



United States Department of Agriculture

Natural Resources Conservation Service

# CONSERVATION *Showcase*

## High Tunnels Help Hardin County Veteran Grow Quality Produce

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USDA's Natural Resources Conservation Service (NRCS) is helping fruit and vegetable producer and military veteran Charles Puffer grow a variety of high-quality crops and protect the natural resources on his thriving new farm thanks to planning and financial assistance for a system of high tunnels.

Puffer started his gardening business in 2016, partnering with his stepdad to form Puffer Roske Farms. The 82-year-old Roske rents cropland on his property just off U.S. Highway 65 northeast of Iowa Falls. The new Puffer Roske Farms uses about 23 acres of Roske's farm.

After 25 years in the Air Force, Puffer knew he wanted to farm when he retired from active military service. With the high cost of starting up a typical Iowa corn and soybean operation, he chose to pursue his passion of gardening. Puffer says he gardened in just about every location the military sent him. "We always had big gardens," he says. "Whether we were in North Dakota, Alaska, Missouri or Kansas, we always had a garden."

In just five years, Puffer Roske Farms has grown into a thriving and expanding pick-your-own fruits and vegetables business that also offers chicken, pork, beef and several types of fruits and berries. They specialize in sustainably raised produce. For example, they graze chickens. "Our hens lay eggs with golden yolks," says Puffer.



### High Tunnel Help

With demand growing for his products, Puffer constructed what he calls a "store" to help clean and process food more efficiently, and more recently he purchased a walk-in refrigerator in the store. Installing high tunnels, however, is what he calls the "gamechanger" for the business.

After researching the benefits of high tunnels, Puffer visited his NRCS office in Iowa Falls in 2018 and applied for assistance to install three high tunnels through USDA's Environmental Quality Incentives Program (EQIP). NRCS accepted his application in 2019, which is providing Puffer financial assistance to build one high tunnel per year for three years.

Through EQIP, NRCS offers financial and technical assistance to agricultural producers to address natural resource concerns and deliver environmental benefits such as improved water and air quality and soil health, conserved ground and surface water, and reduced soil erosion and sedimentation.

Because Puffer is a beginning farmer by USDA definition (active less than 10 years) and a veteran, he received 90 percent of the total estimated cost, or \$3.99 per square foot, for each of his three high tunnels. High tunnels are plastic covered, hoop-shaped structures used to protect crops from the sun, wind, excessive rainfall, or cold, to extend the growing season in an environmentally safe manner. Crops inside a high tunnel are grown in the natural soil profile.



*Charles Puffer talks to a customer in July 2020. (Special to NRCS).*

Puffer uses drip irrigation to efficiently deliver water drawn from nearby hydrants that are hooked to the local rural water system. The high tunnels are also helping him control pests and protect plants from pollen and pesticide drift.

Puffer's first high tunnel was ready for the 2019 growing season, followed by an additional one in 2020. His third high tunnel will be ready for the 2021 growing season. Puffer says one of the benefits he's noticed is improved crop quality. "It's been absolutely amazing," he said. "For tomatoes and peppers out in the open field, we would cull about 25 percent because they are ugly shaped or split, compared to about 3 percent culled from our high tunnel."

With room to expand, Puffer is applying for three more high tunnels. "I wish I would have applied for six the first time, but I wanted to be sure they worked," he said.

## Marketing His Produce

In the beginning, Puffer grew vegetables on three acres and grazed turkeys and chickens on five acres.

He quickly expanded to five acres of produce the next growing season. "There aren't a lot of places in the area like ours, so demand grew fast," he said.

He started by selling his products at six local farmers markets each week, which admittedly wore him out. "Our goal has always been to get people to come to us," he said.

In addition to building a store onsite, Puffer attracts people because of the "pick-your-own" option. "We get a lot of customers from neighboring communities like Hampton and Grundy Center, or people stop by on their way through to Minneapolis, Des Moines and other larger cities," he said.

Puffer is also selling produce to local schools. For example, he sold sweetcorn to the Hampton-Dumont Schools in 2019 and cherry tomatoes to them this year.

## Puffer's Influences

Puffer prides himself on his "outside the box" thinking and says his business goal is to do what others aren't.





“Some of that is in my nature and part of it comes from my military background,” he says. “They teach a lot of reverse planning in the military. (Consider) results to start and then work your way back,”

He says that just because people have done things one way for a long time, it doesn’t mean there’s not a different way to do it.

A military background in logistics has also influenced the way Puffer manages his farm. “I’ve thought a lot about the location of everything on our farm. Does it make sense?” he said. “I’ve considered everything from how water drains on the land to where people will be walking to pick produce.”

Puffer credits a brief conversation he had with a military officer for the way he raises animals and grows his produce. The officer referred him to the writings of farmer, author and lecturer Joel Salitan of Virginia, who emphasizes healthy grasses for animals to graze in feeding cycles, and to “Back to Eden Gardening” – a method of growing fruits, vegetables and herbs to mimic how they are grown in their natural environment.

After reading about these philosophies, Puffer said, “Bingo. There’s my plan.”

Puffer says he uses the Back to Eden gardening methods for growing strawberries and is using them now to grow morel mushrooms. He spread morel mushroom spores all around his farm in areas he thinks they will thrive. “I even spread them on the hill around the apple and peach trees because morels like the fruit,” he said.

## What’s Next?

Puffer is applying for EQIP assistance to add three more high tunnels to his farm. Although growing more produce means more work, Puffer says it also means more quality produce and profit. “There’s a lot of labor out here, but I love getting dirty and getting things done,” he said.

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*NRCS Hardin County District Conservationist Ava Haun (left) talks to Puffer about the location of his next planned high tunnel.*