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COVER STORY

Rapid growth, rapid change

Fast-growing microgreens have been in high demand, but in the midst of the COVID-19 outbreak, growers are moving quickly to diversify their customer base.

Jolene Hansen



Photo courtesy of nick greens

According to culinary legend, backed up by the USDA, San Franciscoarea chefs were using what are now called "microgreens" as far back as the 1980s. While no one is sure what they were called back then, one thing is certain: Their popularity grew. By the mid-1990s, commercial microgreen production was formally underway in Southern California. Today, fresh microgreens are familiar sights at restaurants, local farm markets, health-oriented grocers and, occasionally, kitchen windowsills.

With a relatively low barrier to entry and lightning-fast production cycles, microgreens present attractive options for growers — especially small- and medium-scale farmers who comprise a large segment of the microgreen industry's core. Established and new growers continue to inspire and expand on early microgreen innovation, bringing new products and artisan mixes to local and national markets.

But with the chefs, restaurants and specialty markets at the heart of the business shut down by COVID-19 closures, these growers are turning their innovative energies toward building on microgreen strengths and finding new ways to reach people with produce.

Fortified by microgreen benefits

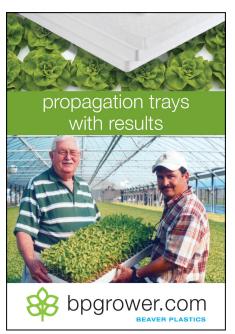
Jennifer Morganthaler, clinical instructor at Missouri State University's William H. Darr College of Agriculture, outlines numerous advantages that microgreens offer agribusinesses. With crop cycles as short as seven to 10 days and a relatively easy learning curve, the crop's minimal space requirements and year-round possibilities complement rural and urban production. Plus, high nutritional value paired with pleasing color, texture and flavors offer built-in commercial and personal appeal.

Microgreens consultant Nick Greens, founder of Nick Greens, LLC, began growing microgreens in Chicago 10 years ago after a stint with crop cycles that spanned up to a year.

"What drew me to microgreens right away was the quick turnaround time — getting my reward faster — but it was the nutrients as well," Greens says. "At that time in my life, I was becoming more conscious of what I was eating and being very healthy and mindful about what I was putting in my body. That really lined up with microgreens."

For brothers Joseph Martinez and David Redwood, co-founders of Phoenix-based Arizona Microgreens, the launch of their urban microgreens farm seven years ago was rooted in love.

"We started just because we loved microgreens," Martinez says. "We loved the way they looked and tasted and how they grew." The business has steadily scaled up every year, supplying schools, retailers, farmers markets and restaurants statewide.



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Intrigued by the opportunity to supply cutting-edge New York chefs with microgreens and other specialty items, former tech entrepreneur Rob Laing founded Farm.One in Manhattan in 2017. Prior to COVID-19, the company's two main revenue streams were supplying restaurants and doing events, such as tours and tastings, on and off site.



Arizona Microgreens co-founders David Redwood, left, and Joseph Martinez, center, with employee Marcel photo courtesy of arizona microgreens

Strengthened by diversification

During times of crisis, the advantages of panoramic vision become especially clear. Martinez has long focused on microgreens' broad applications, from the fine dining sector to mid-market, health-driven food establishments to hospital and school snack programs. And while some relegate microgreens to garnish status, he promotes microgreens for everything from tiny pops of color to primary components of salad-based meals.

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Building a diverse clientele and avoiding eggs-in-one-basket has been a priority for Arizona Microgreens from the start. "We did our best to keep our company as diversified as possible, but we were not prepared for a situation where restaurant sales would go completely to zero, as well as school sales going completely to zero," Martinez says.

Thanks to a short-term pivot to focus on end consumers, the farm has seen a seen a small bump up in retail sales. One month into coronavirus closures in mid-April, Arizona Microgreens customers were enjoying a continued supply various products, from micro salad and wellness mixes to "weekly essential" and "daily greens" packages.

Prior to COVID-19, Farm.One grew accustomed to telling tour visitors and event attendees that the microgreens and specialty produce they saw weren't available for individual sales as the farm's production was consistently sold out to restaurant clients. With restaurant closures and event cancellations, that quickly changed. Farm.One Director of Experience Paige Carter describes a quick shift, fueled by an extensive mailing list, to offer contact-less delivery and pickup.

"Had we not had our events program, it would have been much harder to make that pivot," she says.

The farm's staff work staggered hours for minimal contact, customers pick up orders at rigorously sanitized pick-up stations, and delivery professionals deliver contactless orders on electric bikes. Press coverage and social media influencers help raise awareness of the fresh microgreen and specialty options available through Farm.One.



Microgeens are popping up in familiar places like restaurants, grocery stores and farmers markets. photo courtesy of nick greens

Empowered by rapid production

Arizona Microgreens' shift in focus underscores what Martinez and other growers see as one of the greatest advantages for microgreen farmers: a production cycle that averages two to three weeks across their product line. Martinez compares their position to growers faced with production cycles of several months. "There's nothing they could do within one season to adjust their production. We were able to completely change our planting schedule. In just a matter of weeks, our inventory reflected more of what our community really needed from us," he says. "With shorter production cycles, we could respond more adeptly to changing needs. We're very grateful for that."

