-Cylinder Kubota Diesel Engine
- Variable Hydro Transmission (VHT-X)
- Standard 4-Wheel Drive • Dynamic Braking

RENTAL RETURN UNITS AVAILABLE!

R540

- 50.9 Gross HP† Kubota Diesel Engine
- High Visibility Cab with Enlarged Front Glass, Full Size Right Side Window

\$0 DOWN, 0% A.P.R. FINANCING FOR UP TO 48 MONTHS ON SELECT NEW KUBOTAS!*



OES
Oregon Equipment Sales

MCMINNVILLE
2700 ST. JOSEPH RD.
MCMINNVILLE, OR
(503) 435-2700

HUBBARD
19658 HWY. 99 E.
HUBBARD, OR
(971) 216-0111

LINN BENTON
33599 HWY 99 E.
TANGENT, OR
(541) 926-1811



LINN BENTON TRACTOR
OREGON EQUIPMENT SALES

1-866-385-9073 • orequipmentsales.com



Kubota

*0% Down, 0% A.P.R. financing for up to 48 months on purchases of select new Kubota R540 series equipment from participating dealers' in stock inventory is available to qualified purchasers through Kubota Credit Corporation, U.S.A.; subject to credit approval. Example: 48 monthly payments of \$20.83 per \$1,000 financed. Some exceptions apply. Terms subject to change. Offers expire 6/30/25. This material is for descriptive purposes only. Kubota disclaims all representations and warranties, express or implied, or any liability from the use of this material. For more information, see Dealer or go to KubotaUSA.com. † For complete warranty, safety and product information, consult your local Kubota dealer and the product operator's manual. Power (HP/KW) and other specifications are based on various standards or recommended practices. K1003-24-152614-2

Better soil with less toil



J. Frank Schmidt & Son Co. plants sudangrass as a large percentage of the nursery's cover crop because it has the highest green manure quality and the roots grow deeply, breaking up hardpan. PHOTO COURTESY OF J. FRANK SCHMIDT & SON CO.

trees for erosion control in winter. They use oats or wheat or some other kind of grain and let it grow until January. Then they spray it and it creates a nice mat for people to work on.

Because they want to disturb the soil as little as possible, pre-emergents are their choice of herbicide. The oats or wheat will create a layer that helps keep the pre-emergent off the workers' shoes, so less is wasted.

At Schmidt, Doane's approach is to experiment with a large number of cover crops to see what works. Right now, he plants, among other things, annual rye grass. It doesn't need water to germinate or establish. "It takes care of itself," he said.

"Every field is like a recipe that has to be put together," said Esteban Herrera, Dayton, Oregon, farm manager for **Bailey Nurseries Inc.** "Whether it's between crops or a whole field you have to put it together. Look at the field and see what to use. Is the soil structure compacted? Do you need green manure? Then you start to build a recipe."

Doane's goal is to do as little to the soil as possible. Sunflower is a low- ➤



A comparison of rows planted with hard fescue vs. an unplanted row shows that cover crops between rows can help prevent soil erosion. PHOTO COURTESY OF J. FRANK SCHMIDT & SON CO.

Nursery Guide

WHOLESALE PLANT SEARCH



FIND



- Hundreds of Growers
- Thousands of Listings
- Millions of Plants

Search NurseryGuide.com  **and find it all!**

Enter Terms ...

- PLANTS
- COMPANIES
- SERVICES

SCAN TO ORDER YOUR
FREE PRINT COPY

*Must be qualified member of nursery industry



PUBLISHED BY



OREGON
ASSOCIATION OF
NURSERIES™

Better soil with less toil

input crop that fits the bill, he said. After broadcasting the seed, there's not a lot to do. At the end of the season workers go in with light, gentle equipment to knock it down.

Nursery owners like Boyd lease idle fields to farmers. Wheat and clover are the preferred cover crop because they can be sold. It turns a profit and makes it possible to leave the soil uncultivated to recover.

Benefits outweigh costs

Cover crops sound like a sure thing, but they have a few drawbacks. Some cover crops grow a little too well, and getting them cleaned out can hurt tree roots.

There's also the complication of getting everything to work out at the same time. If you're trying to get something to germinate, it's not smart to send equipment or workers into the fields. Care must be taken with herbicide applications.

But in the long run, Rodriguez said



Sunflower is a low-input cover crop. PHOTO COURTESY OF TENNESSEE STATE UNIVERSITY

cover cropping saves money in herbicide and labor. First there are up-front costs, though.

"I think it saves money," Rodriguez said. "Yes, you have to work the ground,

buy seed and sow it. But if you don't do it, you'll get weeds and have to cultivate to keep them from going to seed. That compacts the soil. By putting in a cover crop you're doing a lot of good things for the soil. Although it involves money to plant and establish, it pays for it in the long run."

Witcher agrees. Cover cropping is worth the initial investment, he said. There's the need for equipment, seed and the labor that goes into planting the cover crop, but over time the nursery saves money through less herbicide and fertilizer and improving the quality of the crop.

Soil is — or should be — the No. 1 concern of nurseries, Boyd said.

"That has always been instilled in me by my mentors," she said. "You only have so much ground to put into a nursery. I have to take care of what I have. To do that, you have to be building the soil profile as much as possible as you go. If the soil is better, the turnaround is quicker and you get quality trees that customers appreciate." ©

Kym Pokorny is a garden writer with more than 20 years' experience writing for The Oregonian (Portland, Oregon) and other publications. She can be reached at Madrona29@Yahoo.com.

Chamaecyparis
Sciadopitys
Kalmia
Thuja
Picea

REARDON
NURSERY

Container and Field Grown Ornamentals

Phone: 503-663-1200 • Fax: 503-663-5134

www.reardonnursery.com
info@reardonnursery.com

10050 SE 282nd Ave
Boring, OR 97009

Rhododendron
Boxwood
Prunus
Pieris
Ilex



OREGON
NURSERIES
FOUNDATION

**Grow tomorrow's
nursery leaders**

DONATE TO THE OREGON
NURSERIES FOUNDATION

Go to **OAN.org/ONFDonate** to donate to the
ONF Scholarship Fund or Contact Stephanie
Collins at 503-582-2001



The right shift

Process and timing of moving plants up to larger containers is key to healthy, attractive plants

The Javo potting systems (above and below) are known for their adjustability, with many models that can seamlessly switch pot sizes within minutes. PHOTOS COURTESY OF GK MACHINE

BY JON BELL

To John Wayland, a plant health advisor at **Marion Ag Service** (St. Paul, Oregon), plants and people are a lot alike — especially when it comes to diet and nutrition. Like humans, plants need a steady, well-balanced diet that meets their nutritional needs in a healthy way.

“Plants are no different than people,” said Wayland, who’s been working with nurseries and growers on fertility management, plant health and pest management for more than 30 years. “You need a good diet to get your nutritional needs met. But if all you eat is McDonald’s, you’re going to have issues. Plants are the same. So for growers, understanding the physiology and the production systems in which you grow, how you water, when you shift — those are the nuances that determine whether or not plants do well or not.”

