



The carbon footprint of nurseries

Growers hope to get credit for the sequestration value of the plants they grow

BY JON BELL

A FEW YEARS AGO, Mark Bigej, who owns retailer **Al's Garden & Home** (Woodburn, Oregon) with his dad and two sisters, decided it was time for a family meeting to talk about the business. The gathering included most of the family members involved in the company, including Bigej's then college-aged children.

Talk turned to Al's mission, vision and values, which then led down the path to sustainability — a natural direction for Al's. "It's always been a part of who we are," Bigej said. "We were sustainable before it was fashionable."

But just how sustainable was Al's, which comprises four popular retail garden centers and a nursery operation? That was a little more challenging to quantify.

So Bigej tasked his son with figuring it out. With time off from med school for a gap year — and a mind for scientific research — Bigej's son conducted a study of Al's to size up the company's environmental footprint.

"What we wanted was an honest-to-goodness look in the mirror of where we thought we were so we could do better," Bigej said.

His son looked into everything: utility bills, plant num-



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Al's Garden & Home into everything in their audit: utility bills, plant numbers and sizes, how much natural gas is used at the operation's 615,000 square feet of greenhouses, how much carbon is sequestered by plants grown on Al's nearly 16 acres, and more. OAN FILE PHOTO

bers and sizes, how much natural gas is used at the operation's 615,000 square feet of greenhouses, how much carbon is sequestered by plants grown on Al's nearly 16 acres, and more. The calculations did not include how much carbon the plants continue to sequester once they're planted in a customer's yard, where they could continue to absorb carbon for years.

And what the study ended up finding is that Al's is actually a pretty environmentally-friendly business.

"The report, to the best of our ability, reflects what we are doing," Bigej said. "We are not carbon-neutral by any means, but it's pretty cool to see how green of an industry we really are."

Indeed, the nursery industry is comparably light on the environment, and many of its products are some of the most effective tools at sequestering carbon.

As the state of Oregon looks to implement greenhouse gas emissions limits and crack down on high emitters, nurseries are paying attention and taking stock. Tighter regulations could lead to higher costs for nurseries — say, for example, increased prices for natural gas, which is key for warming greenhouses — and stifle efforts to produce the very



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— Jeff Stone,

OAN executive director

plants and trees that help sequester carbon. At the same time, maybe nurseries deserve some kind of benefit — a credit or tax incentive — for all the carbon they do capture.

It's a conversation that's just starting to heat up and could have big impacts on nurseries around the state. It's also an issue that Oregon could take the lead on and set the standard for other states all over the country.

"We are talking about it nationally, and people are saying, 'Why don't you, as in Oregon, figure this out?'" said Jeff Stone, executive director of the Oregon Association of Nurseries. "If it was easy to do, it would have already been done. It could be cool to try to build something from nothing. But being first means you get the good attention — and the bad attention."

Talking the talk

Talk of climate change, carbon emissions and, conversely, carbon storage, is nothing new, even in the nursery industry. Stone said the OAN has been in the space "quietly" for some time now, and even launched the Climate Friendly Nurseries Project with the Oregon

Environmental Council in 2009. That three-year project helped nurseries measure and reduce energy, resource use and greenhouse gas emissions while achieving greater economic efficiency and profitability.

But that project, though ahead of its time, is more than 10 years in the past now, and the conversations around climate change and cutting emissions has only amplified. Because of that and moves at the state government level — including former Gov. Kate Brown’s 2020 executive order aimed at cutting greenhouse gas emissions — many nurseries and growers in Oregon have taken a more proactive approach.

“The whole world is very focused on carbon right now,” said Tyler Meskers, co-owner and vice president of **Oregon Flowers Inc.**, a cut-flower grower in Aurora, Oregon. “This is definitely important to us.”

Like Al’s Garden & Home, Oregon Flowers was curious about its own carbon footprint, especially in light of the fact that the majority of cut flowers in the U.S. are imported from Colombia and Ecuador and flown or trucked across the country — not the most carbon-friendly model.

But Meskers said Oregon Flowers wanted to create a baseline for itself and see where it stood. He said his assessment was fairly informal. “It was a lot of Googling ... not very scientifically proven.”

