

Chip and Pete Shafer are using about 60,000 square feet of their greenhouses to produce industrial hemp starter plants that are sold to New York farmers who finish the crops.

HEMP PROPAGATION

Proves Profitable for Bedding Plant Grower

Photos by Kevin Newkirk

Nanticoke Gardens in Endicott, New York, has found its niche with industrial hemp by propagating starter plants for area farmers.

BY DAVID KUACK

When Pete and Chip Shafer purchased Nanticoke Gardens in Endicott, New York, 90% of their business was retail sales. The brothers grew primarily spring bedding plants including annuals, perennials, vegetable transplants and hanging baskets that were sold to local home gardeners.

"We bought the operation in January 2011 and had a great first season," says Pete. "In September of that year we were flooded out by Tropical Storm Lee. The storm wiped out everything. There was seven feet of water in the greenhouses and five feet of water in our barn.

"We lost everything including our poinsettia crop that had already been planted. From that year forward we didn't grow poinsettias. We now contract with another grower to produce the poinsettias for us. We essentially became a poinsettia distributor and kept about 80% of our customer base."

In 2014, the brothers purchased a separate property to grow their crops. After the 2011 flood they didn't want to expand production in a flood plain, choosing instead to build additional greenhouses a few miles away from their original location. The company now operates about 160,000 square feet of greenhouse production space.

ADDING SPACE FOR HEMP

The company continued to focus on retail sales until 2017 when the brothers began to produce industrial hemp.

"We took on hemp in addition to our bedding plant production," Chip says. "We are still a grower-retailer with the bedding plants. In the off-season, we have been expanding our production space at our second location due to the increased demand for both bedding plants and industrial hemp."



All of the farmers that Nanticoke Gardens is producing hemp starter plants for are growing the crop for cannabidiol (CBD).

“About 100,000 square feet of the greenhouses is used to produce ornamentals and 60,000 square feet is used to grow industrial hemp. Both crops are expanding yearly, but hemp is expanding at a faster rate. From 2019 to 2020 we will almost double our hemp production space. It was about 30,000 to 40,000 square feet for hemp. Now it’s going to be 60,000 to 70,000 square feet.”

In 2015, New York launched its Industrial Hemp Agricultural Research Pilot Program. The program permitted a limited number of educational institutions to grow and research industrial hemp. Nanticoke Gardens was one of 10 growers who received a license to produce industrial hemp.

“During that first year that the state granted the licenses, anyone who received a license had to be affiliated with an accredited university for research purposes,” Pete says. “To qualify for a license, we established a relationship with Binghamton University. The university had an interest in conducting research with cannabidiol (CBD) in its pharmacy school and we had an interest in growing hemp for CBD. We filed our original license with Binghamton University. The university held the license and we were its grower.”

In 2017, New York opened up the licenses on a much broader scale to try and expand the

hemp industry. Governor Andrew Cuomo also signed new legislation to establish industrial hemp as an agricultural commodity under the state’s Agricultural and Markets Law.

“Farmers were then able to obtain their licenses individually absent from an accredited university,” Pete says. “Binghamton University is still interested in doing research, but our focus switched from pharmaceutical research with CBD to how to scale up propagation of hemp transplants. Because our mission and goals changed, we filed for and received our own license.

“We are still on the university’s license and we still talk with university officials on a quarterly basis because we send in reports for our license. We are now working at the beginning of the supply chain providing farmers with hemp transplants.”

LEARNING HOW TO PROPAGATE HEMP

Chip, who has been a grower at Nanticoke Gardens since 1999, said producing hemp transplants is different from propagating bedding plants.

“There are some things that are unique to hemp, including the size of the cutting, the time for rooting and the growing media we are using,” Chip says. “We have done many trials to reach the point we’re at in regards to being able to produce rooted vegetative cuttings. For

hemp cuttings, there is a window for rooting comparable to geraniums and petunias. There is always a hemp variety that tends to be a little more difficult to root than the others. But most of them fit into a rooting window.”

For the hemp transplants that Nanticoke Gardens is starting from seed, 100% of the seed is provided by the farmers the company is working with.

“We have seen some variability in germination, and that is why we have the farmers provide the seed,” Chip says. “For farmers in New York to acquire the seed, they have to have a license. It also ensures they are buying industrial hemp seed varieties.

“We have had issues where the germination rates have not been what were stated on the package. We bring the customer in right away to show them what is going on in regards to the germination rate. We have had other varieties with germination rates that exceeded the rate that was expected. Last year, we propagated about 70% of the hemp transplants from vegetative cuttings and 30% from seed. This year we are propagating 60% from vegetative cuttings and 40% from seed.”

FINDING A NICHE IN THE HEMP MARKET

All of the hemp farmers that Nanticoke Gardens is working with are producing hemp for CBD production.

“These farmers are looking for high CBD, low THC strains,” Pete says. “Some people are also looking at high cannabigerol (CBG) strains. Those are the varieties that dictate what we grow. If someone comes to us and says they want seed started for transplants, they have already done the selection process. Other people want us to produce vegetative transplants or clones. Some come to us with their own genetics and ask us to propagate the cuttings. We can ramp up production of the stock plants to propagate cuttings for them to plant in the spring.”

The Shafers are also doing their own research growing some plants to flower.

“We’re looking primarily at the CBD to THC ratios and the amount of CBD produced,” Pete says. “We’re also looking at timing, when those varieties will be harvested. For those varieties that we are researching, we’ll grow the plants to flower and then send plant samples to a lab. During the peak flower production period, there might be a five- to six-week window where we’ll send samples to the lab every week to receive an analysis on CBD:THC ratios. Then we can gauge which varieties are going to perform the best in our environment. We are constantly looking for stable varieties that perform well just like with bedding plants. The same concepts apply. We



This year, Nanticoke Gardens is propagating about 60% of its hemp transplants from vegetative cuttings and 40% from seed.

look at the finished results first, what are the CBD values. We also look at how the plants perform in propagation and how many cuttings the plants yield.”

While Nanticoke Gardens’ primary involvement with the hemp industry is propagation, Pete said the company offers more than just starter plants.

“We also handle the logistics for hemp farmers,” he says. “This was a missing piece of the process. We can sit down with farmers and plan out how much acreage they want to plant and the number of varieties they

want to plant. We will devise a production schedule for them so that they know when the transplants will be shipped and when they need to go into the field. They can refine their production plan so that they know when to prepare their fields for planting and when they should plant. This logistics planning really helps our relationship with our farmer customers.”

Currently Nanticoke Gardens is only propagating transplants for New York farmers.

“During the second half of 2019 we have talked with people from other states who have heard about us and are looking for someone to propagate their hemp varieties,” Pete says. “We are doing so much work in the propagation of hemp that all of our focus has been on making sure we have enough retrofitted greenhouse space for transplant production to meet our customers’ needs.”

Although Nanticoke Gardens is not finishing any hemp other than for research purposes, Pete says that could eventually change.

“At this time, we don’t produce any hemp indoors for flowers,” he says. “Potentially that could change. The one thing about this industry is there are a lot of opportunities. There are so many different niches, just like in the ornamentals industry.

“It just worked out that our infrastructure is set up well to take on hemp propagation. All of our space was easily retrofitted for propagation. We just kind of found our space there. Do I see that changing in the future? It’s possible. There are times during the year when our greenhouses are empty and that poses an opportunity for us.”

For more information: Contact Nanticoke Gardens, 607.754.5008; info@ nanticokegardens.com; www.nanticokegardens.com. [gpn](#)

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