Greens believes that undiversified small-scale farmers, focused solely on restaurant clients, simply won't survive COVID-19 shutdowns. But for those that do, he says quick-turnaround microgreen crops can potentially enable them to get back on track faster once the economy reopens and the market returns.

Guided by expertise and demand

With the wide variety of flavors, textures and colors available with microgreens, top sellers vary based on target audiences. While micro cilantro was — and will probably continue to be — favored by Arizona's leading chefs, Martinez calls out sunflower shoots as a popular item for school sales. For individuals, he says that micro broccoli and micro salad mixes top the list.

In a fortunate twist for new growers, many of the most popular microgreens are also among the fastest and easiest to grow. Both Morganthaler and Greens recommend starting simple with just a few varieties or a pre-packaged mix, keeping diligent records, and expanding as your expertise grows.

"Start off with three or four easy varieties, and master those. Don't start off with 40 like I did," Greens says with a laugh.



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Prior to growing microgreens, Morganthaler advises potential growers to carefully consider demand and competition in your market. Examine labor and production space, as well your potential packaging, sales and delivery needs. With short production cycles, she stresses that every day makes a difference in size and flavor. Matching the demand in your specific market on all variables is essential to success.

Nutritional value of microgreens

Claims about microgreen nutrient values vary significantly between growers. Even so, some microgreen varieties undeniably pack a powerful punch for their size. Research led by plant physiologist Gene Lester, national program leader for the USDA's food safety and quality program, examined concentrations of vitamins and carotenoids in 25 common microgreen varieties.

The study results, published in the Journal of Agricultural and Food Chemistry in 2012, showed wide variations of vitamin and carotenoids between microgreen species and between microgreens and mature leaves of equivalent plants. While a few types contained up to 40 times more nutrients than mature versions, researchers found that almost all had four to six times the nutrient density found in mature leaves of the same species, based on the USDA National Nutrient Database.

Among the 25 microgreens studied, the highest concentrations of vitamin C were found in red cabbage. Cilantro, garnet amaranth and green daikon radish yielded the high levels of carotenoids, vitamin K and vitamin E, respectively. At the time, however, researchers stressed that growing conditions, harvesting and post-harvest processing likely affect microgreen nutrient content significantly.

Balancing realism with optimism

Greens expects to see a new wave of post-COVID-19 food industry regulations affect the produce industry significantly. "I'm a food safety guy, but for some of these little farmers,





Farm.One CEO Rob Laing, left, and Paige Carter, Farm.One director of experience photo courtesy of farm.one

it's just not going to be worth it anymore," he says. "Rules will start changing everywhere. It's a big question mark right now." He predicts that while additional safety regulations may be good, additional costs may be more than shutdown-strapped farmers can bear.

Martinez offsets short-term focus with longer-term perspectives. "In the very short term, we're just focused on our direct consumer products, more home-friendly products like microgreen salad mix," he says. "We're just doubling down on meeting the needs of the customers we already basically have and helping them maintain safe access to really healthy food. It's more a matter of doing right by our employees, keeping them employed, and doing right by our customers by continuing to get them the healthy foods that they really have come to enjoy."

Medium and long term, Martinez anticipates restaurants will reopen, schools will reopen, and a more diversified production model will return — though its configuration may differ from before.

"We are really fortunate, because of our shorter production cycles, we don't have to place any very risky bets," he says. "We can go out back into the market and tell wholesale distributors we can meet the demand, but we can do that in dialogue with them and grow what actually needs to be grown for our market."

For Farm.One, Carter says the New York team is taking it moment by moment and continuing to develop more of an online presence. "We hope to somehow fold this back into our 'regular' operations with restaurant sales and events. But what will events and restaurants look like? We just don't know yet," she says.

From grower to grower

Greens points to the value in microgreens and an enduring need for professional growers. "Per square foot, microgreens are the most dense

Arugula	8 to 14	Kale	8 to 14
Broccoli	10 to 14	Kohlrabi	8 to 14
Buckwheat	8 to 12	Mustard	8 to 12
Cabbage	8 to 12	Sunflower	8 to 14
Chia	8 to 12	Wheatgrass	8 to 10
COURTESY OF NICK GREENS			

Examples of easy microgreens

and days to harvest

nutrients you can grow. We can pack nutrients in a little space and feed a lot of people," he says. He recommends that new post-COVID growers seek advice and guidance from others, including on nongrowing matters, such as business and finance.

"There's just a certain attention to detail that you need to be a farmer, and not everyone has the attention span to execute that. You're still going to require growers to grow for people, especially those with busy lives."

With COVID-19 in mind, Martinez says the biggest challenge they've faced has been understanding what support is available for small farms and connecting with agencies that can help.

"A lot of microgreen growers tend to operate in isolation, and they're not connected to the industry at large," Martinez says. "I think a lot of that has to do with the low barrier to entry compared to growers who are doing leafy greens or operating a nursery, who have much deeper industry connections.

"My only advice to new microgreen growers would be to try to develop those relationships with people in the industry. Even though you think it's not necessary, it's actually tremendously helpful and there's a lot of knowledge there. Even for us, we could use more support. I wish we had even stronger connections."

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