It’s that latter nuance — shifting plants from smaller pots to larger ones throughout their growth cycle — that gets a lot of attention from growers. The process, which can happen multiple times throughout a plant’s growth from seedling or liner to salable plant, is key to bringing healthy, attractive plants to market. »



The right shift

Moving them out of smaller containers before they're ready can lead to crumbling root balls and shock that can damage or kill a plant. Leaving them in too long binds up the roots and starves plants of the nutrients they need.

But shifting up to larger containers is work. Lots of work. And it costs money too, in labor, in fresh growing media and fertilizer, in new containers and more.

Nurseries are always trying to optimize their efficiency when it comes to transferring plants. That may mean investing in mechanized potting and mixing machines. It may mean consulting with pros like Wayland who can help them assess and correct issues and optimize their soil mixes. It may mean both.

It's an ongoing process, but one that can ensure a grower's efforts pay off in the end.

"The ultimate goal is to create the best roots in order to do the largest shift

possible for labor-saving purposes without inhibiting growth or creating a problem for the plant," said Todd Nelson, co-owner of **Bountiful Farms Nursery** in Woodburn, Oregon. "It's finding the best soilless media, fertilizers and irrigation practices, doing whatever we can to lesson labor and shift the plant to get it to its ultimate size as quick as possible."

Timing is everything

One of the keys to successful shifting up of plants starts with timing — namely knowing when a plant will reach the right size for when it can be sold. Then you work back from there.

"The best growers will take the knowledge of when the plant needs to be sold and take it backwards, all the way to when to bring in liners, when to shift and how long it will take to grow up in size," said Patrick Peterson, a sales specialist and

fertilizer consultant with the **J.R. Simplot Company** in Portland, Oregon.

That's how Nelson and the team approach it at Bountiful Farms. For example, a large Japanese maple that the nursery wants to sell in a 15-gallon container might take five years to grow, starting out first in a one-gallon container, then shifting to a three.

"The timing is very important," Nelson said. "We will use a sales date and shift according to when we want it to be ready for that. But then there are some varieties that need to be shifted without a sales date just because of the way they grow."

Either way, most shifting should be done when the plant is ready and able to root into a new and larger container. That usually means in the spring, as the warm weather returns, and not much later than September, according to Wayland.

"I like to shift plants when there is

Reduce your labor costs

We are now taking advance orders for our next production run of **inline potting machines**, available for late summer or early fall delivery. Tracking trailers also available.

Save with our preorder discount

Reserve by Sept. 1, 2025



FINANCING AVAILABLE

Call **503-873-9872** to order
WurdingerManufacturing.com

W
WURDINGER
MANUFACTURING



Nurseries are always trying to optimize their efficiency when it comes to transferring plants. That may mean investing in potting and mixing machines. PHOTO COURTESY OF BOUNTIFUL FARMS NURSERY

enough time for it to root into a new container before it goes dormant,” he said. “If not, it’s harder to manage the water, the soil stays wetter longer, you can get root rot. So I usually recommend that growers shift no later than August or September. If you don’t get it done by then, you can be better off letting it overwinter and shifting in the spring.”

Mix it up

Also important when shifting is the proper mix of soilless media and fertilizers. Although it’s possible to top dress containers with fertilizer, Peterson said shifting allows growers to introduce the plant and its roots to fresh new media — usually built around a shredded fir bark base — and fertilizer.

“They only have so many opportunities to get the fertilizer down low,” he said.

What kind of fertilizer and nutrients go into the mix? That depends on the plant. Usually a blend will include a bit of nutrient charge, some liming agents and micronutrients, all designed to stimulate plant growth and health. There’s also controlled-release fertilizer that can be added to provide nutrients for a particular period — as little as a month or as much as two years.

For plants that might be in a certain-size container for two years before they’re upshifted to a larger one, a slow-release fertilizer with occasional top dressing would be a standard approach.

Wayland said most nurseries have fertilizer regimens that have been developed

over years and via trial and error. It’s usually when something’s not going right with a nursery’s plants that he’ll get a call.

“What we do is troubleshoot when things aren’t growing properly,” he said. “When someone’s having difficulty with a certain plant or size of plant, you have to look at all the different practices, the substrate, the quality of water, the frequency of watering, pest problems, disease problems, to figure out what’s going on.”

Cleanliness can be an issue when it comes to upshifting too. Growers who don’t spend time and effort to keep pots, tools, machinery and other equipment clean during the process are bound to have trouble with weeds or pests.

Peterson shares his simple mantra with growers frequently.

“Start clean, stay clean,” he said. “At each phase, weeds blow in and can impact the mix. More often than not, when there’s weed pressure on a liner or plant, they didn’t do a good job cleaning things up for the next stage.”

It’s automatic

There was a time when Bountiful Farms would tend to its upshifting with nothing but manual labor. Workers would scoop soil mixes off of tables and transplant plants by hand.

“It was very slow,” Nelson said.

But as with many processes at nurseries, mechanization has made its way in and greatly improved efficiency while freeing up workers for other less-mundane tasks.

“Now we have potting systems »

YEAR ROUND AVAILABILITY

Loen Nursery

Wholesale Growers &
Suppliers of High Quality Plants
for over 35 Years

One Stop Shop

2,000+ varieties.
Delivery throughout
Oregon, Washington, Idaho
(26'-48' trucks)

QUALITY PLANT MATERIAL

- Japanese maples: 80+ varieties
- Shade & flowering: 20,000 in prod.
- Fruit trees: 10,000 in prod.
- Perennials, ferns and grasses
- Broadleaf and deciduous shrubs
- Roses: Shrub, groundcover
- Conifers: Grafted, seedling
- Groundcovers
- Rhododendrons and Azaleas
- Natives and vines
- Berries: Blueberry, Logan, Raspberry
- Contract growing
- Yes, we have it!
- And yes, we can find it for you!

CONTAINER-GROWN AND
CONTAINER-ESTABLISHED PREFERRED

Let us quote your
COMPLETE plant list.

Wholesale Sales/Growing Facilities
(Real people will answer your call)

503-982-6300

Woodburn, OR

Local Contractor's Yard

503-625-5454

Sherwood, OR

www.loennursery.com

The right shift

where the pot is filled, a hole is drilled and you just need one person to place the liner in the new container,” Nelson said. “The container is taken off by a conveyor belt onto a trailer. It’s all done mechanically now with very proficient systems that have taken counts from hundreds to the thousands.”

Bountiful Farms also has computerized soil-mixing machines, which mix up various recipes depending on what’s needed at each stage of shifting.

Aage Wurdinger is an equipment specialist at **Wurdinger Manufacturing** in Silverton. The company makes mechanized potting machines and soil mixing systems that serve everything from small mom-and-pop shops up to multimillion-dollar operations.

