



A hotter trend

Widespread wildfires prompt greater demand for fire-safe plants and landscaping

BY KYM POKORNY

AS THE WILDFIRES OF Labor Day 2020 tore through Oregon, the impacts on homes and forests were severe. The flames devoured a million acres of forestlands, and destroyed more than 4,000 homes.

The impacts are something foresters, landscape professionals and nursery operators must pay attention to. For the nursery industry, that devastating event brought a boom in potential sales, but a scarcity of supply.

It's especially so for the portion of the industry that grows seedlings for reforestation. Though figures aren't final yet, estimates put the number of seedlings needed for non-federal land at between 80 and 140,000 million — that's above and beyond the usual demand, according to the Oregon Department of Forestry. Growers, who rely on orders rather than speculation, can't keep up.

Complicating the equation, seedlings bring only one cent in profit. "That's not a high enough profit margin," said Glenn Ahrens, assistant professor and forestry specialist for **Oregon**

State University Extension Service, "You can see why nurseries are not going to invest in small orders on spec when it's such a small profit. But with market pressure and orders up front, nurseries can afford to expand inventory."

Even then, it takes two years for seedlings to grow big enough to plant. Since small woodland operations are at the mercy of the market, landowners don't know how many trees they'll need. If nurseries take the risk of growing on spec, they have to dump seedlings that didn't sell. After the recession of 2008–2009, many nurseries moved away from growing on spec and now only grow by order.

In 1957, the state mitigated the supply-demand issue by opening Phipps Nursery, which grew forest seedlings for family-owned woodlands on spec. But after 50 years, the nursery closed in 2007. Privately owned nurseries selling by order stepped into the fray, but they aren't growing enough trees and are ill-equipped for unpredictable events like wildfires.



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To make matters worse, appropriate seed must be used — seed that's adapted to the place where it will be grown. The correct species will grow into a tree with the same needs, Ahrens said. To assure the right seed, it must be ordered two-years in advance of when landowners would need trees.

But even taking that into consideration, seedlings planted today will mature in climate conditions different than exist today, so they may not thrive.

“What should I plant considering climate change?” Ahrens said. “Normally, we'd plant seed locally adapted to the climate. But what should we plant if we're thinking about the future? Should we take seedlings from Roseburg, considering temperatures will be hotter in the next 30 years? Assisted migration is what it's called. Natural migration has happened on its own. 10,000 years is enough time for trees to migrate, but now we're talking about people migrating them.”

Nurseries that don't grow forest trees weren't impacted as much, said Gary

English, owner of **Landsystems Nursery** in Bend, Oregon.

Wildfires aren't uncommon in the community he serves. The biggest change he saw during the Labor Day wildfires was a drop in customers because of evacuations and smoke. But the design arm of his business was as busy as usual and many of his customers are asking for fire-resistant landscapes.

“People are more aware of fire here than in western Oregon,” he said. “Many live in the urban-rural interface. There's a lot of information in the media with suggestions of fire-resistant plants so people come in for them. And we address it in our design work.”

So does Bonnie Bruce, owner of Celilo Gardens design studio in Portland. Clients don't come to her for fire-wise designs but when she suggests it in appropriate situations, she gets positive responses.

“I know there's an interest that's slowly growing,” said Bruce, who gives a presentation on fire-wise gardening at nurseries and other events. “Concern has built, especially in the



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last two to three fire seasons. Urban areas have been impacted by wildfires. People with property that sits on the edge of a grassland, wild park, ravine or on top of a grassy hill are in danger's way."

Creating a defensible space

Bruce talks about designing a defensible space around homes. To slow fire, she uses gravel paths, concrete or paver patios and inorganic mulch close to the house. The hardscape becomes a protective design — think patios, but not decks that add more fuel close to the house.

Obviously, water is a huge issue. Rural residents may need additional sources and Bruce will sometimes suggest a putting in pool with a generator and pump. She also recommends sprinklers.

"If you've got a lawn and let it go dry in summer, then even if you've mowed, it will be a fuel source," Bruce said. "If they've got a larger property, I talk about perimeter irrigation systems so if you have to wet down the perimeter really fast, you have the ability. And many sprinklers can be operated by your phone."

Defensible space is broken into three zones — immediate, intermediate and extended, said **Amy Jo Detweiler**, horticulturist for Oregon State University Extension Service and co-author of *Fire-Resistant Plants for the Home Landscape*. The immediate zone covers the five feet closest to the house, intermediate is five to 30 feet from the house and extended is a distance of 30 to 100 feet.

