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## February 2025 Vol. 69 No. 2

The Greenhouse Issue





## The Greenhouse Issue

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Printed in Oregon on domestic recycled paper when available.

On the cover: Before installing LED lighting, Al's Garden & Home had no lights in its Hubbard, Oregon greenhouse. Photo by VIC Panichkul. On this page: Left: Truffula<sup>™</sup> Pink Globe Amaranth (Gomphrena pulchella) blooms all season long without the necessity for deadheading and attracts bees and butterflies. Photo courtesy of proven winners Right: Pseudodictamnus hirsutus (Hairy Sage) is a native of the western Mediterranean and bumblebees love this plant. Photo courtesy of oregon state university

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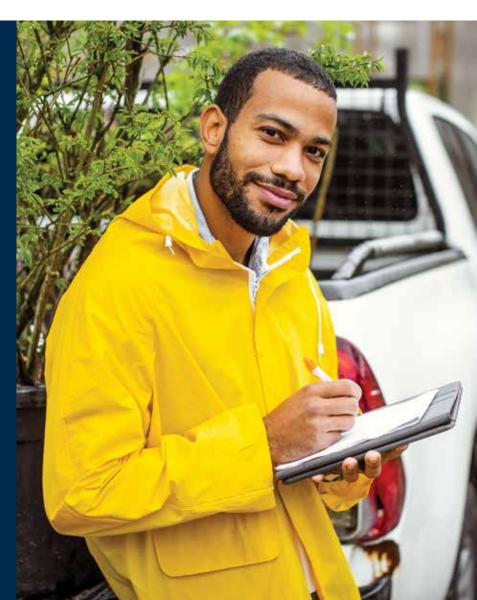






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SUBSCRIPTION AND CHANGE OF ADDRESS Circulation is controlled. Domestic subscriptions are complimentary to qualified U.S. nursery industry members. Non-qualified U.S. subscriptions are \$42. Qualified foreign subscriptions are \$35 to Canada; \$45 to 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

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## Where the rubber meets the ... bug

It is always good to get off the farm. Every time I visit a nursery, I come back with new ideas and fresh energy. I'd like to use this column to share some of those ideas and introduce you to the people who inspired them.

This is the Greenhouse Issue of *Digger*, so I point the farm truck in the direction of the largest greenhouses in the state (and the 10<sup>th</sup> largest in the nation): **Woodburn Nursery and Azaleas**.

Pulling into the visitor parking, I see product staged to ship and trains of freshly planted pots moving off to their growing destination. I'm here today to meet with Jim Ellefson, the affable head of their beneficial insect program. He has been in the industry for 50 years and with Woodburn Nursery for 10.

We walk past the office, and into a brightly lit warehouse, filled with neatly racked white buckets and red lids. Each bucket holds a colony of beneficial insects.

Jim and his team have helped grow this program from a few totes tucked under a desk to seven species and over 1,000 acres treated in a single year. Along the way they have seen their sprays go down, their crop quality improve, and their customers happier than ever.

Thrips have always been a major pest here, as I'm sure anyone in the nursery industry can relate. Now, with more beneficial insects on patrol and fewer sprays, they have less pesticide resistant thrips. As Jim puts it, "It's hard for the pest to develop resistance to being eaten."

Jim is excited to show me a simple, but impactful improvement. "The whole thing has been a lot of learning and asking questions," he says. Several years ago, they had an infestation of soldier flies from a neighboring property that were able to find their way not only into the warehouse, but into the sealed buckets.



Jim Ellefson borrowed an idea from the auto industry to provide a cost-effective solution to a proboem at Woodburn Nursery and Azaleas. PHOTO BY MARIA CRESPO

Some investigation showed that the original lid gaskets could not withstand their sanitation process. They were degrading and stretching. It was just a fraction of a millimeter, but in the world of insects that's like opening the Trojan gates. Jim tells me that you have to "look at the process, study it, (ask) what's causing it, figure it out."

Frustrated with the cost of new lids, Jim and his team found a simpler solution. They looked to the auto industry and a supplier of bulk rubber cord to make their own durable replacement gaskets. Now, as Jim put it, "Who would have thought that we're in the bug business, but we know rubber!"

It is a good reminder of creativity over capital and how looking for the root cause can lead to simple, impactful improvements; improvements that have helped Jim and his team treat 1,000 acres with beneficial insects. Now that's something to hang your hat on.

Bon



### **Calendar**

Get the word out about your event! Email details to Calendar@OAN.org by the 10th day of the month to be included in the next issue of Digger.

#### VARIOUS DATES

#### FIRST AID/CPR CLASSES AT OAN

Need a first aid and CPR certification renewal for yourself or one of your employees? For the first time, 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 and participants receive hands-on first aid and CPR training in small class sizes. The classes are offered in English and Spanish from 8 a.m.-12:30 p.m. The sessions in English are offered February 19, March 19, June 17, July 16. September 17. October 15. November 19. December 17. Sessions in Spanish will be February 20, March 20, 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.

#### **VARIOUS DATES**

#### SAIF'S AG SAFETY SEMINARS

SAIF is continuing its agricultural safety seminar series. Attend one of the free seminars happening until March in several cities around Oregon. Anyone working in the agricultural industry is welcome. Seminars are held from 9:30 a.m. to 2:30 p.m. and include lunch. SAIF is also offering webinars in English on March 17-18 and Spanish on March 19-20. The cities and dates: Bandon, February 24; Clackamas, February 19; Hood River, February 11; Klamath Falls, March 10; Mt. Angel, February 4 and March 13; Salem, February 6; and Wilsonville, February 26. For address of each seminar location, more information or to register, go to SAIF.com/ **AgSeminars** or call 800-285-8525.

#### **FEBRUARY 7**

#### HORTICULTURE RESEARCH INSTITUTE LEADERSHIP ACADEMY

February 7 is the application deadline for those interested in applying for the 2026 Horticulture Research Institute (HRI) Leadership Academy. The one-year program teaches participants business strategy, leadership and people management, advocacy, and value chain management skills. If you are passionate about making a meaningful impact in the horticultural field and are committed to giving back to the industry, community, or your company, you are strongly encouraged to apply. To apply, go to HRILeadershipAcademy.org.

#### **FEBRUARY 8**

#### FREE AG PESTICIDE COLLECTION EVENT

Tualatin Valley Soil and Water Conservation District is hosting a free agriculture and commercial pesticide collection event in collaboration with Valley Ag and Clean Harbors from 8 a.m.-2 p.m. Saturday, February 8 at Valley



PHOTO COURTESY OF OREGON STATE UNIVERSITY

#### **FFRRUARY 7**

#### 2025 NURSERY SCIENCE SUMMIT

Get briefed on cutting edge research and insights from leading nursery scientists at the 2025 Nursery Science Summit 9 a.m. - noon February 7 at the North Willamette Research and Extension Center, 15210 N.E. Miley Road in Aurora, Oregon. This grower-focused workshop will feature experts from Oregon State University and the USDA, sharing their latest discoveries and practical solutions for the nursery industry. With engaging 20-minute presentations (including Q&A), attendees can gain actionable knowledge on topics ranging from pest management and disease updates to innovative production techniques and ornamental plant breeding. Registration is free but required. Space is limited so email Clint.Taylor@OregonState.edu to secure your spot.

Agronomics, 986 N. Holladay St. in Cornelius. Oregon. What will be accepted? Old pesticides, including DDT, chlordane, chlorpyrifos, azinphosmethyl and unwanted current pesticides. For quantities in excess of 1,000 lbs, call (503) 277-3709 for pre-approval. Pre-registration is required by January 27 at TinyURL.com/PesticideCollect. Questions? Contact Michael Mason at Mason. MichaelR@CleanHarbors.com, 503-742-7105 or 971-401-0367.

#### **FFRRUARY 14**

#### USDA CENSUS OF HORTICULTURE

The deadline to respond to the 2025 USDA Census of Horticulture Specialties is February 14, 2025. The census, taken every five years, paints a complete statistical picture of the nursery and greenhouse industry. It helps operators as well as public officials and industry advocates understand the scope and impact of the industry, which in turn can help guide their decision making. All individual responses are kept confidential. Data is published only in aggregate form, ensuring that no individual nursery can be identified in the published results. The census was mailed to more than 2,000 horticultural operations in Oregon and 40,000 nationwide. Responses are required by law.

#### **FFRRUARY 28**

#### **NEXGEN "LEGACY IN BLOOM: OGS TO** THE NEXT GENERATION"

Attend NexGen's next event and get sage advice from some of the OGs of the nursery industry who have built successful careers and nursery businesses. The "Legacy in Bloom: OGs to the

Next Generation" panel is the highlight of the meeting at 5:30 p.m. on Friday, February 28 at McMenamins Edgefield, 2126 S.W. Halsey St. in Troutdale, Oregon. The meeting is also the second annual business meeting for the group, including a financial report, membership update, looking ahead to future group events, and election of new officers. Dinner is included. Registration for this event is \$20 per person. Register now at TinyURL.com/NexGenOG. Thanks to sponsors including Platinum Level Sponsor The J.R. Simplot Company; Gold Level Sponsors John Holmlund Nursery, The HC Companies, and Krueger's Tree Farms; and Silver Level Sponsor AgWest Farm Credit. To become a sponsor, contact Elizabeth Brentano at Elizabeth@Brentanos-TreeFarm.com or Henry Golb at HenryG@MarionAg.com.