Depending on the setup, Wurdinger’s machines can either be installed in a fixed location or made to be mobile so they can be moved around to various parts of a nurs-

ery. Wurdinger said their potting machines, such as the Inline Potting Machine, are easy to use and can be adjusted quickly for different pot sizes. That’s a big help when it comes to shifting up plants.

He said nurseries who are still shifting up manually might want to consider making the jump to automation if their labor team is stretched to the point that they’re not able to keep up with current workloads and more orders are coming in.

“There have been situations where we’ve delivered machines to customers, and what would have taken weeks or months has been reduced by five or 10 times, even a week’s worth of potting in a day,” Wurdinger said.

Just over a year ago, **GK Machine**, an agricultural equipment manufacturer in Donald, Oregon, secured the rights to become the territorial dealership for a Netherlands-based potting machine

and systems manufacturer called Javo Automation. The Javo systems are known for their adjustability, with many models that can seamlessly switch pot sizes within minutes, allowing growers to handle a wide variety of plant types and container sizes.

“Javo potting machines are designed with flexibility and scalability in mind, meeting the diverse needs of nurseries and greenhouse growers across the region,” said GK Machine’s Derrick Bratton. He said some growers might be hesitant to shift to an automated approach, either because of the up-front investment costs or concerns over changing long-established processes. But GK Machines works with growers directly to identify inefficiencies and pain points in their operations, and the Javo systems are easy and safe for employees to learn to use.

And cost-wise, the improved efficiency that comes with automating easily pays for the investment.

“With a starting price of approximately \$18,000 for entry-level potting machines and going up to \$70,000 for large-scale operations, the investment in automation quickly pays for itself,” Bratton said. “Most growers report recouping their costs within two years, thanks to labor savings and increased output.”

No matter what approach growers take with upshifting — whether it’s old-school with manual labor or a potting system with the latest smart technology — the process is one that is crucial for all nurseries to produce the plants that Oregon is renowned for.

“We are all making pancakes, but all of us do it in a different way,” Nelson said. “What matters is the end result: healthy, beautiful plants that represent Oregon. I want all growers to send out the best, most beautiful plants — and we do.” ☺

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.



F&L LUMBER, INC

WHOLESALE LUMBER BROKERAGE



Specializing in Nursery Lumber Needs!

- **Tilt Sticks**
1x1-8' or cut to your length
2x2-8' or cut to your length
1x2-8' or cut to your length
- **Container/B&B Pallets**
- **Gates/Gate Boards**
1x4-8' or cut to your length
- **Shipping Rack Kits**
- **Tree Stakes**

Call Michelle at 503-803-1175

FLLUMBER@AOL.COM • WWW.FLLUMBER.COM

Where Great Customer Service is a Given!

We accept Credit Cards

PLACE YOUR AD TODAY!

HERE'S HOW IT WORKS:

1. Select **Standard** (words only) or **Display** (graphic design with words and text) Classified ad format.
2. Determine general heading and subhead that ad runs under:
 - General: "Employment," "Plant Material," "Service/Supply," "Real Estate."
 - Subheads run under general headings. Create your own, but be general: "Conifers," "Liners," "Equipment," etc.
3. Indicate number of months to run.
4. Indicate any blind box for confidential replies. We assign number and mail any responses.
5. Compose ad. Designate headlines.
6. Email ad by deadline, **Wednesday, June 11** for the **July 2025** issue.
7. We bill established clients after publication. New clients may need to prepay.
8. We reserve right to edit for content.
9. Annual contract discounts available (12-month commitment).

AD RATES

CLASSIFIED LINE AD

- \$40/column inch for OAN members / \$60 for nonmembers.
- Regular, one-column, standard typeface, approximately 28-38 characters per line, 7 lines per inch. Use headlines, bold, italics and special characters.
- Black and white corporate logo or QR code \$30 additional charge and counts for ad length by inch

CLASSIFIED DISPLAY AD

- \$50/column inch for OAN members / \$80 for nonmembers.
- Use logos, display type, borders, screens or reverses.
- Production charges @ \$69/hour.
- Electronic ad files can be supplied. Call for production details.

JOB ADS ONLINE

- Employment ads also include online post to DiggerMagazine.com/jobs and OAN.org/jobs. Pay by the inch as above, or use online-only option: \$125/month members, \$150 nonmembers.

Digger Classifieds

29751 S.W. Town Center Loop W.,
Wilsonville, OR 97070
503-682-5089
503-682-5727 fax
ads@oan.org

EMPLOYMENT

CUSTOMER SERVICE

Our wholesale nursery currently has an opportunity for a detail-oriented individual to join our team. Core duties would be to work closely with a group of existing customers (partners) in coordinating our efforts to their expectation.

Candidates must be proficient in communication, both verbal as well as written. Along with basic formatting spreadsheets with an emphasis on accuracy.

Additional qualities/experience needed:

- General familiarity with plant varieties and standards
- Enjoy participating in solutions
- Works well in a team setting
- Self-driven and accepts responsibility
- Desire for both personal and professional growth

Spanish helpful, and honesty and effort paramount.

Additional responsibilities could be available based on one's interest and experience.

Compensation based on final job description. Benefits include medical and dental insurance, life insurance, vacation and sick leave, and retirement plan.

Please send resume (with references) and salary history to:

Highland Meadow Nursery
10377 S. Toliver Rd
Molalla, OR 97038
Or email

dan@highlandmeadownursery.com

HIRING?

WORK WITH US!

Email us at ads@oan.org
or call 503-682-5089
CLASSIFIED ADS WORK!



EMPLOYMENT

ASSISTANT GROWER

Kraemer's Nursery, Inc. is recruiting for an Assistant Grower. The successful candidate will have a four-year degree in Horticulture or Agriculture and be bilingual in English and Spanish.

Specific Duties

- Work closely with Production Manager, Site Supervisors and Section Growers to grow and maintain quality plants for our customers.
- Provide support and planning to production crews to ensure the most efficient use of labor and equipment.
- Track and support tasks established at Manager meetings and Section Grower meetings.
- Communicate with Sales team to address concerns, timing and/or status of crops.
- Perform all work in a safe and efficient manner.

Annual salary range, depending on education and experience, is \$75,000-90,000, plus health, dental and vision insurance, FSA and/or HSA account options, paid time-off, 401(k) with safe harbor match, employee discount, dependent care, and parental leave.

To apply, submit a letter of interest and current resume to recruiter@kniusa.com

HELP WANTED

For jobs and key employees throughout California and the Northwest, call Florasearch, Inc. You know us. For more than four decades we have been bringing together key people and excellent companies in the nursery and greenhouse industries and allied trades. Check our references. Confidential. Employer pays fee.

Florasearch, Inc.

1740 Lake Markham Rd.
Sanford, FL 32771
Ph 407-320-8177
Fx 407-320-8083

www.florasearch.com
search@florasearch.com

Reach more customers!