In the 5-foot space, there shouldn't be any plants or combustible material like bark mulch. Instead, use gravel or larger stone, or as Bruce suggested, build hardscape next to the house. In the 5- to 10-foot intermediate area, well-watered lawn can act as a field break. Shrubs should be separated by two times the width of the plant; so, if the plant is 3 feet wide, the next should be 6 feet from the shrub at maturity. The space between plants will help slow down the fire.

Vertical spacing is important, too. Trees should be limbed up to three times the height of understory plants — 9 feet above a 3-foot plant. Keep tree cano- ➤

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Kinnikinnick (*Archostaphylos uva-ursi*) is a low growing fire-resistant option for gardens.

PHOTO COURTESY OF WIKIMEDIA

The Oregon Garden Fire Safety House uses landscaping that resists wildfire spread.

PHOTO COURTESY OF THE OREGON GARDEN

pies or drip lines 12 feet from each other, Detweiler said. Avoid “laddering” when plants too close to the canopy allow fire to easily jump into the tree.

In the extended zone past 30 feet, plants can grow closer to each other, 3 feet rather than 6. Space between tree drip lines can measure 6 feet rather than 12. Organic mulch is OK, but should be watered.

Using the right plants

When designing a firewise garden, it's essential to use fire-resistant plants, everything from low-growing kinnikinnick (*Archostaphylos uva-ursi*) to towering Oregon white oak (*Quercus garryana*). Many trees are considered fire resistant, Detweiler said, especially deciduous trees that don't build up debris as much as conifers. Dogwood (*Cornus florida*), eastern redbud (*Cercis canadensis*) and crabapple (*Malus*) are just a few examples.

On the whole, fire-resistant plants have supple, moist leaves that are easily crushed and their sap is thin like water and doesn't have a strong odor. The plants tend to self-clean and don't need a lot of pruning. Only two conifers make it onto the research-based list Detweiler wrote – western larch (*Larix occidentalis*) and ponderosa pine (*Pinus ponderosa*).

Many shrubs and perennials are on the list, which has more research-based plants coming soon. Some currently listed popular plants include Russian sage (*Perovskia atriplicifolia*), dwarf burning bush (*Euonymus alatus* 'Compactus',



mock orange (*Philadelphus*), vine maple (*Acer circinatum*), *Daphne* × *burkwoodii* var. 'Carol Mackie', lupine (*Lupinus*), penstemon (*Penstemon*) and hosta (*Hosta*).

But plants are only one piece of the fire-wise puzzle, Detweiler pointed out. Maintenance is a priority. It does no good to create a defensible space if it isn't maintained. Plants grow back. Some trees resprout. Invasive weeds like cheatgrass, blackberries and Scotch broom quickly grow. Debris builds up and all of it becomes fuel for a wildfire.

Homeowners should keep their landscape clean and regularly clean the roof and gutters; put screens on openings like attic and crawl spaces and the undersides of decks; and use fire-resistant building materials. Firewood shouldn't be stored next to the house and tree branches shouldn't touch the roof.

Setting an example

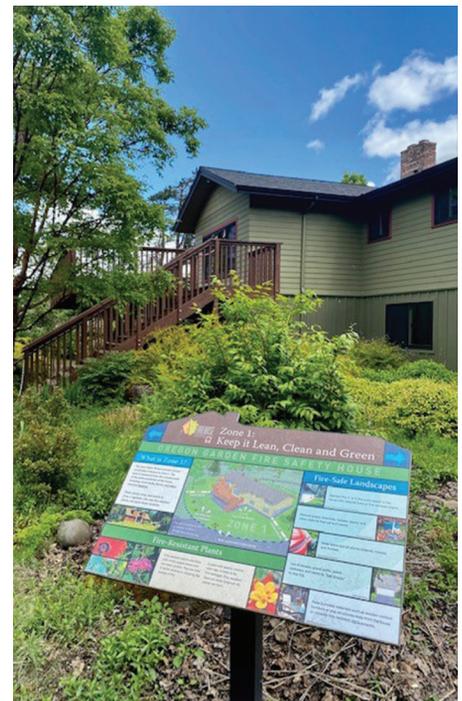
Delen Kitchen, director of operations at The Oregon Garden in Silverton, Oregon, knows all about defensible space. She once

lived in San Diego where people consider wildfires when landscaping their homes.