NexGen was OAN's first nursery professionals and leadership group. Learn about the Human Resources Professionals Leadership Group and others at OAN.org/LeadershipGroups.

#### **FEBRUARY 28**

#### OAN MEMBERSHIP RENEWAL

Secure your Oregon Association of Nurseries membership today and stay connected to the resources, advocacy and community that drive our industry forward. Annual OAN membership renewal notices were mailed on December 9, and while memberships expired on December 31, the grace period to renew for 2025 extends through February 28. Renew your membership now at **OAN.org/Renew**.



## **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.

#### Oregon faces uphill battle to address aging ag workforce

Oregon's workforce is aging, particularly in agriculture where 33% of workers in agriculture, forestry, and fishing industries is 55 or older, according to the Pacific Northwest Ag Network, an online agricultural news website. This could have a huge impact on the state's agricultural industry. Nearly one in four Oregon workers is over 55 and the number of older workers in the state's workforce has more than doubled since 1990, according to a report from the Oregon Employment Department. Oregon workers are amongst the oldest in the nation, with the median resident about 17 months older than the median American.

"The community at large does not understand the impact the aging workforce is having on the top commodity in the state," OAN Executive Director Jeff Stone said. "One of the biggest problems is the disconnect between the consumers and agriculture, noting a few generations ago, most Americans weren't too far removed from the farm. When you grow a plant or a tree, there's only so much that the consumer will pay for it at the retail center. Labor, they say why don't you just pay them more, you'll get more people. No. People just don't want to get into ag. And there's no one in the nursery industry that's even close to the minimum wage. The average wage that a nursery worker makes is about \$45,000 a year, which is, you know, not terrible."

#### **NEW POSTAGE STAMPS FEATURE OREGON'S SWAN ISLAND DAHLIAS**

**Swan Island Dahlias** has provided the inspiration for the latest offering from U.S. Postal Service 2025 Forever Stamps Collection, according to The Oregonian newspaper in Portland.

The forthcoming stamps showcase 10 closeup photos of the flowers, nine of which were taken at the Canby, Oregon farm. The farm bills itself as the largest dahlia grower in the country with 375 different varieties. The release date for the stamp collection hasn't been announced yet.

The pictures were taken by New Jersey photographer Denise Ippolito, who snapped photos of the pink, white, yellow, magenta and red blossoms using all natural light. "Dahlias" is her second U.S. Postal Service stamp collection; another set of flower photos appeared in 2023's "Tulip Blossoms."

Her photos feature 10 different varieties of dahlia, ranging from the raspberry-red Spellbreaker dahlia to the pastel pink-and-yellow Bahama Mama flower.

For flower lovers, here's the full list of dahlia varieties pictured in the 2025 "Dahlias" Forever Stamp collection: Andrew Charles, Precious, Spellbreaker, Sheer Heaven, Bodacious, Dancin' Queen, Snowbound, Lisa Lisa, Excentric and Bahama Mama.

Every year in early September, Ippolito said, she brings a group of flower photographers to Swan Island Dahlias. "I love flower photography, especially at large farms," Ippolito said. "Swan Island always has a wide variety of pristine flowers to choose from."

#### **FEDERAL BOX TREE MOTH QUARANTINE EXPANDED TO DELAWARE. PENNSYLVANIA**

The USDA's Animal and Plant Health Inspection Service (APHIS) has expanded the box tree moth (Cydalima perspectalis) quarantine to the entire state of Delaware and Erie County, Pennsylvania, according to a statement from APHIS. A federal quarantine had already included a large portion of New York, the entire state of Massachusetts and portions of Michigan and Ohio.

APHIS is taking this action in response to the confirmed detections of box tree



Nine of the 10 photos used in the new "Dahlias" Forever Stamps were taken at Swan Island Dahlias in Canby, Oregon. Photo courtesy of swan island dahlias

moth (BTM) at a residence in Little Creek, Delaware. In August, BTM was discovered at two cemeteries in Erie, Pennsylvania and the Pennsylvania Department of Agriculture issued a quarantine of Erie County.

Boxwoods are the largest-selling evergreen shrub in the U.S. The destructive box tree moth spreads primarily through the shipping and sale of infested boxwoods. The insect had previously been found in Massachusetts, Michigan, New York, Ohio, and Ontario, Canada.

To prevent the spread of BTM, APHIS is restricting the interstate movement of regulated articles of boxwood from quarantined areas. Boxwood plants may only be moved interstate from a quarantined area from an estab-

#### **Northwest News**

lishment operating under a compliance agreement, and only if accompanied by a certificate issued by a state agricultural authority certifying that the requirements of this Federal Order and the compliance agreement have been met. APHIS prohibits movement of all other regulated articles of boxwood, including plant parts, pieces, cuttings, clippings, debris, and any portion of the plant, alive or dead, except for decorative purposes. These requirements will prevent producers and distributors of boxwood from moving infested plants interstate. State agricultural authorities may prescribe additional safeguards and protocols.

OAN members can keep track of the latest information on plant pests and diseases at **OAN.org/PPD.** 

#### OREGON STATE BOARD OF AGRICULTURE URGES FIX FOR AGRICULTURAL OVERTIME

At its December meeting, the Oregon State Board of Agriculture passed a non-binding resolution urging the Oregon Legislature to remedy the issues facing farmers related to agricultural overtime in 2025.

Josh Zielinski (**Alpha Nursery**) and Elin Miller (Umpqua Valley Vineyard) were the driving force behind the effort to get the governor-appointed board to weigh in on a top legislative issue for agriculture going into 2025.

At the board meeting December 18, the board heard from an agricultural overtime panel that included fruit grower Leslie Tamura, farmer Molly McCarger Pierman, dairy farmer Bobbi Harrold Frost and representatives from the Oregon Law Center and farmworkers union PCUN (Pineros Y Campesinos Unidos del Noroeste).

Prior to passage of the resolution, OAN Executive Director Jeff Stone spoke to the board to urge action. "Ag overtime is the top legislative issue for the OAN," he said. "The executive directors of Oregon agricultural groups are united on a solution and have drafted a bill that makes the 48-hour threshold that went



The destructive box tree moth spreads primarily through the shipping and sale of infested boxwoods. Photo courtesy of usda APHIS

into effect this year permanent, while allowing a floating 12-week exemption with a cap of 55 hours. Also, an economic study from Oregon State University is being finalized to ascertain the true impact of the ag overtime bill passed in 2022."

Beginning January 1, 2025, the threshold that employers are required to pay overtime to agricultural workers fell from 55 hours to 48 hours a week.

House Bill 4002, passed in 2022, changed the requirement for overtime in agriculture. Beginning January 1, 2023, employers were required to pay overtime to agricultural workers after they work 55 hours in one workweek. Starting January 1, 2027, employers will be required to pay overtime to agricultural workers after they work 40 hours in one workweek.

For legal questions on ag overtime, OAN members may use their 30 minutes a month of free legal consultation with Jordan Ramis PC. Call Steve Shropshire at 503-598-5583 or toll free at 888-598-7070. Have your membership number ready.

#### AMANDA STAEHELY: OREGON NEEDS A BIPARTISAN FEDERAL FARM BILL

OAN Past President Amanda Staehely advocated for a louder voice for specialty crop growers and other small, family-run operations in the Farm Bill in an op-ed piece published December 12 in the *Portland Tribune* newspaper, and other Carpenter News Group newspapers in Oregon.

"... In order to accomplish that, we need to leave partisan politics at the door," Staehley said. "The last Farm Bill was passed in 2018 — nearly seven years ago — and since then, much in agriculture has changed. For example, the cost of inputs today far out-matches agriculture's ability to compete on a national and international level. Oregon also needs more research funding to tackle water, labor and environmental challenges that are specific to our state.

"[U.S. Rep. Andrea] Salinas [D-Oregon 6th district] and I agree that a bipartisan Farm Bill must provide a strong roadmap to success for specialty crop production, including funding for university research, which is vital to getting and staying ahead of the game on disease and pest issues. We also need funding to advance research and development on innovative machinery used within our industry. When it comes to carbon sequestration, reducing carbon emissions and advancing sustainable agriculture, other countries have taken the lead, and America must act swiftly to catch up if it aims to be at the forefront of these issues. Finally, we need to work together with our state and federal partners to develop an effective crop disaster relief policy."