To place a classified ad,
email ads@oan.org
or call
503-682-5089

EMPLOYMENT



We are always looking for career oriented skilled staff. Our operations include wholesale growing, shipping, landscape contractor sales, and retail nursery. If you have the interest and skills needed to be a part of our team, please apply. We are growers of container and field grown ornamentals.

We are looking for people in the following areas:

- Sales / Customer Service (Wholesale/Retail)
- Production / Growers / Supervisors
- Shipping & Receiving
- Inventory / Office Mgmt & Admin / Purchasing
- Pesticide / IPM Managers & Applicators
- Irrigation Management / Skilled Laborers
- Outside sales throughout U.S. & Canada
- Controller / Accounting Manager
- Horticultural Website Developer

Applicants with specific work experience or education in the nursery industry is desired. Computer skills, Spanish / English bilingual, plant ID knowledge and equipment operation skills also preferred.

Pay commensurate with experience. Benefits to include: Paid vacation and sick leave, paid holidays, medical and dental insurance. Respond with resume to hr@loennursery.com to the specific job for which you qualify.

For more information, please visit us online at
www.loennursery.com



MAKE YOUR NURSERY CAREER HAPPEN!

Looking to grow in the nursery and greenhouse industry, or related businesses? Oregon nurseries post their openings here. We have job listings in print and online. Online postings are updated as we receive them.

Visit OAN.org/Jobs or
DiggerMagazine.com/Jobs

Digger

BAMBOO



GARDEN

**Specimen size BAMBOO
over 30 feet tall available**

- Clumping Bamboo
- Large diversity
- Quality wholesale plants
- We carry bamboo barrier HDPE 60 & 80 mil x 30"

503-647-2700

BambooGarden.com
bamboo@bamboogarden.com



BRANCHING OUT



Now offering 20 superior selections of ornamental trees.
bit.ly/PW-Trees. Call 800-633-8859
Maria@SpringMeadowNursery.com

CLEARWATER GROWERS
LINERS:

Arcostaphylos - 'Mass'; Carex;
Ceanothus g. 'Pt Reyes'; Cotoneaster -
'Lowfast'; 'Coral Beauty'; Deschampsia
caespitosa; Fragaria; Juncus; Liriope m.
'Big Blue'; Liriope spicata; Mahonia;
Pachysandra; Pennisetum; Polystichum;
Rubus c. Sarcococca; Thuja o. -
Emerald Green; 'Green Giant'; Vinca
1 GAL AVAILABILITY
Arcostaphylos - 'Mass'; Calamagrostis;
Carex; Cotoneaster dammeri - 'Coral
Beauty'; 'Lowfast'; Deschampsia;
Festuca; Fragaria; Helictotrichon
sempervirens; Juncus; Liriope; Mahonia;
Pennisetum; Rubus; Sarcococca; Vinca

CUSTOM PROPAGATION
AVAILABLE

Ph: 503-359-7540
Fax: 503-357-2282
Forest Grove, OR

SCHURTER NURSERY

Arborvitae - Emerald Green
Green Giants
Various Sizes & Varieties
503-932-8006

Wholesale bare
root plants

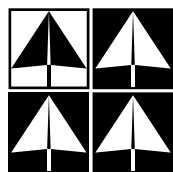
**LOTS OF NATIVE SHRUBS
AND TREES AVAILABLE**
Preorder now for winter

**COR COR - FRA LAT
MAH AQU - MYR CAL
OEM CER - PHY CAP
RIB SAN - ROS NUT
ROS PIS - RUB PAR
COR CER - LON INV**

For details 503-632-4787 or
info@BeaverlakeNursery.com

BeaverlakeNursery.com

Northwest Natives

BARE ROOT
NATIVE PLANTS

Acer, Alnus, Amelanchier, Betula,
Conifers, Cornus, Fraxinus,
Holodiscus, Lonicera, Mahonia,
Malus, Physocarpus, Populus, Rosa,
Salix, Spiraea, Symphoricarpos,
Wetland Plants

*Over 300 species of
source identified natives*

Fourth Corner
Nurseries

salesdesk@
fourthcornernurseries.com
P: 800-416-8640
FourthCornerNurseries.com

Plant Search

FIND UNIQUE PLANTS,
TREES & SHRUBS

Find hundreds of different plants
and thousands of listings.

Search online today at:

NurseryGuide.com

Northwest Natives

Pacific NW
Native Plants

NO SPRAY
GROWN THE WAY NATURE INTENDED

Container • B&B

Native Shrubs & Trees

Groundcovers • Wetland & Riparian Plants

Exclusive Grower of
Premium Oregon White Oak

Valley
Growers
Nursery

503-651-3535 • FAX 503-651-3044
valleygrowers.com
nursery@valleygrowers.com
Hubbard, OR • OR and WA Certified D/WBE Company

Northwest Natives

Native, Wetland
and Riparian
Specialist

*Growers of
Quality, Healthy,
Ready-to-Sell Plants.*

Phone: 503-632-4787
Fax: 503-632-5412

CONTRACT GROWING
YEAR ROUND

21200 S. Ferguson Rd.
Beavercreek, OR 97004

www.beaverlakenursery.com

NURSERIES ARE HIRING

Our job listings run monthly in
Digger and are updated regularly
online as soon as we receive them.
Check what's new: **OAN.org/jobs**

Digger

Rhododendrons

The place

TALL RHODODENDRONS

Available up to 10' tall+
Also in cans, most 5' tall.

OPEN TO OFFERS

Hidden Acres Nursery

Sherwood, OR
503-625-7390

www.hiddenacresnursery.net

Rootstock

TRECO®

THE FOUNDATION OF YOUR
ORCHARD STARTS HERE.

PREMIUM QUALITY
OREGON ROOTSTOCK
SINCE 1941

TRECO® offers the finest
apple rootstock, hazelnut trees
and softwood cuttings.

WWW.TRECO.NU

Oregon Rootstock & Tree Co. Inc.
P.O. Box 98 | Woodburn, OR 97071
p: 1.800.871.5141
f: 503.634.2344

WILLAMETTE
NURSERIES

**YOUR SOURCE FOR
ORNAMENTAL SEEDLINGS, FRUIT
TREE ROOTSTOCK, CUTTING
LINER VARIETIES & MORE.**

We specialize in understock
for flowering, fruiting and shade.

WWW.WILLAMETTENURSERIES.COM

Excellent quality.
Outstanding service.

25571 S. Barlow Rd. Canby, OR 97013
503-263-6405

Toll-Free: 1-800-852-2018

E-Mail: willamette@canby.com

MARTEL'S NURSERY, INC.

Let us be a partner
in your growing success!

Currently Available
Premium quality Acer palmatum
rootstock
3/16" 1.53
1/8" 1.12
Grown in RootMaker plug trays

6195 Battle Creek Rd. S.E.

Salem, OR 97317

T: 503-585-9283 C: 503-851-1396

E: martelsn@comcast.net

E: terri.martel@martelsnursery.com

FIND WHAT YOU'RE MISSING!