“It's huge,” Kitchen said. “It's common to have defensible space or awareness of incorporating it into landscape. In western Oregon most people don't think about it yet. We never thought it would come so close to us. Now, we're having conversations we never had five years ago.”

At the garden, they've converted a mid-century house on the property into an example of a fire-wise landscape and how nice it can look, even among the abundance of the Pacific Northwest.

The Fire Safety House features eight interpretive learning stations that provide the public with the tools and landscaping ideas that will help protect their home



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in the event of a wildfire. Designing a fire-wise garden just takes a different sensibility, Kitchen noted. She appreciates the minimalist look and, like Bruce and English, hasn't had anyone complain that there aren't enough plants.

How growers can help

It's not just the responsibility of homeowners to create defensible space, said Nicolas Staddon, spokesperson for **Everde Growers**, a national grower supporting all segments of the nursery profession. Nurseries need to prepare. First up is communicating with neighbors, especially farmers, and arrange cutting an open space between the farm and the nursery.

"Having these types of conversations gives us the opportunity to get to know neighbors, to work together," Staddon said. "Whether you're in a fire zone or not, I hope people have read or heard about defensi- ➤

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Vibrant shrub *Euonymus alatus* 'Compactus' is listed as a fire-resistant variety.

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ble space and are looking to make changes.”

Those changes include cleaning up flammable products and keeping them in one area, put in driveways for each section of the nursery, provide radios for communication if cell towers get destroyed and be sure to have fire insurance.

Developing an evacuation plan should be a priority. Staddon lives in a Zone 11 fire zone where he and neighbors are tied into the local emergency response team. They work closely with the firehouse and police. They meet regularly and have a procedure for evacuation.

“If you don't have evacuation plan you need one,” Staddon said. “Job No. 1 is the safety of employees. Everyone's life is the most important.”

Posters illustrating the evacuation plan in English and Spanish should be posted around the nursery, particularly next to the time clock and in the break room. Plans



should include helping employees who don't have their own transportation. Evacuation plans should be practiced.

“Don't just put it out, put it into being,” Staddon said. “Evacuate the nurs-

ery, whether it's five or 500 people. How do you get people out of harm's way?”

Staddon mentioned an airline accident several years ago when the pilot landed the plane on a small airstrip. The



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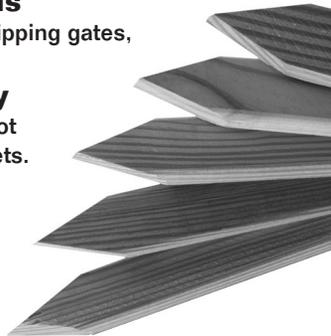
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Customers looking for fire-resistant trees can look to *Cercis canadensis*.

PHOTO COURTESY OF WIKIMEDIA



reason more people didn't die was that the airport manager had recently had an exercise that mirrored the same accident.

"Practice, practice, practice," Staddon advised. "Not once. Several times."

Just like homes, nurseries need adequate water, Staddon said. There needs to be a watering plan so things get watered when it's time to evacuate. Having irrigation around the perimeter can make a difference.

Doing well by doing good

Wildfires are an opportunity to market fire-resistant plants and your commitment to help homeowners make changes. It's also a time do good, Staddon said.

"Yes, it's a marketing opportunity, but also an opportunity to do the right thing, and opt to help people understand how to use plants. What's the main question in retail: How do I use that plant? It's crucial that as an industry we give people the information they need. Do they need to worry about petunias and marigold in a wildfire? Probably not, but if they have conifers, it's a different story."

There are many ways to educate. Videos on websites or showing in stores will draw customers. Offer classes. Add information to labels if possible and offer brochures. ➤

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Another angle of the Oregon Garden Fire Safety House and its' fire-resistant options.

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For example, let people know that rosemary is a great plant but not up against a house because they explode in a fire.

Climate change will continue to bring hotter temperatures, which correlate with more fires. With everyone working together, some damage can be mitigated.

"It's got to be a community effort," Bonnie Bruce said. "If you don't talk to neighbors, you're in trouble. If they don't do the same maintenance as you, you're in trouble. Have work parties, drink beer, listen to music, have a potluck. Get to know your neighbors. You can help each other." ☺

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



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