According to the American Farm
Bureau Federation, passed and signed into
law in the early hours of Dec. 21, 2024
— the day a government shutdown would
have begun if Congress had not acted —
the American Relief Act of 2025 includes

\$31 billion in natural and economic disaster aid for farmers and ranchers, a second extension of the 2018 farm bill and \$2.5 billion in additional aid to be distributed through USDA. While the farm bill extension gives Congress until Sept. 30, 2025, to pass a new farm bill, it did not fund numerous programs without baseline funding — so-called "orphan programs."

Read Staehely's oped piece at TinyURL.com/StaehelyOped.

#### **OREGON AG ROLLS OUT STATE** SANCTUARY INFORMATION FOR **IMMIGRANTS**

Oregon Attorney General Ellen Rosenblum has rolled out a toolkit to help immigrants in Oregon protect themselves and know their rights under the firstin-the-nation 1987 state sanctuary law, according to Oregon Capital Chronicle, a non-profit news website.

The Sanctuary Promise Community Toolkit covers details in the law and people's rights. For example, the instructions tell immigrants that if federal immigration officials are outside their doors, they have the right to not open the door and can ask to see a warrant signed by a judge. The toolkit, available online at TinyURL.com/ORDOJToolkit, includes brochures, posters and public service announcements in English, Spanish and five other languages: Urdu, Arabic, Haitian Creole, Russian and Mandarin.

#### **Announcements**

#### **GK MACHINE ANNOUNCES PARTNERSHIPS WITH JAVO AND BUTLER**

**GK Machine**, a leading industrial and agricultural manufacturer in Donald, Oregon, announced it is a new distributor of Javo Potting Machines and Automation Systems and that it has a new strategic partnership with Butler Buildings.

Javo manufactures a complete line of potting machines, tray automation, soil systems, transport systems and robotic systems and is known for quality, innovation and ease of use. GK Machine

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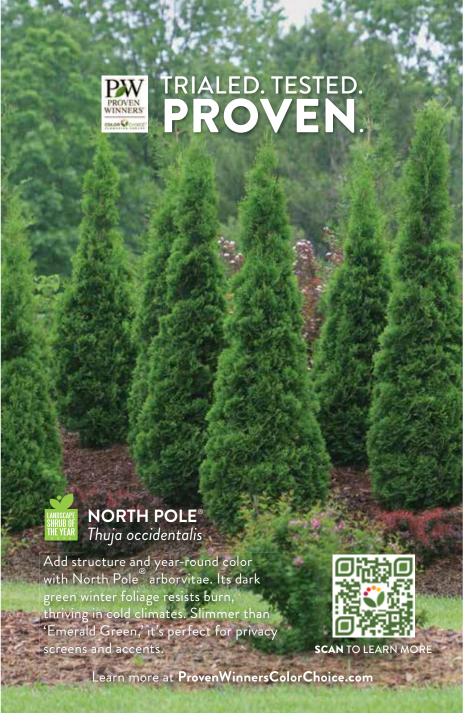
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#### **Northwest News**

will sell and provide service and repair of Javo machines for customers in Oregon and Washington and a supply of Javo parts will be available at GK's parts counter in Donald. For more information on Javo machines and automation, go to GKGreenhouses.com/Javo.

Butler Buildings is a recognized leader in metal building systems. "We immediately recognized Butler's quality structures and strong business support services, and their ability to train and develop team members," said Gary Grossen, CEO of GK Machine Inc. "These additional product offerings demonstrate our continued investment in growing our business and establishing an organization that is wellpositioned for the future." The collaboration will expand GK's catalog to include high-quality building systems known for their durability and performance. The new product line will offer a range of



GK Machine will sell and provide service and repair of Javo machines for customers in Oregon and Washington. PHOTO COURTESY OF JAVO

customizable building solutions designed to meet the structural needs of customers in the agricultural sector, such as hay and potting sheds, barns, and equipment storage buildings.

For more information, contact GK Machine at 503-678-5525 or go to

**GKMachine.com** to view the products.

#### ENDLESS SUMMER® **CELEBRATES 20 YEARS WITH OREGON PLANTINGS**

In honor of the 20th anniversary of





Endless Summer® Hydrangeas, Bailey Nursery employees planted hydrangeas at a local park in McMinnville, Oregon, as well as gardens and parks across the country, said Gretchen McNaughton, a spokeswoman for Bailey.

From Oregon to Georgia, over a dozen sites were planted by volunteers from Acorn Farms, Bailey Nurseries, Baucom's Nursery, Clinton Nurseries, Cottage Gardens, Home Nursery, Midwest Groundcovers, and 3 Rivers Nursery. Hydrangeas were planted at schools, community centers, and more.

"The brand tagline of 'Experience Life in Full Bloom™ is not just words on paper," said Layci Gragnani, brand and business development manager at Bailey Nurseries, brand owner of Endless Summer® Hydrangeas. "We live out that mantra by providing colorful blooms for life's special moments. Celebrating this anniversary with community plantings lets everyone Experience Life in Full Bloom<sup>™</sup>, garden or not."

#### IR-4 PROJECT HONORS FIELD **RESEARCH DIRECTOR AT OSU**

Dani Lightle received a Special Recognition Award IR-4 for her exemplary work as state liaison representative and IR-4 field research director at Oregon State

University. Lightle is transitioning



Dani Lightle

to a new role as policy and stewardship director with Oregonians for Food and Shelter.

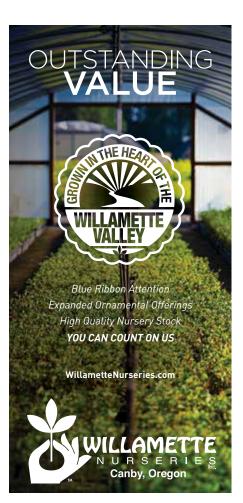
"With the presentation of this Special

Recognition Award, IR-4 thanks Dani for her commitment to specialty crop growers and the transformational leadership she has exhibited at North Willamette Research and Extension Center. We wish Dani all the best in her next chapter and look forward to future collaborations," said a statement from the IR-4 Project

#### **NEW TERRITORY SALES REP** JOINS BAILEY TEAM

Jess Lyga is the newest territory sales representative to join the Bailey Nursery sales team, the company announced. In her new role, Lyga will work closely with customers across Pennsylvania, Delaware, Maryland, Virginia, West Virginia, and North Carolina.

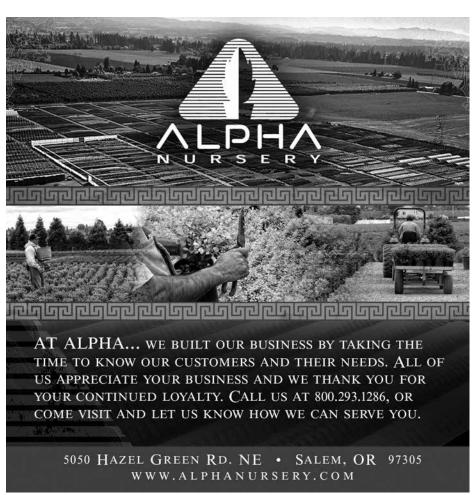
A graduate of Cornell University with a B.S. in ornamental horticulture, Lyga's academic background includes experience in >>>





Russ.Damyan@365-freight.com







#### **Northwest News**

licensing fruit and vegetable varieties. Her previous tenure as a sales representative will provide immediate value to Bailey's customers.



Jess Lyga

"We are thrilled to welcome Jess to Bailey," Bailey Sales Manager James Kuon said. "Her passion for plants, combined with her energy and industry expertise, will make her an excellent partner for our customers."

#### HARRELL'S HONORS SALES STAFF

Adam Wright of Turf Florida was

honored as Harrell's 2024 Sales Professional of the Year at Harrell's recent 2024 national sales meeting. according to a Harrell's press release. The criteria to receive the award come from 15 separately evaluated categories, including sales performance, application



Adam Wright



**Tyler Johnson** 

of Harrell's Core Values (Serve, Honor, and Glorify God, Take Care of People, and Grow our Financial Strength). Tyler Johnson of Turf Florida was named 2024 Rookie of the Year.

#### Correction

Due to an error, the name of a source was misspelled in an article on ornamental grasses in the January issue of Digger magazine. Mary Mooney is a sales team member at Eshraghi Nursery.



#### Letting it bee



Truffula<sup>™</sup> Pink Globe Amaranth (*Gomphrena pulchella*) blooms all season long without the necessity for deadheading and attracts bees and butterflies. PHOTO COURTESY OF PROVEN WINNERS

45 percent of the value of all annual flowers sold each year. Three to six varieties of each genus were trialed in several locations.

Turns out begonia and impatiens are visited more often by pollinators such as honeybees, bumblebees and hoverflies than any of the other plants tested, but it's not across the board for all cultivars. Two varieties of begonia — 'Ambassador Rose Blush' and 'Cocktail Brandy' — and two impatiens — 'Accent Coral','

and 'Super Elfin XP White' — seemed especially attractive to visitors. In fact, Smitley said the difference among varieties can be dramatic. Some varieties are five to

"We know already that most people are not going to give up their annuals, because they just love them."