Search for plants, products, services:
www.NurseryGuide.com

Equipment


**YANMAR LOADERS
FOR SALE — LOEN NURSERY**

Year	Model	VIN#	Hours	Price
2020	V4-7	#72171	2,570	\$45,000
2018	V4-7	#71137	6,615	\$30,000
2008	V4-6	#60680	10,579	\$22,500
2018	V4-6	#70702	5,586	\$32,500
2020	V4-7	#72170	2,764	\$40,000
2015	V4-6	#62422	3,762	\$48,000
2015	V4-6	#62468	6,944	\$30,000
2013	V4-6	#61874	7,411	\$26,500
2009	V4-6	#60735	10,266	\$20,000
2016	V4-7	#70529	8,643	\$30,000

**CALL IF INTERESTED
503-982-6300**

Order.LoanNursery.com/Collections/Equipment



Loen Nursery, Inc.
Wholesale Growers & Suppliers of High Quality Plants

**GOT SOMETHING
YOU NEED TO SELL?**

Advertise equipment, services
and supplies for sale here,
in the Digger classifieds.

Call Tana @ 503-682-5089
Next deadline: June 10.

3 WAYS TO SUBSCRIBE TO

Digger

PHONE
503-682-5089
ONLINE
OAN.org/publications
EMAIL
Info@OAN.org


THANKS TO OUR Digger ADVERTISERS

Please contact our fine advertisers for your plant, service and supply needs.

To advertise in *Digger*, contact Curt Kipp at 503-682-2008 or CKipp@OAN.org. To see all of our advertising options for reaching businesses as well as consumers, please view our Oregon Association of Nurseries Media Kit at OAN.org/ads.



Agromillora Quality Assurance Lab.....	45	Loen Nursery Inc.....	35
Agwest Farm Credit Services.....	47	Marion Ag Service Inc.....	13
Aivaka.....	43	Marr Bros.....	11
American National Insurance.....	3	Material Flow Systems.....	14
Aumsville Equipment Sales.....	45	Motz & Son Nursery.....	45
Biringer Nursery.....	16	Oregon Valley Greenhouses.....	23
Bowers Forest Products.....	26	Reardon Nursery.....	32
F & L Lumber Inc.....	36	Rickel's Tree Farm.....	45
Fischell Machinery.....	21	Schurter Nursery.....	45
GK Machine.....	48	Simplot Turf & Horticulture.....	25
Gowan Company.....	5	Spring Meadow Nursery.....	21
Hostetler Farm Drainage.....	45	Star Roses.....	2
Kubota.....	29	Surface Nursery Inc.....	15
Lane Forest Products.....	16	Willamette Nurseries Inc.....	11
Leonard Adams Insurance.....	43	Wurdinger Mfg.....	34, 45



OREGON
ASSOCIATION OF
NURSERIES™

Be **heard**.
Be **protected**.
Be **powerful**.



Join the **driving
voice** of Oregon's
nursery industry.

Your **Political** **VOICE**

JOIN THE OAN
1-888-283-7219
OAN.org/Join

What We Do:

- **Promote** a strong, competitive business climate.
- **Protect** you from burdensome laws and regulations.
- **Tackle** key issues: labor, water, taxes, land use and more.

Where We Work: Federal. State. Local.

From the halls of Congress to the Oregon State Capitol, we advocate where it counts — with your business at the center of every action.

What We Delivered in 2024:

- Averted costly quarantines through swift action on *Phytophthora austrocedri*.
- Tax bills lowered by clarifying ag equipment tax rules.
- Introduced legislation to freeze ag overtime at 48 hours.
- Successful with 58 of 61 political endorsements getting elected.
- Trained 3 waves of new industry advocates.

Reach green industry professionals



Advertise in the *Digger* August Farwest Edition

Take advantage
of the energy and
excitement of the
largest nursery
show in the West
and reach a targeted audience of green
industry professionals.



With an increased distribution of 11,500 copies mailed to subscribers and distributed to show attendees, your marketing message will connect with motivated industry decision-makers before, during and after the 2025 Farwest Show.

Display ad deadline: June 13

All OAN members receive exclusive discounts



Contact:

Curt Kipp
Director of Publications
and Communications
CKipp@OAN.org
503-582-2008

OAN.org/ads

GROWING KNOWLEDGE

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



Oregon State
University



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

Forewarned is forearmed

Research-backed 'Pheno Forecasts' help
growers know when to expect pest activity

BY ERIN POSTHUMUS, BRITTANY BARKER,
THERESA CRIMMINS AND LEONARD COOP

The shift to warmer temperatures in the spring months means renewed activity and growth, including new leaves, flower buds, and, unfortunately, renewed activity of plant pests. Fortunately, nursery growers and gardeners have a new tool to help them — forecasts of when to expect pest activity at their given location.

Since 2020, researchers at the Oregon Integrated Pest Management Center at Oregon State University (OSU) have been collaborating with the USA National Phenology Network (USA-NPN, USANPN.org), based at the University of Arizona, to deliver forecasts of pest activities and establishment risk in user-friendly and interactive formats.

These “Pheno Forecasts” use the science of the seasons, or phenology, to support nurseries, arborists, and growers with early detection efforts and the management of existing populations in the conterminous United States.

Here we introduce our Pheno Forecasts for the emerald ash borer (*Agrilus planipennis*, EAB), Japanese beetle (*Popillia japonica*, JPB), and spotted lanternfly (*Lycorma delicatula*, SLF; Figure 1, this page). We provide examples of forecasts and describe the resources and tools available to you, including how you can report on these species in your area. Pest forecasts may support nurseries, arborists, and growers with early detection efforts and the management of existing populations.

The creation of a Pheno Forecast

Pheno Forecast maps predict the timing of problematic insects and other pests that may negatively impact the nursery industry and other United States agriculture sectors. They are based on the amount of warmth an organism needs to receive in the spring to prompt its activity.

For many species, this amount of warmth has been established by researchers. For others, work must be done to figure out what cues insects to begin activity or transition from one life cycle stage to another. »



Figure 1. From top: Emerald ash borer, *Agrilus planipennis*. PHOTO COURTESY OF DAVID CAPPAERT, BUGWOOD.ORG Japanese beetle, *Popillia japonica*. PHOTO COURTESY OF DAVID CAPPAERT, BUGWOOD.ORG Spotted lanternfly, *Lycorma delicatula*. PHOTO COURTESY OF LAWRENCE BARRINGER, PENNSYLVANIA DEPARTMENT OF AGRICULTURE, BUGWOOD.ORG

Growing Knowledge

The models for EAB, JPB, and SLF were developed using previously published data on how temperature affects their development and survival. In general, pests develop more quickly when temperatures are warm; however, they have limits — temperatures that are too cold or too hot can restrict their development and survival. By incorporating this information, the models can predict both where and when to expect the pest (Barker et al. 2020).

