

An aerial photograph of a green roof, showing a grid of solar panels interspersed with patches of green vegetation. The perspective is from directly above, looking down at the roof's surface.

2020 STRUCTURES GUIDE

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INVESTING IN UPDATES

Guthrie Greenhouses is diversifying crops and putting the profits to work.

By Kate Spirgen

BY BRANCHING OUT from ornamentals and vegetables into the realm of cannabis, Guthrie Greenhouses is finding

new avenues for capital to invest in its structures. Founded in 1892, the operation is now owned by Tara and

Jesse Tischauser, who have been hard at work updating and expanding its many types of greenhouse structures.

When Tara and Jesse got started in the Oklahoma operation, it was 5 to 6 acres. Today, they've grown to just under 13 acres growing annuals, perennials, vegetables, hemp and marijuana.

And they have no plans to stand pat. "The best part about the cannabis

for us so far has been more profitable so we've been able to make more money and stick it back into our structures and our business. So we basically want to rebuild our whole place and build new," Tara says.

UPGRADING AND UPDATING

Guthrie Greenhouses has been around for almost 130 years, and with that much history, they have many kinds of structures on the property. From \$1,500 hoop houses to ridge and furrow to gutter-connected, they "pretty much have it all," Jesse says.

And with so many structures, Tara says the upgrades and construction are "never-ending."

"We're always upgrading. For us, it's a matter of how much we can invest every year and build new or tear down the old and rebuild in that spot," she says.

This approach isn't anything new for the company, which has a long tradition of continuous growth and investment in structures. When Tara's father bought the operation in 1995, he used his first profits to build their first new structures.

"It was probably half an acre of Nexus greenhouses and it was the nicest thing in the whole facility at that point. And since then, we've added 6 acres," Jesse says. "So every year, we're adding at least a half-acre to an acre."

And just three years ago, the Tischausers undertook a two-year project to replace a 2-acre greenhouse from 1910, bulldozing the old structure and replacing it with Nexus structures with 14-foot



An aerial shot of Guthrie Greenhouses in Oklahoma



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gutters without skipping a beat.

“We still grow in it when we’re doing that so we can only do so much space at a time,” Tara says. “We try to get it done in a couple months when we don’t have a crop in there, which is generally June through mid-August. We don’t have anything in those greenhouses so we had to get it done real quickly during that time.”

That timeline is a necessity since Guthrie Greenhouses makes about 85% of its annual revenue in the spring alone.

Jesse and Tara are feeling good about the future as well, after years of great sales and an especially strong spring. Jesse estimates the greenhouse has seen a 5 to 12% increase in bedding plant sales annually since 2008.

“It was crazy. It was the best year ever with people home,” Tara says, adding that cannabis sales have been great as well. “[People] were definitely doing a lot of planting and what we feel really strongly about, and confident about, now is that we have two different busi-



Jesse, left, and Tara Tischauser, owners of Guthrie Greenhouses

nesses that if something was to slow down with one, we feel like we have the other one, so we’re not nervous at all about forging ahead and growing.”

BREAKING INTO A NEW STREAM OF REVENUE

In 2018, Guthrie Greenhouses received a license to grow hemp under the newly passed Oklahoma Agricultural Industrial Hemp Pilot Program, working closely with university researchers, learning how to grow and selling a little bit of flower. Later that summer, to Tara and Jesse’s surprise, the state le-

galized medical marijuana and Guthrie obtained its license for that as well.

“Most of us didn’t think it would actually pass through and up along because [Oklahoma is] very conservative, and lo and behold it did, so then we ended up getting the marijuana license six months later,” Jesse says. “So we had a little bit of a head start on all the craziness that comes with the marijuana industry.”

But in October, “it went completely crazy,” Jesse says. The grower started taking space from bedding plants to grow marijuana and rebuilding space for annuals, all without decreasing their annuals businesses at all.

“We added in the marijuana and slowly started to steal more and more of the existing greenhouses and just kept adding and building more for the

annuals in different areas,” Tara says.

Starting off with half of a 1-acre Dutch glass structure, they increased to a full acre and pretty soon, they were growing 2 and a half acres of cannabis under cover and another 2 acres outdoors. The indoor crops are sold as smokable flower, while the outdoor crops are grown in partnership with an extraction company.

“Our real plan is to take all that cannabis money and revamp all the bedding plant greenhouses,” Jesse says. “And hopefully that will be around for the rest of our lifetimes. There’s a ton of people that have moved to Oklahoma to grow cannabis, because it’s very easy to get a license here, but no one is moving here to grow tomatoes or petunias. So we definitely don’t want to give up on that market.” ✕



Guthrie Greenhouses plans to continue expanding for years to come.

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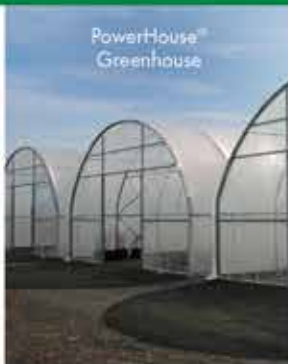
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An aerial view of Kietzer Farms in Hartford, Michigan.