David Smitley,
 professor emeritus of
 entomology at Michigan
 State University

10-fold more popular to pollinators, Smitley said.

An earlier study by Julie Weizenhorn, Extension educator and associate professor in horticulture at the University of Minnesota, came up with six annuals that do the best job of attracting bees including some of the 700 native bees in Oregon - as well as other pollinators like butterflies and hummingbirds. Topping the list are zinnia, sweet alyssum, marigold, lantana, pentas, portulaca and bidens. The

study didn't compare varieties or consider sales. For Smitley's research, he chose marigold as the control plant because Weizenhorn's research showed them to be moderately attractive to pollinators.

The research by Smitley and Weizenhorn, which surprised both of them, proves there is benefit for pollinators from annuals. However, both remained clear that perennials and woody plants, especially natives, have a lot more value for pollinators.

"We know already that most people are not going to give up their annuals, because they just love them," Smitley said. "They're so beautiful, and we don't have anything as beautiful, that blooms as long as annuals, that is also really attractive to pollinators. Although our evaluation found that annual flowers were not the best choice for the purpose of attracting and supporting pollinators, I'm more interested in focusing on small improvements gardeners could make, not convincing them to abandon annuals."



Suncredible® Yellow Sunflower is an everblooming variety with well branched bush-like habit that makes it perfect as an annual screen and attracts bees and butterflies while being resistant to deer. Photo courtesy of proven winners

#### Meeting the demand

To give consumers the choices they need to make those changes, breeders will have to put pollinator attractiveness on their list of preferred characteristics right along with color, size and vigor.

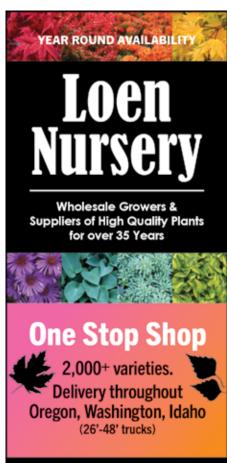
"Breeders are very good at selecting flowers for their colors and how beautiful they are, but they could develop fairly easily cultivars also that are attractive to pollinators," Smitley said. "The positive results from the study for some cultivars mean that lessons from visitation studies could help guide breeders to select pollinator-friendly cultivars of the most popular flowers."

Hoping to nudge people to discover the interesting world of pollinator gardening is Rosie Sullivan, co-owner of **N&M Herb Nursery**, a retailer and grower located in Hubbard, Oregon. Sullivan,

who relies on her husband's research and peruses catalogs for pollinator-friendly annuals, hangs information signs around the nursery to educate customers about pollinators, and steers those customers to appropriate plants.

"People absolutely know about bees and butterflies and hummingbirds," said Sullivan, who estimates 50% of her inventory is annuals. "They may not know how important pollinators are to our food system, to feeding us, but they know they love them. Once they know about plants the pollinators like and need, it brings them back every year. They tell me it brings them joy to help preserve pollinators with the plants they grow."

Annuals are often thought of as pollinator "deserts," meaning plants that do pollinators no good. But the research carried out by Smitley and Weizenhorn



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#### Letting it bee



Luscious® Goldengate™ Lantana (*Lantana camara*) offers continuous golden yellow blooms and is extremely heat and drought tolerant and is a magnet for butterflies and hummingbirds. Photo courtesy of proven winners

suggests that annuals do provide a food source and can help carry over the pollinators during times when perennials aren't blooming. The research also suggests that in urban areas, annual flowers are better than no flowers at all. Choosing the right varieties can give them a role in nourishing bees and other pollinating insects in home gardens.

"For homeowners and other customers of garden centers, it means that they can choose cultivars of some of their favorite flowers that provide some support for pollinators," Smitley said. "The key is finding them in the garden centers."

At **Peoria Gardens** in Albany, Oregon, where 85,000 flats of annuals make up 40 percent of yearly sales, short cycle grower Eric Morales said the wholesale nursery is paying attention to the trending demand for pollinator plants. The public is beginning to recognize the importance of preserving pollinators. This has motivated Peoria Gardens to grow some annuals like alyssum, zinnia, salvia, bacopa and geranium, all of which they've noticed attract the most pollinators. With that and some research, they decide which plants to slap on a pollinator label with a bee on it.

The nursery's commitment goes beyond pollinator plants. Concern for the environment has motivated the company to practice integrated pest management. They are currently working with the pollinator advocacy organization Xerces Society to create a pollinator hedgerow around the entire perimeter of the nursery.

#### **Educating gardeners**

"There's a good trend starting to build up and there's an opportunity," Morales said. "A lot of people want a plant that flowers a long time and don't care if it's a pollinator plant, but more and more do. Our job is to push it forward and teach gardeners that what looks good in your front yard can also be good for pollinators. If we're able to provide pollinator-friendly plants and teach customers about plants in the garden that attract bees and butterflies, it's a win-win."

Currently though, it's difficult for consumers to figure out which varieties to buy. Smitley cautions against using random internet searches for suggestions because so much is incorrect. The best source is the Royal Horticultural Society Plants for Pollinators website, where plants are listed by bloom season. The list is heavy on perennials and shrubs but includes annuals. Priming varieties aren't included, however.

Another strategy, he said, is for gardeners to experiment with a variety of plants in the garden, which is a good idea anyway. Diversity provides enough food for the pollinators who survive on it and gives more insects nourishment.

"They can purchase a mixture of cultivars — five or more is best — and observe which ones are visited by bees," Smitley said. "Then they will know for future years what they look like, how well they do in the garden and how attractive they are to bees."

One longtime gardener who pays attention is Mike Darcy, former host of both a TV and radio show and columnist for Digger. He fills about a quarter of the 100 containers in his home garden with a variety of annuals. Like most color-lovers, Darcy loves his annuals and wouldn't give them up. But he's observant in the garden so he can determine the best for attracting pollinators, something he believes is important.

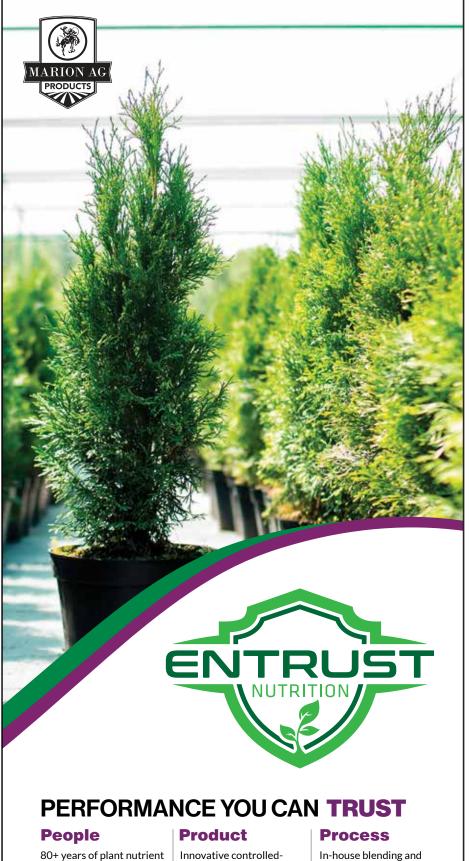
Darcy thinks the nursery industry may be missing the boat by not growing and labelling pollinator plants. Growing and marketing pollinator-friendly plants is a good thing for nurseries, consumers and the environment.

"There's definitely a demand that's increasing because people are reading about it," he said. "I see plant labels about hummingbirds but very rarely about bees."

In his garden he's observed some heavy visitation on basil, which he says is the No. 1 plant for attracting bees. Others that draw bees include cosmos, calendula, salvia, pineapple sage, alyssum and zinnia.

"There's a big swath of cosmos in the neighbor's yard and it's constantly covered in bees," Darcy said of some of his observations. "A good one is pineapple sage for autumn. Bees really go for them when there's not much out there, I always have 'Black and Blue' salvia. They always have bees on them."

Some nurseries recognize the pollinator trend and are doing something about it. In addition to Peoria Gardens, **Proven** Winners has started releasing plants marketed as pollinator friendly. Input from the Proven Winners trial team and



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#### Letting it bee

university Extension Service programs leads the decisions on which plants make the cut to become one of the Proven Pollinators. according to Makenzie Pellissier, intellectual property manager for Proven Winners.

Salvia is high on the list. The multiple tubular flowers on tall stalks are so well suited to hummingbirds that they dive bomb anyone standing in a salvia field. Proven Winners' Rockin' series with varieties in fuchsia, deep purple and blue features vigorous 2- to 3-foot-tall plants that Pellissier said are "pollinator magnets for sure."

One of the most unsung heroes for annual pollinator plants is alyssum, she said. A low mounding, trailing plant covered in fragrant small clusters of flowers in white or purple, alyssum appeals to pollinators.