Pheno Forecast maps for EAB, JPB, and SLF show where important pest activities are expected in areas at risk of establishment — i.e., those that are not too cold or hot for development and survival. The life cycle stages forecasted are those during which management actions are most effective. These maps are updated daily and are available for the entire year, allowing you to anticipate activity several months into the future.

Emerald ash borer (EAB)

Native to Asia, EAB is a wood-boring beetle that causes significant harm to ash trees (*Fraxinus* spp.) in hardwood forests and urban landscapes. EAB was first detected in the U.S. in 2002 and now occurs in at least 37 states. The invasive pest was first detected on the West Coast in Forest Grove, Oregon, in 2022 and now occurs in four counties in Oregon (Washington, Yamhill, Clackamas, and Marion).

EAB is responsible for the death of tens of millions of ash trees across the United States, with an estimated economic impact in the billions of dollars. If left to spread, it will continue to have devastating effects on both urban and natural forest ecosystems. For example, the beetle is expected to decimate stands of Oregon ash (*F. latifolia*), which plays a crucial role in wetland and riparian ecosystems in the Pacific Northwest (Shaw et al. 2025).

In the larval stage, EAB feeds on tissues under the bark of ash trees, disrupting the plant's nutrient and water transport and eventually killing the tree. Insects are difficult to treat in this stage and can feed up to two years before pupating and then emerging as adult beetles. Adult beetles can travel about half a mile from their tree after emerging, but may disperse longer distances when transported via firewood or other forestry products.

Treatments for EAB are applied to control adult beetles on infested trees and to reduce the spread of the pest to nearby areas. Adults lay eggs approximately 14 days after emergence, so treatment is critical in this window. Collections of EAB resources can be found at OSU Extension at [TinyURL.com/OSUEAB](https://www.tinyurl.com/OSUEAB) and the EAB Information Network at [TinyURL.com/EABInfoNetwork](https://www.tinyurl.com/EABInfoNetwork). For specific information on preferred treatment options in your region, we recommend contacting your local extension agent.

Pheno Forecasts for adult emergence and egg hatch of EAB (Figure 2, this page) are particularly relevant for surveillance and for managing existing populations with pesticide treatments and parasitoid introductions. For example, forecasts for adults can help state surveillance teams and arborists detect beetles in Oregon where EAB has recently arrived.

Japanese beetle (JPB)

Native to Japan, JPB is an invasive beetle that was first dis-



Figure 2. Pheno Forecast map for EAB for May 9, 2025. Colors indicate the status of adult emergence. The status of a location is determined by comparing local degree day accumulations to an established degree-day accumulation threshold for the life-cycle stage. Areas of the U.S. that lack color are predicted to have temperatures that are too extreme for development or survival. MAP COURTESY OF NATIONAL PHENOLOGY NETWORK



Figure 3. Pheno Forecast map for SLF for May 9, 2025. Colors indicate the status of egg hatch. The status of a location is determined by comparing local degree day accumulations to an established degree-day accumulation threshold for the life-cycle stage. Areas of the U.S. that lack color are predicted to have temperatures that are too extreme for development or survival. MAP COURTESY OF NATIONAL PHENOLOGY NETWORK

covered in the United States in 1916. Their numbers grew rapidly in the 1950s and 1960s on the East Coast as home lawns became popular. The beetle is considered a top pest of turfgrass and has caused large-scale destruction to field crops, berries, fruit trees, vegetables and a wide array of ornamental plants (Stoven et al. 2021). Since the Japanese beetle was found in Oregon in 2016, the Oregon Department of Agriculture (ODA) has led eradication efforts to prevent it from becoming widely established in the state.

Immature JPB grubs feed on the roots of plants, particularly grasses. This feeding can severely prune roots, limiting the plant's ability to acquire water and resulting in large patches of dried, dead grass. In their adult stage, beetles feed on plant foliage, skeletonizing the leaves by feeding between leaf veins. They also occasionally feed on other plant tissues such as flower petals.

Treatments for JPB include hand removal of adult beetles by shaking infested plants over a jar of soapy water to remove and kill the beetles. Commercial pheromone traps are available, though their success is limited and mostly useful for monitoring rather than control. For specific information on preferred treatment options, download the "Animal and Plant Health Inspection Service's Managing the Japanese Beetle: A Homeowner's Handbook" at [TinyURL.com/JPBHandbook](https://www.tinyurl.com/JPBHandbook) or contact your local Extension agent.

Pheno Forecasts of adult emergence of JPB may help with surveillance because adults are more detectable than grubs, which occur underground. Forecasts of egg hatch, which occurs approximately four weeks after first adult emergence, may help to manage young grubs with products such as Bt (*Bacillus thuringiensis*), milky spore, and beneficial nematodes.

Spotted lanternfly (SLF)

Native to China, SLF is an invasive planthopper that threatens several major agriculture crops in the United States, including grape, stone fruit, hops, and hardwood trees. This pest was first detected in the United States in Pennsylvania in 2014 and subsequently spread to at least 13 additional states.

SLF will lay eggs on virtually any surface, which makes it easy for people to spread the egg masses to new locations. Most states are considered at risk of SLF, particularly in areas where invasive populations of tree of heaven (*Ailanthus altissima*), its preferred host plant, are present.

As of 2024, there is no established population of SLF in Oregon. However, the state has multiple high-value industries that may be affected, including wine grapes, nursery and tree crops, small fruits and timber (Mermer et al. 2021).

SLF damages plants by sucking sap from trunks, stems, and branches as well as by depositing a sticky residue that leads to mold growth. This damage weakens the plant, which reduces crop yields and makes the plant more susceptible to stressors such as extreme cold and other pests.

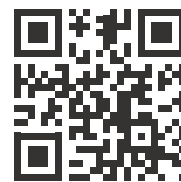
Treatment options for SLF include killing adults and scraping off and destroying overwintering egg masses before eggs hatch. For specific information on preferred treatment options, visit PennState Extension's Spotted Lanternfly Management Guide website at TinyURL.com/SLFGuide or contact your local extension agent.

Pheno Forecasts for SLF (Figure 3, Page 42) may help to detect insects and slow their spread to new locations. Forecasts of egg hatch provide insight into when nymphs will appear, which may help detect SLF because nymphs are easier to observe than cryptic egg masses. Forecasts for adults may also »

Tired of dealing with irrigation wires? Want to get rid of them?

Retrofit to wireless

- ✓ Use any 24V valves & controllers
- ✓ Connect it all with NO wires
- ✓ Works long distance (measured in miles) via free radio



866-248-2521 (866-AIVAKA-1)
Aivaka.com



Looking for a health plan for your business, employees and family?

Providence Health Plan is proud to work with Leonard Adams Insurance to offer members of the Oregon Association of Nurseries access to quality, affordable healthcare.