But it was a place to start. He looked at everything from electricity and fuel use to waste and how much carbon on average is stored by flowers before they’re cut. The company’s greenhouse operations obviously produce more carbon, but some of that is offset by what Oregon Flowers’ grows in its fields.

“We came out to be pretty carbon neutral,” Meskers said. “I was pretty pleased to see that.”

Where credit is due

Robinson Nursery Inc. (Amity, Oregon), which grows shade and ornamental trees just outside McMinnville, also wanted to get a sense of its carbon footprint. To do so, the nursery used an online carbon calculator developed by Oregon State University, which lets entities




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Tyler Meskers (right) and his father Martin Meskers look over plants in the greenhouse at Oregon Flowers in Aurora. In his evaluation, Meskers looked at everything from electricity and fuel use to waste and how much carbon on average is stored by flowers before they're cut. The company's greenhouse operations obviously produce more carbon, but some of that is offset by what Oregon Flowers' grows in its fields. OAN FILE PHOTO

input all kinds of data to come up with an accurate assessment.

Josh Robinson, co-owner of the nursery, said that the results were impressive, illustrating that over the 40-year life of the nursery, about 70% of the trees planted there and shipped out to be planted elsewhere that are likely still living have sequestered about 23 billion pounds of carbon — the amount of emissions spewed by about 2.5 million cars in a single year.

“To me, that paints a really cool picture that the product we produce does a lot of good,” Robinson said.

And yet, Robinson worries that legislators looking to cut emissions may not

be seeing the whole picture when they talk about banning natural gas or requiring that newer, more efficient equipment be used in agriculture.

“They may be good intentioned,” he said, “but I don’t know if they always understand what’s going on at the frontlines of a nursery. Don’t hurt us by making us use equipment that is going to cause us to go backwards a few steps and lose the environmental gains we’re already making.”

A case in point to Robinson’s sentiment: Artificially inflating the cost of natural gas to dissuade nurseries from using it. Bigej said Al’s gas bill went up by about 40% last year alone, directly as a result of Gov. Brown’s executive order.

“They are trying to make it cost prohibitive,” he said. “But we are sequestering more carbon than we are using in these plants that are going to do the work for years and generations to come. I absolutely think we should get an agricultural exemption or credit for that.”

Such a credit is part of what Stone is looking into as a potential policy or piece of legislation to eventually take to the Oregon Legislature or even all the way up to the U.S. Congress. In addition to work he’s already put into the issue, Stone will be touring nurseries in Oregon this summer to ask members what they want to see when it comes to carbon reduction and a potential credit for sequestration. >>

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“I think it’s in the interest of our members to help give them the best possible voice on the issue,” he said. “I want to know, do they just want to keep their heads down and do what they do, or do they want to be seen as growers who are helping the planet? Because that’s what they’re doing.”

Making strides

Part of OAN’s effort is also happening in tandem with research that’s going on at Oregon State University. Ryan Contreras is a professor there and associate head of the Department of Horticulture. He said mitigating climate change is an interest and a priority, which is why various departments have been working on developing more efficient cropping systems and cultivars.

Different researchers are also look-

ing into carbon sequestration in various systems, such as turf grass, which associate professor Alec Kowalewski has been heading up.

“Everybody looks at golf courses and lawns as a terrible waste,” Contreras said, “but they may not be as bad as you think, specifically when it comes to carbon sequestration.”

He also said OSU has recently hired a biotechnologist, who will help provide insight into how plants work so that, in the future, plants will be better able to store carbon even in the face of drought. In addition, the department has also requested to hire a whole plant physiologist, who could help with a lifecycle analysis of plants to determine more exactly what it takes to grow a plant versus how much carbon it sequesters.

“This is a huge, important issue to

the nursery industry,” Contreras said.

“I think the green industry has a great story to tell,” echoed Robinson. “Plants are the only things that successfully sequester carbon, so naturally the products we produce are one of the best things for human health and the environment without a doubt. We just need to figure out how best to quantify what it is that we’re doing.”

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 www.JBellInk.com.

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