"It's super attractive to a large variety of beneficial insects," Pellissier said. "People think of it as old-fashioned but it should be used more. It blooms spring through the cold weather and is always covered in pollinators."

In order to succeed in their quest to create habitat for pollinators, gardeners need information like the signs Sullivan puts up at N&M or the labels developed by Peoria Gardens and Proven Winners. Homeowners can't help pollinators, which they undoubtedly want to do, without pollinator plants and the knowledge that points them in the right direction. So garden centers should be the center of information and breeders the provider of plants.

"The bottom line is that there's a growing demand for annual flowers that are attractive to pollinators," Smitley said. "If people can have both beautiful color all season and plants that are attractive to pollinators, that definitely will increase the price that could be obtained and boost sales."

Kym Pokorny is a garden writer with more than 20 years' experience writing for The Oregonian (Portland, Oregon) and other publications.



Octavio Montar Lopez (left) and Rob Fernandez install and test new LED lighting in one of the greenhouses at Oregon Flowers in Aurora, Oregon. PHOTO BY TYLER MESKERS

Nurseries save energy costs by making the switch to LEDs with help of Energy Trust of Oregon program

#### BY MITCH LIES

n 2022, the owners of **Oregon Flowers** was thinking of going with LED lighting in a new greenhouse under construction. However, the grower (based in Aurora, Oregon) wasn't confident in its ability to adapt the technology to its lily production.

According to company vice president Tyler Meskers, the nursery wasn't as concerned with energy costs as it is now. Bottom line: The nursey went with what

it knew best at the time: high-pressure sodium lighting.

Fast forward to 2024. Energy costs have soared. An incentive program from Energy Trust of Oregon has reduced the costs of purchasing and installing LED lighting. New information has come to light from Europe, where many nurseries switched to LED lighting during the pandemic.

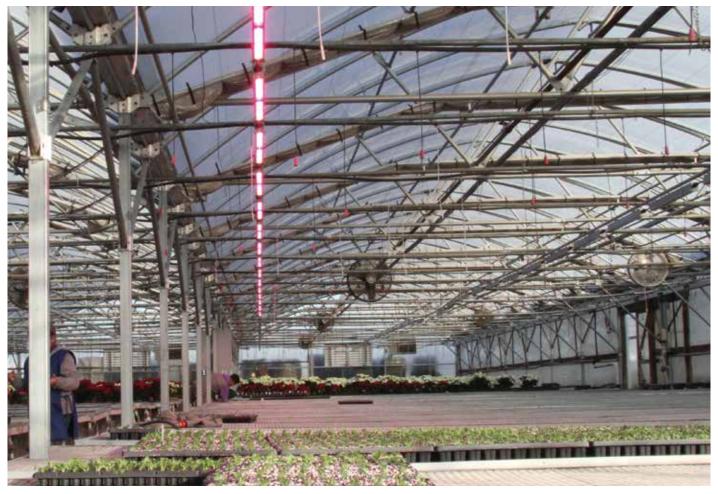
Added up, these developments prompted Oregon Flowers to take the plunge.

"In Europe, they were kind of forced into (energy efficient) LED lighting before us, because their energy costs just went through the roof, and so that really kickstarted a lot of those growers in Europe to switch to LEDs," Meskers said. "That was enough for them to say, 'Okay, let's give this a try,' and they found out that the learning curve to grow lilies with these LEDs wasn't as intimidating as they first envisioned."

Oregon Flowers now plans to switch from high pressure sodium (HPS) to LED lighting in all 11 of its greenhouses, starting with five this year. The nursery plans to stagger the installation, hoping to keep production at full capacity during the process. "We are going to chip away at it as greenhouse space becomes available," Meskers said. "Our goal is to put them in within the next month or two."

The nursery is among several Oregon nurseries to have recently taken advantage of incentives available through Energy Trust of Oregon, an independent nonprofit created by the state of Oregon that helps

#### **Lighting more efficiently**



Al's Garden & Home installed LED lights at its nursery in Hubbard, Oregon, to cut back on grow time for its rooted liners and early spring crops. The nursery had peviously had no artificial lighting. PHOTO BY VIC PANICHKUL

people, businesses and organizations use less energy and save money on energy bills. Its horticultural lighting incentives, which help offset the upfront cost of LED bulbs, can cover upwards of 30% of the purchase and installation costs of the lighting.

"That helped us make the decision to give this a try and switch over now," Meskers said.

Meskers said the nursery expects the lower energy costs that come with LED lighting to provide a return on investment in four years. He added that if the nursery knew then what it does now, it probably would have installed LED lighting when it first constructed its greenhouse in 2020.

"We just went with what we knew at the time," he said.

#### Reduced grow time

Like Oregon Flowers, Al's Garden & Home, also purchased LED lights for its Hubbard, Oregon, greenhouse this past

year. The nursery, which had been growing plants without artificial lighting, decided to install the lighting primarily to cut back on grow time for its rooted liners and early spring crops, said Dorothy Russo, chief of growing operations for the nursery.

"We needed to extend our daytime a little bit," Russo said.

The nursery opted to go with LED lighting versus incandescent lighting both because of cash incentives available from Energy Trust of Oregon and because of the energy efficiency of LED lights.

"I think it is the most energy efficient lighting available right at this moment, and that is what we need," Russo said.

The nursery began adding the lights to the Hubbard greenhouse in December.

Russo said the nursery is looking for a return on investment in as little as three years.

#### Other benefits

In addition to energy savings, both

Al's Garden & Home and Oregon Flowers expect LED lighting to help them produce a better quality product, a benefit that could be particularly significant in some of Oregon Flowers' older greenhouses, where the LED lighting is replacing HPS bulbs that are 10 and 20 years old.

"We should have a better-quality product because we have brand new lights replacing some lights that are 20-something years old," Meskers said.

Also, because the high wattage demands of HPS lights create more heat in a greenhouse than LED lights, the nursery expects to have a more uniform distribution of heat.

"The heat won't be coming from the top down," Meskers said. "It will be coming from the bottom, and it will be drying out the crop, so I think we should get a better-quality product because we're getting rid of some of the humidity."

"We'd rather have our heating source

heat the greenhouse and have our lighting source light the greenhouse," Meskers said.

Al's Garden & Home also is hoping for improved plant performance with the LED lighting. "Others are seeing an improvement in overall uniform quality with the higher lighting," Russo said, "and we are hoping to, as well."

#### **Energy consumption**

Still, for most operations, the biggest benefit of LED lighting is the energy savings available when switching from high-wattage incandescent lights to energy efficient LED bulbs.

"Lighting upgrades are often the best and easiest way to make energy-efficient improvements at grow facilities," according to Ashley Bartels, senior marketing manager of energy programs for Energy Trust of Oregon. "When nurseries are looking at where to save on costs, lighting is a great place to start."

Bartels noted that lighting can consume up to 20 percent of a business's energy costs, and switching from incandescent lighting to LED lighting can save a nursery as much as 75% in energy use. "That is pretty fantastic for a lot of our customers," she said.

LED lights also last longer than incandescent lights, according to Bartels, and what's more, their maintenance requirements are lower, according to the U.S. Department of Energy.

Patrick Kamphaus, director of business development for Bios Lighting in Carlsbad, Calif., a company that manufactures and sells LED lighting, said his company provides full warranty for LED

#### **Energy Trust Incentives**

For more information on **Energy Trust of Oregon** programs for greenhouses, scan this QR code



lights for seven years. And, he said, the lights can easily last 10 years.

Kamphaus added that the lights and fixtures are easy to clean.

"All our lights are IP66 rated, so you can spray them down with a hose, and we use a tempered glass lens to cover the diode, so, you can wipe them off with a microfiber cloth," Kamphaus said. "It's pretty simple." (IP66 is an International Electrotechnical

Commission code indicating a device is protected from dust, oil and

water, including powerful jets of water.)

Further, LED bulbs now come in a range of colors, allowing them to replicate specific conditions, like natural







#### Lighting more efficiently

sunlight. "This versatility is particularly helpful for nurseries where precise lighting conditions can influence plant growth and health. LED technology has come a long way," Bartels said.

Casey Rivero, solutions architect for Fluence/Signify, seconded Bartels' comments, noting that the industry has made tremendous advancements, particularly in the last dozen years. As growers become more familiar with the capabilities of advanced lighting LED systems, some are using it to highlight desirable colors in plants and bring out other features.