Standard features available with our various health plans:

- Multiple plan offerings
- Preventive medications with a \$0 copay
- Chiropractic and acupuncture embedded for each member
- NEW for 2024: Option Advantage Plus plans offering a lab/x-ray benefit with the first \$500 fully covered



Additional member perks are available to cover other aspects of life, including:

- Personal health coaching
- Fitness center and workout video discounts
- Emergency travel assistance
- ID protection
- Savings on thousands of activities like movies, travel, or a night out on the town

Interested in learning more?

Visit lacoinsurance.com or contact Leonard Adams Insurance at **503-296-0077**, or toll-free at **866-907-1850**.

Emerald Ash Borer Phenology Learning Module - How do I identify EAB?

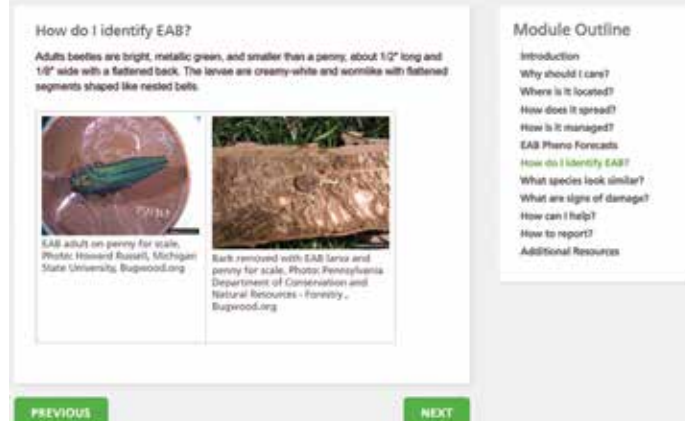


Figure 4. Screen capture of the Emerald Ash Borer Phenology Learning Module. COURTESY OF NATIONAL PHENOLOGY NETWORK

Report pest activity at your site this season

Tracking when EAB, SLF, and JPB undergo life cycle changes in your area can help you choose the best time to perform management activities and may serve as an early warning indicator of trouble brewing among your trees or crops. You can track the timing of activity in these pests and over 1,800 other plant and animal taxa using Nature's Notebook (USANPN.org/NN), the plant and animal phenology monitoring program offered by the USA-NPN. The USA-NPN uses observations submitted through Nature's Notebook to validate and improve the Pheno Forecast maps. ©

The work reported here was funded by USDA NIFA AFRI grant no. 2022-68013-37138. Erin Posthumus is the Partnerships and Project Manager for the USA National Phenology Network at the University of Arizona. She may be reached at Erin@USANPN.org. Brittany Barker is an Assistant Research Professor in the Oregon IPM Center and Department of Horticulture at Oregon State University. She may be reached at Brittany.Barker@OregonState.edu. Theresa Crimmins is the Director of the USA National Phenology Network and an Associate Professor in the School of Natural Resources and the Environment at the University of Arizona. She may be reached at Theresa@USANPN.org. Leonard Coop is an Associate Professor (Practice) in the Oregon IPM Center and Department of Horticulture at Oregon State University and serves as director of decision support systems for the Center. He may be reached at CoopL@OregonState.edu.

References

- Barker, B. S., L. Coop, T. Wepprich, F. Grevstad, and G. Cook (2020) DDRP: real-time phenology and climatic suitability modeling of invasive insects. *PLoS ONE* 15:e0244005.
- Stoven, H., Rendon, J., Langellotto, G., and Rondon, S. I. (2021) Japanese beetles in Oregon. 2021. Extension publication EM 9158, Corvallis, OR: Oregon State University. Available at: TinyURL.com/ExtensionJPB.
- Mermer, S., Tait, G., Vlach, J., Lee, J., Choi, M-Y, Leach, H., Brewer, L., and Walton, V. (2021) Pest alert: spotted lanternfly is an invasive insect that may impact Oregon. Extension publication EM 9312, Corvallis, OR: Oregon State University. Available at: TinyURL.com/ExtensionSLF.
- Shaw, D. C., Hill, K., Ripley, K., Stark, D., and Williams, W. (2025) Monitoring Oregon ash forests in the face of the emerald ash borer. Extension publication EM 9451, Corvallis, OR: Oregon State University. Available at: TinyURL.com/ExtensionAsh.

help with detection and with timing treatments that target adults on infested trees, which may also reduce the spread of the pest.

Other forecasts

USA-NPN Pheno Forecasts and notifications are available for 14 additional insect pests and several plant species:

- Apple maggot (*Rhagoletis pomonella*) — adult emergence
- Asian longhorned beetle (*Anoplophora glabripennis*) — adult emergence
- Bagworm (*Thyridopteryx ephemeraeformis*) — caterpillar emergence
- Bronze birch borer (*Agrilus anxius*) — adult emergence
- Eastern tent caterpillar (*Malacosoma americanum*) — caterpillar emergence
- Hemlock woolly adelgid (*Adelges tsugae*) — presence of eggs, presence of active nymphs
- Lilac borer (*Podosesia syringae*) — adult emergence
- Magnolia scale (*Neolecanium cornuparvum*) — crawler emergence
- Pine needle scale (*Chionaspis pinifoliae*) — crawler emergence
- Spongy moth (*Lymantria dispar*) — caterpillar emergence
- Winter moth (*Operophtera brumata*) — caterpillar emergence
- Buffelgrass (*Pennisetum ciliare*) — 50% green-up
- Red brome (*Bromus rubens*) — flowering, senescence
- Winter wheat (*Triticum aestivum*) — vegetative and reproductive stages

Access forecasts at USANPN.org/Data/Maps/Forecasts.

Learn more about pests in learning modules, also other resources

To support volunteers in identifying and reporting on these pests, the USA-NPN offers Phenology Learning Modules for SLF and EAB (Figure 4, this page), with modules in development for JPB and other pests. Explore the modules at Learning.USANPN.org.

Forecasts for single locations

Two options are available for end users who want forecasts for single locations. Users can explore the forecasts with the USA-NPN's Visualization Tool (Data.USANPN.org/Vis-Tool), which allows a user to zoom in on maps and click on a location to see the forecast for the corresponding 2.5-km pixel. Additionally, a model app at USPest.org allows end users to obtain predictions of phenology for EAB, JPB, and SLF in addition to 22 other invasive pests for a weather station of interest.

Get notified when pests are active in your area!

You can receive advance warning of management-relevant activity for your pest of interest by signing up to receive email notifications at USANPN.org/Data/Forecasts. Notifications are delivered both two weeks and six days before the activity will occur at your location.



Digger MARKETPLACE

NOW AVAILABLE IN THE NORTHWEST

AmeriDeck
HYDRAULIC LOADING SYSTEM

Transform your pickup — 3 beds in one!