SHIFTING STRUCTURAL PLANS

While COVID-19 put a halt to some of Kietzer Farms' structural upgrades, equally profitable alternatives were put in place instead, maintaining its premier plant propagation status.

By Sierra Allen

PHOTOS COURTESY OF KIETZER FARMS

WITH 40 YEARS IN BUSINESS, Kietzer Farms has grown into a leading young plant propagator for agriculture. With more than 750,000 square feet of growing space in Hartford, Michigan, the facility is able to germinate a "sizable offering" of more than 75 million vegetables, tobacco and hemp plants per

year for commercial farms and food processing companies throughout the Midwest and Canada.

Eric Kietzer, vice president of the fifth-generation farm, had plans to upgrade his facility in 2020, but COVID-19 said otherwise.

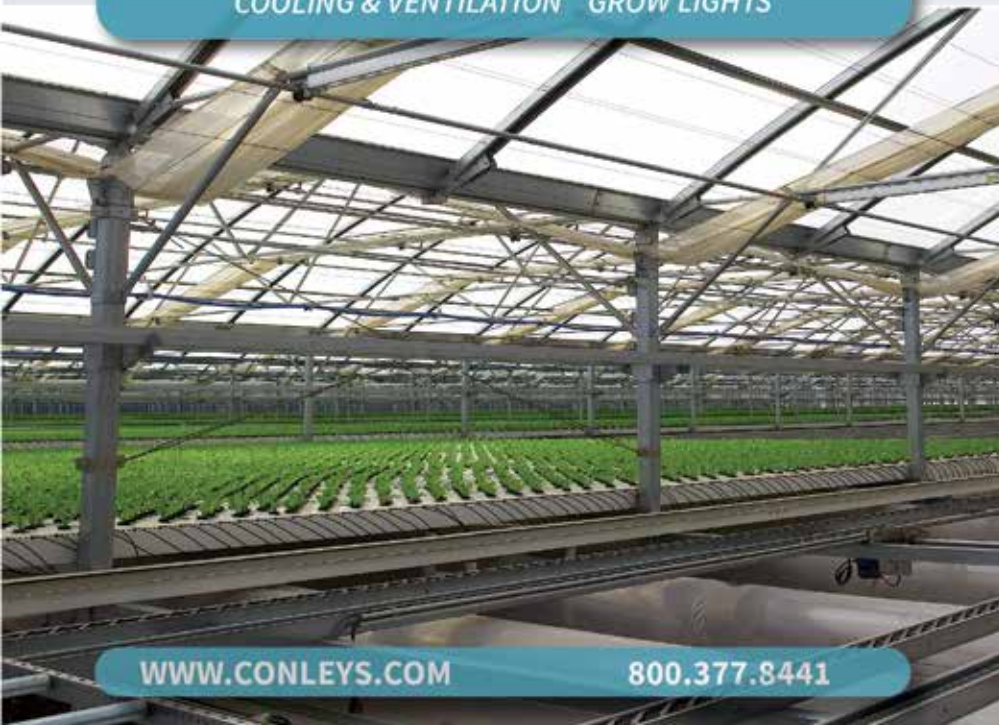
"COVID has kind of messed up a lot



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Kietzer Farms takes part in the growth of industrial hemp in Michigan.

of plans, but it's actually brought some opportunities as well," he says. "But if I could've gone back to January and seen how this year would've turned out, it's a lot different than I expected."

As of now, the farm has 60 individual greenhouses on a four-year schedule, all of which cover 17 acres. Since they grow a multitude of crops, Kietzer says it is hard getting everything to climatize on a similar schedule, especially in a gutter connect style greenhouse. Having individual structures allows the farm to cater to the housed crops in each, which gives them flexibility. While that is a plus, it also results in them having more moving parts to keep track of, Kietzer says.

Because of this, the farm planned to spend more than \$200,000 building a new 20,000-50,000 square-foot headhouse, implementing 5-by 400-foot



Kietzer Farms' tobacco greenhouse

ridge vent conversions, and adding custom greenhouse environmental controls via the Allen Bradley-based system.

These plans are now at a halt. Not because of the pandemic, but due to logistical reasons.

ADJUSTING TO COVID

While the farm has 10 full-time onsite maintenance workers who build their structures in-house, Kietzer says COVID-19 postponed the time for the moving parts, plans and orders to be finished and delivered in a timely manner.

While the act of building greenhouse structures is not hard, according to Kietzer, the logistics of it can be difficult. This is why the farm outsources much of the supplemental work to "get everything together and assist with site work, electrical and other prep," Kietzer says.

In this case, they hired a Canadian engineering company to design custom items, but because of COVID, the infrastructure would not be delivered until the middle of the winter, which is when the farm is gearing up for growing season. Kietzer says the maintenance crew would not have had a lot of time to finish the projects, so the plans were shifted.

"Now we're buying these custom-made trays for Rockwell blocks and

we're going to do our trials a different way," he says. "It's going to be a stop-gap for maybe a year until we figure out what our headhouse is going to do."