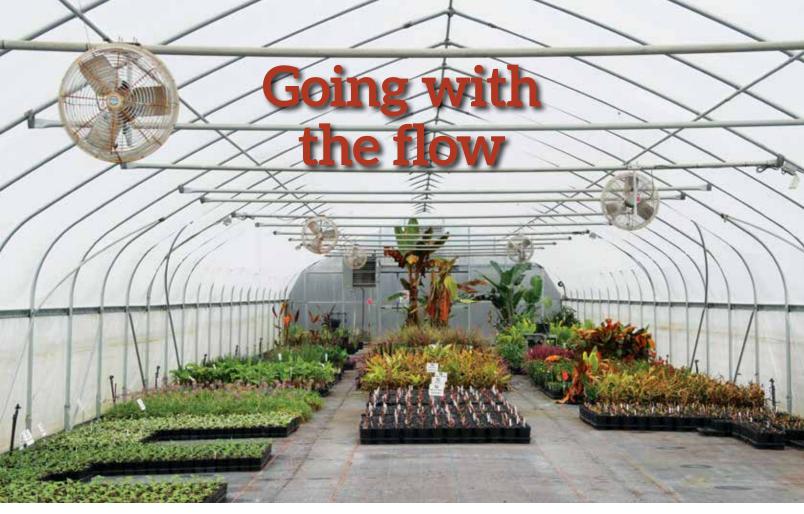
"They are able to utilize certain wavelengths, depending on the crop, to enhance qualitative aspects of the plant that they couldn't do before," Rivero said.

Rivero added that high pressure sodium bulbs were never intended for use as grow lights. "The technology was designed for human-focused lighting, primarily street lights, stadium lights, things like that, but it was adapted into the horticulture world because there was nothing strong enough out there as far as lighting technology that was really capable of giving crops what they needed. And then people just got used to it, to setting up their environments, their greenhouses, their environmental parameters around the lighting. And it's been kind of the standard and that is what a lot of the genetics were bred with, and that is what a lot of cultural practices were developed under.

"And as technology has expanded, and specifically, LED chip technology, we've seen a very linear trajectory in the technology that is specifically designed for horticulture purposes," Rivero said.

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

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Little Prince of Oregon uses rows of small fans in each greenhouse to maintain horizontal air flow. Photo by VIC PANICHKUL

#### Proper ventilation and circulation are key to successful greenhouses

BY JON BELL

ake a stroll across the grounds of Little Prince Nursery in Aurora, Oregon, and you'd largely be traipsing around 20 acres filled with long, tubular greenhouses.

There are 90 of them to be exact. many of them from the Donald, Oregonbased manufacturer **GK Machine**. All are teeming with the succulents, shade plants and perennials that the nursery is wellknown for.

Take that stroll in the summer, and you'd likely see those greenhouses acting a little more animated than one might expect.

If it were a warm day, for example, some of the greenhouses might automatically raise their sidewalls by a foot, hold for a few minutes and then raise another foot and pause. Others might lift the sidewalls a foot and simply stop or even lower back down. And if clouds or a shower rolled in, they'd all lower their walls until the weather passed, as if they were autonomous and reacting to the weather on their own. Which is exactly what they're

"It's kind of a cool thing to watch," said Mark Leichty, director of operations for Little Prince. "In the summertime, they'll go through that multiple times, all of them going up and down throughout the day."

The almost-futuristic movements of Little Prince's greenhouses are the result of an automated controller that allows the nursery to input set points based on temperature, air circulation, ventilation and other factors to ensure the nursery's plants are enjoying optimal growth conditions. The technology isn't necessarily new retractable sidewalls have been around for decades — but it is one of the most popular ways that nurseries are able to manage proper air flow and temperature in their greenhouses.

That's important. Air flow and temperature are among the most important considerations needed for plants to thrive.

"For greenhouse growers, investing in a well-designed ventilation system is essential," said Derrick Bratton, head of greenhouse sales for GK Machine.

"By addressing climate, size, and plantspecific variables, growers can maintain an optimal environment that supports healthy growth, prevents disease, and maximizes yield. Whether utilizing natural or mechanical systems, ensuring consistent and adequate airflow is critical to greenhouse management."

#### **Blowing sideways**

John Bartok is a retired agricultural engineer who spent decades with the University of Connecticut. One of his specialties is commercial greenhouse crops and the efficiency of greenhouses. He's conducted more than 200 energy audits for growers in the northeastern U.S. through a United States Department of Agriculture grant program.

Bartok has also worked with the U.S. Forest Service in Oregon on tree starts, and he also spent time in Russia helping set up greenhouses to assist in reforesting more than 5 million acres that had been burned in a wildfire.

When he began his work in the mid 1960s, there wasn't much thought given to the design of greenhouses and the importance of ventilation and air circulation.

#### Going with the flow

Without proper ventilation, circulation and temperature, plants in greenhouses cannot grow vigorously or efficiently. They can also be more susceptible to pests, fungus and disease.

One of the biggest innovations in the field came from one of Bartok's colleagues at UConn, Jay Koths, who in 1967 came up with what is now an industry standard: the concept of horizontal air flow (HAF).

According to UConn, HAF is based on the principle that "air moving in a coherent pattern in a building such as a greenhouse needs only enough energy to overcome turbulence and friction losses to keep it moving." Essentially, the air in a greenhouse just needs a little push to keep it circulating, which happens via a few properly sized and positioned fans that blow the air down one side of a greenhouse and then back down the other side.

"It's a system that looks like a racetrack," Bartok said. "HAF is moving it down one side and then moving it back. Once you get the air moving, it keeps moving because the fans are helping it overcome friction."

The benefits of HAF are extensive. For starters, a HAF system helps maintain uniform temperatures. In greenhouses without HAF, temperatures can vary by as much as 10 F from one end to the other; with HAF, the differences are usually no more than 2 F.

HAF also prevents condensation from forming on plant leaves, which can lead to disease. Additionally, it replaces air that has been depleted of carbon dioxide with fresh and keeps leaves cool in the warmer months so they don't burn.

"Horizontal air flow circulates the air in the greenhouses, which is really important for plant health," Leichty said.

Another nice aspect of HAF is that it is a relatively inexpensive system to install. Standard fans are between \$150 and \$200 plus installation, and a 30-foot-by-100-foot greenhouse usually needs just four fans. (The USDA offers grants to cover these kinds of costs through its Environmental Quality Incentives Program.)

Companies that manufacture greenhouses, such as GK Machine, can help



Greenhouse manufacturers like GK Machine can help calculate the ventilation and circulation systems needed for any particular greenhouse and recommend solutions. In a test greenhouse at GK's property in Donald, Oregon, small fans (above) maintain air movement within the greenhouse and larger fans (below) ventilate the greenhouse. PHOTO BY VIC PANICHKUL



calculate the ventilation and circulation systems needed for any particular greenhouse.

"When selecting or designing a ventilation system, growers must evaluate key factors: climate conditions, greenhouse size and plant type," Bratton said. "By prioritizing ventilation as a key operational element, growers not only improve plant health but also enhance productivity and efficiency in their greenhouses, solidifying their success in a competitive agricultural landscape."

Kip Schuening, president of **Oregon** Valley Greenhouses, which manufactures heavy-duty greenhouse structures in Aurora, Oregon said his company helps customers size their circulation systems, including HAF fans and exhaust fans, based on the size of the greenhouse and the air mass inside.

"If you don't calculate it right, you can get a vacuum effect inside," he said, "and you can't open your doors very easy."

#### Tips for great greenhouses

GK Machine offered up this advice for growers looking to select or upgrade their greenhouses:

**Understand your requirements:** Determine your crop's specific needs to ensure you choose an appropriate greenhouse and ventilation system.

Invest in scalable equipment: Systems that adapt to growth or environmental conditions are long-term solutions for optimizing performance without needing significant overhauls.

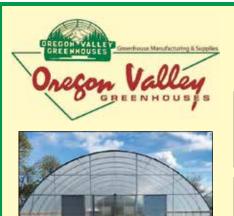
Leverage automation: Automated ventilation provides real-time adjustments and ensures precise control over temperature, humidity and airflow. These systems may require an upfront investment but can save on operating costs over time.

Regular maintenance: To maintain the system's efficiency, keep vents clean, check fan operations and monitor airflow.

#### All natural

At **Blooming Nursery** in Cornelius, Oregon, operations manager Peter Gordon said the nursery tries to grow as much as it can naturally, outside. But it does have

greenhouses for its more tender perennials and herbs. They use HAF fans, but also have another system that uses a cool air fan, which is larger than most HAF fans. The cool air fan is connected to a long >>>









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#### Going with the flow

plastic tube that runs the length of the greenhouse. The tube is perforated with holes, so the air gets pushed out through

"It's kind of a unique system, but it works really well," Gordon said, noting that the tube can also be used for heating purposes.

Like Little Prince, Blooming Nursery also employs retractable sidewalls and roofs that open when conditions are favorable to encourage proper ventilation. Fans help keep the air circulating even when the sidewalls are up.

"Sidewalls are a good way to cool the air, then you have fans pushing it around," Gordon said. "If you didn't have fans, you wouldn't have plants."

It's also important to keep an eye on temperature and weather conditions, especially when greenhouse sidewalls aren't automated and set to raise or lower on their own.