LOAD > MOVE > DUMP

Easily move equipment & materials

CALL FOR INFO
866-994-3473
skip@truckdecks.pro

AUMSVILLE
EQUIPMENT SALES
www.truckdecks.pro

B&B Spruce 4 to 24 feet
Chamaecyparis • Fir • Pine
Japanese Maple • Poodle Pine
Cut Christmas Trees

Rickels'
Tree Farm LLC

503-630-4349
503-572-6089 cell
PO Box 598 – Estacada, OR 97023

*Schurter
Nursery*

Arborvitae—Emerald green
Virescens
Boxwood
Japanese Maples
Otto Luyken
Skip Laurel

Various sizes & Varieties
503-932-8006

Hostetler Farm Drainage 971-275-3004

Over 100 years of continuous family owned business in providing water management.

Serving the Willamette valley and beyond on projects large and small. Our innovative team installs drainage systems tailored to meet the needs of the farmer.

www.hostetlerfarmdrainage.com

Tracking Trailer

TT-410

Call **503-873-9872** to order

WURDINGER
MANUFACTURING

WurdingerManufacturing.com

AGROMILLORA
Quality Assurance Lab

Fast & reliable plant health testing services. Call today!

971-237-3566 | QALab@Agromillora.com
9375 NE Warmington Rd., McMinnville, OR 97128

Digger
MARKETPLACE

Small Investment
Huge Impact

Reach over 8,000 Digger subscribers with a Digger Marketplace ad

Reserve your space
Curt Kipp, CKipp@OAN.org, 888-283-7219

Hiring?
Work with us!

Digger magazine employment classifieds are THE go-to resource for skilled nursery professionals in search of their next opportunity — and companies in search of the perfect team member. To place an ad, contact **Tana Klum** at **503-582-2012** or **ads@oan.org**. View ads online at **www.oan.org/jobs**.

WHOLESALE GROWERS

Motz & Son Nursery

SHADE & FLOWERING TREES
FRUIT TREES
Dwarf, Semi-Dwarf & Standard
COMBINATION FRUIT TREES (4 in 1)
Semi-Dwarf & Standard
ESPALIER APPLES
Semi-Dwarf, Combination & One Variety
WALNUTS & FILBERTS
DECIDUOUS SHRUBS

www.motzandson.com
11445 N.W. Skyline Blvd.
Portland, Oregon 97231
Phone 503-645-1342
FAX 503-645-6856

Where collaboration makes a difference

The annual meeting of the Nursery & Landscape Association Executives of North America (NLAE) is a true benefit to the industry associations from across the continent.

I am a former president of the organization (2017 and 2018) and one of two Oregonians to serve in that role (Dan Barnhart was the other). This year our meeting was held north of the border, in Canada's national capital of Ottawa, Ontario.

Serving the groups that serve you

The NLAE's mission is "to be the leading resource for green industry association professionals." In practice, the NLAE supports the professional needs of leaders and staff for green industry groups across the continent. It provides a home where all of us can work together, problem solve, share information and improve as professionals and in turn improve the organizations we serve.

Each year, I can look forward to an enriching program that includes industry-relevant topics presented by NLAE members, along with professional industry speakers.

The magic of unscheduled time

There is a lot of talent amongst the association execs in our industry. When I was a baby exec, many veterans took me under their wing. I have been trying to repay that generosity ever since. Our industry has many shapes and sizes. Many focus on certifications, and some have trade shows, but all focus on you, the member.

I find that the most enriching part of the annual meeting, is the unstructured and unscheduled time outside of the conference. This group likes each other — that much is clear. What is a cut above is the unselfish sharing of experiences. A couple of examples:

Industry leadership education: This can take many forms, such as a leadership academy, stakeholder training, and many others.

The OAN is creating a leadership program with a three-term curriculum to provide an update on business practices, peer-to-peer problem solving, and advocacy training. The intent is to create a class of 15–18 agricultural producers (covering many segments in Oregon) and build a broad bench of future leaders. My dear friend and colleague Vanessa Finney has been running a similar program for some time now for her members in Maryland. She provided numerous examples of what worked and did not work to build a successful program.

Insurance: Nursery associations can benefit from trade show insurance, due to the possibility of weather-related or other disasters. You would not think the Alabama Nursery & Landscape Association would need much insurance for a snow event, but executive Russell Wood was glad they had it when 8 inches fell on the opening day of their trade show. Alabama was insured thanks to conversations at prior NLAE annual meetings. That snowstorm could have been an extinction-level event for them.

How the association does its business: The OAN has shared successes with this group over the years, ranging from our top-of-the-line advocacy training, to how to engage members on changes to our board and dues structure. Every year I learn about an innovation or business upgrade that can drive greater efficiency and better serve our mission. It is astounding how much good work is going on.

An effective model

The OAN is known for its leadership, its collaborative style, and its "all-in" drive to solve big problems. I am a believer that if you are not learning and listening to how others achieve their goals, you are not making progress for the members.

NLAE leaders came together when COVID was shutting down markets and there was a clear and present danger to our industry. The NLAE created a map with updated information on the fast-changing open/closed status in each state and each province.



Jeff Stone
OAN EXECUTIVE DIRECTOR

NLAE is a guiding star when I create coalitions at the legislature, planning on a new direction for the association and industry, and how to be building member voices to be effective. I learn so much from my colleagues and OAN benefits. Over the last couple of years, Stephanie Collins (OAN's Director of Finance and Administration) has added her expertise. OAN is building its leadership bench.


A temperature check with Canada

I am not going to sugarcoat it. Our proudly independent neighbors up north are not happy with the United States. Their resentment over U.S. trade policy runs deep, and the president's annexation overtures don't help.

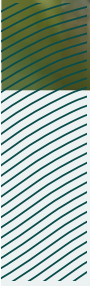
The Canadians have retained their friendly tenor and tone, but it doesn't mask a long-term shift in the U.S.-Canadian trade relationship.

Stanley Cup hockey is everything in Canada, and the commercials during this year's broadcasts are speaking volumes. I saw ads that mentioned "Canadian pride" and implored people to "buy Canadian." Stores were advertising American furniture clearance sales. Sales are good, but these had "we want it all gone and you know why" overtones. American products such as bourbon have been taken off the shelf.

The lesson here is that relationships are mutual, and they do matter. They matter between the association execs throughout North America, just as they matter in trade. The good news is that communication amongst NLAE leadership is fully functional and constructive. NLAE leaders are ready for whatever comes next. ©



You're an
owner. And
ownership
pays.




Put earnings back in your pocket with competitive borrowing rates and an annual cash dividend through our Patronage Program.

In 2024, AgWest paid the equivalent of 1.25% of eligible average daily loan balances back to our customer-owners.

AgWestFC.com



 Equal Housing Lender
This institution is an equal opportunity provider and employer.

CREATE YOUR PERFECT GREENHOUSE

All Steel Construction for Lasting Quality



... GK constructs greenhouses designed for durability. They are crafted and pre-drilled for efficient setup. GK also offers all the essential accessories for an entire growing solution!

www.GKGreenhouse.com

503-678-5525