He Built His Own "High Tunnel" For $600

Market gardener Jay Sleichter recognized the benefits of high tunnels for expanding the growing season, but couldn't justify buying a new one. So he built his own for a fraction of the cost using wood and 1-in. pvc pipe. New, the materials cost about $600 for an 18 by 40-ft. high tunnel. Sleichter did even better than that by finding local deals and reusing material.

Sleichter and his wife, Linda, secured the structures to the ground with 4 by 4-in. posts buried 3 to 4 ft. in the ground every 10 ft. on the sidewalls. A 2 by 4 runs across the top and bottom of each post to create 4-ft. tall sidewalls. Every 3 ft. a piece of pvc pipe runs from the top of the sidewall down into the ground about 18 in. A 45-degree coupling slips onto the top of each pipe and is secured with metal strapping to the 2 by 4 on top of the wall. A 20-ft. long pvc pipe fits into the coupling and bows at the center over a 2 by 4 ridgepole and slips into a coupling on the other wall. The PVC stringers are placed every 3 ft., and two 2 by 4 posts support the ridgepole.

"You can go longer, but I think 18 ft. is as wide as you can go," Sleichter says. "If you use connectors (on the bowed stringers) it doesn't work. It's a weak point and you lose strength."

The two high tunnels Sleichter built in 2009 are on a hill and have survived winds up to 60 mph. As an extra measure, this year he replaced every third pvc pipe with flexible steel pipes (the type used across the top of chainlink fences).

"That will add even more strength and rigidity," he says.

Sleichter closed off the north end of the high tunnels with plywood and a 4-ft. door that can expand to an 8-ft. door. The other end is closed in.

Greenhouse 6 mil plastic is used to cover the whole facility and is secured with furring strips and 1 5/8-in. screws every 15 to 18 in. on the top 2 by 4 on the sidewalls. A second furring strip below the first one securely locks the plastic into place.

The plastic hangs down to the bottom 2 by 4. Twine ties attach to screws on the bottom furring strip. The plastic can be pulled up part or all the way up the wall for ventilation — which is necessary when it gets hot. The plastic is held up with a short piece of twine that's tied inside and loops over a screw head on the outside.

"I don't have roll-up sides because my young girls aren't strong enough to roll them up," Sleichter says. "They can walk down the side of the building and pull up the plastic and hook it over a screw head, or they can easily slip it off the screw head and let it fall to the ground."

The Sleichters removed the plastic last winter, but may leave it on at the end of this year. The plastic is rated to last about four years.

"The No. 1 mistake of high tunnel builders is they buy 6 mil plastic at the hardware store. It won't last more than 6 mos. because it doesn't have the UV inhibitor. You have to use better stuff," Sleichter says.

Sleichter and his family had plants growing in their high tunnels all season long and were able to grow food into late fall, long after other market gardeners were finished.

The Sleichters kept one small high tunnel in use and enjoyed fresh spinach all winter.

This year they have 6 high tunnels and were able to start more vegetables early. The family hopes to repeat past years' successes. They had some vegetables to sell by May, with cherry tomatoes as early as May 28 and full-size tomatoes in June.

The payback of building a high tunnel is worth the effort, Sleichter says. But he has a warning for growers.

"You can't build just one," he says.

Contact: FARM SHOW Followup, Jay Sleichter, Jay's Jellies, Produce and More, 1282 21st Rd., Clay Center, Kan. 67432 (ph 785 630-0072; www.highfarming.blogspot.com).