"You can have days that are cloudy and cool, but then the sun pops out and the greenhouse heats up quickly," Gordon said. "If someone's not monitoring that, you can get heat fluctuations that can be detrimental."

Bartok said fans used to be the standard approach to greenhouse ventilation, with fans pulling in and exhausting air, supplemented by side or roof vents. More common now is the natural approach to ventilation using retractable sidewalls and roofs that open and close.

"I don't know of any fan-type systems going in anymore," he said. "They're too expensive, so most growers are doing all-natural ventilation.

#### Top of mind

At Little Prince, Leichty said they try to do as much natural ventilation as possible, which allows for passive air flow, especially in the summer. It's much more cost-effective

and efficient than using exhaust fans. In the winter, however, when the sidewalls can't be raised, the HAF fans are running nonstop. He said exhaust fans are also used in the winter to keep the temperature inside their greenhouses cooler. Opening the sidewalls when it's cold outside would send a rush of cold air across the plants inside, which could be calamitous.

Circulation and ventilation are always on Leichty's mind, but even more so lately. Little Prince is about to add 10 new greenhouses specifically for hellebores, a crop that needs to be kept as cool as possible in the summer. Little Prince purchased the Winter Jewels brand of hellebores in 2023 and is ramping up its greenhouse operations to help meet growing demand.

"Hellebores are a big new crop for us," Leichty said, "so we are positioning ourselves to meet the increased demand from people who want those plants."

Getting the calculations right for the kinds of ventilation and circulation systems in those greenhouses will be key to Little Prince's success with hellebores, as it has been with every other plant at the nursery.

"I think it's one of the very top things that will make the success or failure of an operation," Leichty said. "It's just like with people: Living in an environment with clean, fresh air and water is critical to our wellbeing. The same is true with plants."

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



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## **GROWING**

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





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** 



Pseudodictamnus hirsutus (Hairy Sage) is a native of the western Mediterranean. This mint-family member is a sub-shrub which develops a rounded, spreading canopy of upright stems with woolly foliage, topped by whorls of small purple-white blooms. Bumblebees love this plant and were plentiful throughout the bloom period. This subshrub grew to 2.75 feet tall by 5.5 feet wide. Photo Courtesy of Oregon State University

Plant evaluation program looks at drought-tolerant groundcover shrubs for landscapes in the maritime **Pacific Northwest** 

> BY HEATHER STOVEN AND NEIL BELL

he Northwest Plant Evaluation Program has been assessing broadleaf evergreen shrubs since the program was initiated in 2000. The program is located at the Oregon State University

North Willamette Research and Extension Center (NWREC) in Aurora, Oregon.

The aim of this project is to identify flowering shrubs suitable for use in landscapes west of the Cascade Mountains.

In general, the plants evaluated are underutilized in Pacific Northwest landscapes. It is therefore useful to obtain more information about their hardiness and landscape suitability for our region. Previous plants evaluated include Hebe, Ceanothus, Cistus and Halimium, Arctostaphylos, and Grevillea.

All of the trials except *Hebe* have been grown without irrigation after establishment, as tolerance of summer drought has also been a focus of the evaluations.

#### The lastest trial

The most recent trial of groundcover plants includes a wide selection of shrubs and sub-shrubs which were deemed suitable for the trial by virtue of their growing wider than they are tall. The trial included a number with fairly tall, but spreading growth habits which would not typically be thought of as groundcovers.

This trial combines some low-growing selections from previous evaluations as well as landscape industry stan-

#### **Growing Knowledge**

dards and plants collected in France and England. A selection of the plants in the trials are listed in Table 1 (Page 35).

Some of the plants in the trial were collected internationally as cuttings in October 2017 and September 2018. Thirty plant species from 11 genera were collected from Pepiniere Filippi, a nursery in Meze, France that specializes in drought-tolerant Mediterranean plants. Additionally, 33 species and genera were collected as cuttings from the Cistus and Phlomis National Plant Collections in Leeds and Mortehoe, England, respectively.

Additional underutilized or industry standard plants were obtained from Oregon and California nurseries.

Cuttings from both locations were stuck immediately after receipt in community trays using bottom heat and overhead mist in a greenhouse at NWREC. After establishment, the plants were upshifted to 4-inch pots, then into a quart container before planting into a ½-acre field at NWREC.

The initial plants collected from Meze, France, plus the industry standard groundcovers, were planted in September 2019. The plants collected in 2018 from England were planted into added rows adjacent the field in November 2021. Each of the accessions in the trial were replicated five times and planted into an open field within a 3-foot strip of weed mat to inhibit weeds.

Other than spot spraying for weeds, the evaluation received no pesticide applications, nor were fertilizers used other than in the containers prior to planting. Irrigation was applied only immediately after planting until fall rains began. No pruning was done. The lack of inputs allows for the evaluation of plant form and quality as well as pest susceptibility in a low-input system. Funding from an Oregon Department of Agriculture / Oregon Association of Nurseries nursery research grant assisted with the propagation and field establishment of the ground-covers planted in 2019.

Data collected in this and the other Northwest plant evaluation trials include: plant size, flowering, cold injury, pest



One standout in the trial was *Phlomis x margaritae*, a hybrid between *P. composita* and *P. purpurea from southern Spain*. Photo COURTESY OF OREGON STATE UNIVERSITY



Grevillea australis 'Poorinda Leane' is a cross between G. juniperina and G. victoriae made by the renowned self-taught hybridist Leo Hodge of Australia. PHOTO COURTESY OF OREGON STATE UNIVERSITY

or disease issues, as well as a subjective assessment of the overall landscape appearance of the individual plants. Symptoms of cold injury included minor leaf injury, to major dieback/stem injury, to plant death in some circumstances.

The first portion of the trial, planted in 2019, was completed in 2023 and removed thereafter. The second portion of the trial, planted in 2021, remains in the field, and data is still being collected.

The challenges to the plants in this trial include the periodic winter cold but also summer drought. In addition, some of the Mediterranean species seemed to be poorly adapted to the silty clay loam soil that is characteristic of NWREC. Many died from what appeared to be root disease issues.

Winter temperatures during the first portion of the trial, from 2019-2023, were relatively mild for the region with the

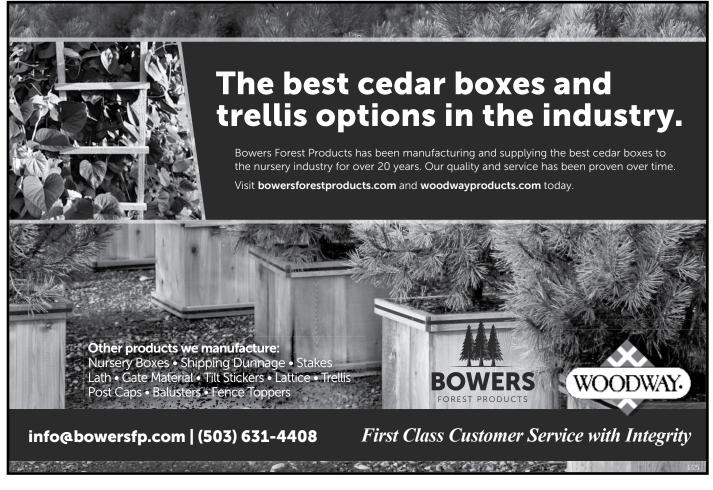
#### Collected and underutilized shrubs

Arctostaphylos spp. Artemesia spp. Baccharis pilulatus Pseudodictamnus spp. Brachyglottis greyi Ceanothus spp. Cistus spp. Grevillea spp. Halimium lasianthum Helichrysum spp. Hypericum spp. Lavandula spp. Phlomis spp. Salvia rosmarinus Santolina spp. Teucrium spp.

#### **Industry standard shrubs**

Buxus sinica 'Tide Hill' Calluna vulgaris Cotoneaster spp. Erica spp. Euonymus fortunei 'Emerald 'n Gold' Helianthemum nummularium *llex crenata* 'Helleri' Prunus laurocerasus 'Mt. Vernon' Rubus calycinoides Vinca minor 'Bowles' and 'Merlot'

Table 1. Selection of groundcover plants represented in the evaluation, both "industry standard" landscape shrubs, and underutilized and collected shrubs.





The groundcover trail plot at the North Willamette Research Extension Center. Photo Courtesy oregon state university

coldest temperatures each winter being in the low to mid 20s. These temperatures seemed to do little or no observable damage to the plants. The plants in the first trial from France were removed prior to the 15 F cold spell in January of 2024. Most of the plants in the second trial, including the Phlomis, had surprisingly minimal cold damage during this extended cold event, and did not exhibit observable dieback or discoloration in spring 2024.

Most of the casualties in these evaluations seemed to be due more to drought stress or poor adaptation to clay soil. Sunburn and drought stress were readily evident on *Trachelospermum* and *Vinca* selections, both of which are clearly better suited to shadier conditions, as well as *Ilex crenata* 'Helleri'. Some of the introductions from France seemed to resent the soil conditions in the evaluation, presumably prolonged winter wet soil, and died at random times as the evaluation progressed. This included *Hypericum tomentosum*, *Lavandula dentata* and *L. lanata*, as well as *Satureja thymbra*.