As of now, this alternative is a temporary substitution for the planned headhouse, which Kietzer says could still be on the table in the short run.

Since the farm's offering is based on what the customer is asking for, Kietzer says 90% of their crops are tomatoes, peppers, tobacco, cabbage

and celery.

Two years ago, however, the farm was asked to grow chamomile for a grower, who Kietzer says went from growing 0 acres of chamomile to becoming North America's largest growing operations because of Kietzer Farms. They've also recently started growing hemp and grew about a million plants last year, and roughly 600,000 this year, he says.

But the new



The farm also grows a surplus of watermelon.



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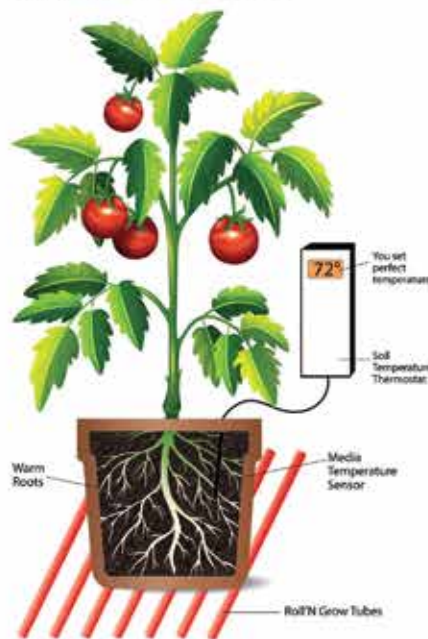
Kathy Miller needed a propagation boost for the unique, high end plant material she produces for independent garden centers in the northeast. Bottom heat would be the best way, she decided. But how to get to the plant material quickly, easily and cost effectively?



She likes that Roll'N Grow is easy to install and customize for different benches, calling it user friendly. Adding another propagation bench is simple, and the heat is even and uniform across the whole bench. "It's a good, cost-effective way to heat benches of various sizes and lengths," she explains.

While so far Kathy uses it solely on benches, it does come in versions for both bench and floor. In either setting, roll the mat out, connect the manifolds and supply/return lines to a hot water source and pump. A soil probe thermostat controls the system based on media temperature.

Now, 10 years after she started using Roll'N Grow, Kathy says, "If we install another propagation house, I would definitely use Roll'N Grow again."



Kathy decided on Roll'N Grow from BioTherm. It rolls out like a carpet from custom-width rolls, which appealed to her and her co-owner at Trail Nurseries in Dover, Pennsylvania. "We do the unique, but we also do a lot of container, bedding, pots," she says. "Roll'N Grow is a good way to get root zone heat on the propagation tables – it's a win-win."



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The tomato greenhouse

headhouse was being built specifically for tomatoes and pepper plants since the growing process is different.

“You have to do a lot of grafting and hand work, and we didn’t have a lot of production space,” Kietzer says. “We would have to be moving product from the greenhouse back to a building and then pulling plants and then grafting them. So we were trying to get our handwork as close to the product as possible, and a headhouse is essential because it would put the tomato processing equipment as close

to that plan as possible — well, prior to COVID.”

COMPLETED PLANS

While the headhouse plans have shifted, Kietzer Farms was still able to complete some aspects of the projects that were set for this year. They replaced 100 feet of steel distribution manifolds with polypropylene pipe; added 150,000 square feet of energy efficient greenhouse poly covering; galvanized bench risers for 49,000 square feet of greenhouse and added 30 Modine unit

heaters. They also implemented new environmental controls, but with a different approach, since COVID affect that too.

“We also hired a Canadian engineering company to help design a custom environmental control package,” Kietzer says. “The nice thing about that was, it would come with a lot of off-the-shelf parts. A lot of greenhouse control companies use proprietary controllers and whatnot. This engineering firm uses things that you can pick up at your local electrical contract supplier. It gives you a lot of flexibility and saves you a lot of money in the long run of price, but unfortunately, COVID happened and plans changed because the company likes to do about six visits prior to planning.”

As an alternative, the farm now uses Bartlett Instrument Climate Boss Greenhouse Environmental Controllers, “which are really good controllers, and a little on the inexpensive side,” Kietzer says.

Although it is not the setup Kietzer wanted, he says in the end, it saved them money. “We kind of looked at it like, ‘We’ll buy the cheap system this

year and when it kicks the can five years down the road, then we can address building it again.”

ADVICE FOR OTHER GROWERS

When developing the original plans and even choosing the alternatives, Kietzer says he and his team assess what needs to be done, research competitors and decide what is best for them.

As for COVID’s disruption, Kietzer is still optimistic.

“There’s lots of opportunities, especially if you’re in the field like me,” he says. “I’m an oddball because I’m not on the flower side. While most of the marketing for greenhouse production is to the flower industry, I’m kind of this niche player off to the side. There are maybe 12 companies outside of California that do what we do, so there’s not many of us, and I have opportunities. I know the flower guys were nervous, but they ended up having a home run year and doing really well. I think we’ll all be OK as long as we maintain our facility and structures, figure out what the payoff is on what we’re doing and reevaluate the riskier moves.” ✂

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