Plants that stood out in the trial due to attractive form and foliage, good cold and drought tolerance, reliable bloom and lack of pest or disease issues included: *Baccharis pilularis* 'Pistol Pancake',

Pseudodictamnus hirsutus (syn. Ballota hirsuta), Cotoneaster glaucophyllus, and Phlomis × margaritae. Additional plants that performed well included some low-growing manzanitas: Arctostaphylos uva-ursi 'Green Supreme' (a selection from Tilden Botanical Garden in California), and Arctostaphylos numularia 'Select Form'. Grevillea australis was a strong performer in the Grevillea trial from 2011–2014 and in this evaluation, and G. 'Poorinda Leane' was a strong newcomer to our evaluations.

#### **Promising plants**

Some highlights of the best performing plants:

Baccharis pilularis (coyote brush) is a native to the Oregon Coast and ranges south to California. The cultivar 'Pistol Pancake' is an introduction from northern Curry County, Oregon by Cistus Nursery (Portland, Oregon) and grew to a size of 3 feet tall by 6.7 feet wide. This shrub blooms during fall from September through October. It is in the daisy family and has small inconspicuous disc-shaped flowers that are cream to yellow colored and pleasantly scented.

*Pseudodictamnus hirsutus* (hairy sage) is a native of the western Mediterranean.

This mint-family member is a sub-shrub which develops a rounded, spreading canopy of upright stems with woolly foliage, topped by whorls of small purple-white blooms. Bumblebees love this plant and were plentiful throughout the bloom period. This subshrub grew to 2.75 feet tall by 5.5 feet wide.

Cotoneaster glaucophyllus (greyleaf cotoneaster) is native to southern China and is distinctive due to the blue-grey colored foliage from white hairs present on the small leaves. In the spring, the plant blooms with white flowers, followed by red berries. In our trials the plants reached an average of 2.3 feet tall by 3.3 feet wide. Also included in this trial was Cotoneaster Emerald Beauty<sup>TM</sup>, a selection by Ryan Contreras at OSU. This selection performed well in the trial, flowering freely and featuring an attractive plant form.

Grevillea are native to Australia, and most species are not cold-hardy in land-scapes in the Pacific Northwest. The two which stood out in our trials, experiencing little to no cold injury, were *Grevillea australis* (southern grevillea) and *Grevillea* 'Poorinda Leane'.

*Grevillea australis* has small green leaves which are needle-like. In late winter to early spring the plant erupts in white, fra-

grant blooms. The plant has a rounded, tidy habit and is 3.3 feet tall by 6.3 feet wide.

'Poorinda Leane' is a cross between G. juniperina and G. victoriae made by the renowned self-taught hybridist Leo Hodge of East Gippland, Australia. This shrub has small, narrow leaves with large, spidery orange blooms over a long period from April through August. Hummingbirds as well as honeybees and bumblebees love this plant! This shrub is sizeable at 4.3 feet tall and 9 feet wide.

Manzanita selections planted in this trial were native groundcovers from multiple species. Two which stood out were Arctostaphylos uva-ursi 'Green Supreme' and Arctostaphylos nummularia 'Select Form'. 'Green Supreme' is a good alternative to the landscape staple 'Massachusetts' which does not perform well without summer irrigation. Like 'Massachusetts', this shrub forms a dense, ground-covering mat, but is considerably more vigorous, reaching 10 inches tall by 6 feet wide. 'Select Form' is somewhat taller, producing a dense mound of rounded, glossy leaves about 18 inches tall and 4 feet across. The new growth has hints of red, and it has white flowers in spring which attract bees.

The Phlomis in our trial included 19 accessions, which overall have performed well, even through 15 F. One standout is *Phlomis* × *margaritae*, a hybrid between *P.* composita and P. purpurea from southern Spain. The selection in the evaluation is about 4 feet tall and wide and features silverwhite foliage setting off the pale yellow flowers, which are borne in whorls on upright stems in May-June. The combination is striking and unusual for the genus.

Neil Bell is a senior instructor and community horticulturalist at the OSU Extension Service, Marion and Polk County, where he oversees the Master Gardener program and works with volunteers to assist homeowners with their garden problems. Contact him at neil. bell@oregonstate.edu. Heather Stoven is an associate professor in the Department of Horticulture at OSU and is the community and small farms horticulturalist



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## Sticking it to England — the birth of Presidents' Day

February is a dreary month, with all the clouds and the rain. However, it is redeemed with the positive of trucks leaving our state for wholesale growers, greenhouses and retail operations throughout the United States and Canada.

Many years ago, I wrote about Valentine's Day, but let's just say my story was a tad opaque. It was about the beheading of St. Valentine and the boom of rose production for the day. Pete Brentano, Brentano's Tree Farm, is a past president of the association and a good friend. He correctly asked me, "What the hell was that about?" Good question but he has never forgotten that column.

So what about this year? Let's talk about the history of the presidency, starting with the first president, George Washington.

#### The origins of Presidents' Day

Before becoming president, Washington led the Continental Army against the British. Jeffrey Engel, the executive director of the Center for Presidential History at Southern Methodist University, said Washington looked to his foes for inspiration. Throughout the Revolutionary War, soldiers would celebrate Washington's birthday "as a snub to King George [III]," Engel wrote.

After Washington died in 1799, Americans still celebrated his birthday, but they did it informally.

February 22 was not officially recognized as a national holiday until 1879.

Another tradition was added in 1896. Since that year, the Senate has selected one of its members, alternating between the parties, to read Washington's 7,640-word farewell address in a legislative session on or around Feb. 22.

The modern version of Presidents' Day came in 1968, when Congress passed the Uniform Monday Holiday Act. This bill designated certain government holidays — including Washington's Birthday, Labor Day and Memorial Day — to be observed on Mondays.

#### Lincoln and the other presidents

It is commonly understood that Presidents' Day recognizes both Washington and the 16th president of the United States, Abraham Lincoln. Many states had already celebrated the Civil War president. The date of the third Monday in February is sometimes closer to his birthday (February 12, 1809).

When doing research on this column, I was astounded to find out two things. First, the apostrophe location making Presidents' Day a plural possessive, although Oregon adopts the singular possessive, "President's." Second, not all states recognize the federal holiday.

Less than half of the United States officially recognize Presidents' Day. More than a dozen do not observe it at all. States like Virginia and Illinois recognize their native sons individually, while other states are all over the place. According to a couple of sources, Missouri celebrates the birthdays of three presidents on three different days - Washington, Lincoln and Harry S. Truman, who was born in Missouri on May 8, 1884.

Kentucky has public holidays for the birthdays of Washington, Lincoln, Jefferson Davis, and Franklin D. Roosevelt. Davis was of course the only president of the Confederate States of America. Kentucky recognizes his birthday even though it never left the Union.

Alabama and Mississippi celebrate the Dr. Martin Luther King Jr. and Robert E. Lee, the Confederate general, on the same day in January. Georgia and Indiana take an entirely different approach to Washington's Birthday. which they celebrate around Christmas. Indiana and New Mexico celebrate Lincoln's birthday on the day after Thanksgiving.

#### Civics lesson at the Stone house

Many kids who get Presidents' Day off from school tend to sleep in. My daughters, Andrea Margaret and Carolyn Rose, both knew they wouldn't be so lucky. They were going to learn about the



Jeff Stone OAN EXECUTIVE DIRECTOR

reasons behind the celebration.

The family is subjected to quizzes, statements of facts, and the outright and unsubstantiated opinions of an old U.S. Senate staffer (that being me).

We cover the basics. Presidents serve for four years at a time and are limited to two terms. Extra bonus points are given if this is uttered by my family, and they get ice cream if they say why. There are two real reasons.

In our republic, only one president, FDR, served more than two terms. He was elected to four terms of office, which broke with a two-term tradition all other presidents had observed. It made sense to return to that tradition.

After FDR, the people wanted to prevent any future president from holding office indefinitely and to preserve the democratic principles of the American system of government. The 22nd Amendment to the Constitution of the United States was introduced in 1947 and was ratified by the states in 1951. It was crafted by the Hoover Commission and signed by FDR's successor, President Harry S. Truman.

#### More than a day off

In my house, when we talk birthdays, I assign presidents to the birth year. I am a Kennedy baby, but just barely. He was assassinated when I was 19 days old. My wife Jennifer was born under Lyndon Baines Johnson. Andrea and Carolyn were born under Bill Clinton and George W. Bush, respectively.

They roll their eyes every time I mention this, but this day is about more than shopping sales and a three-day weekend. Happy Presidents' Day.

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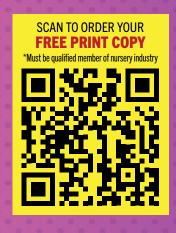


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