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## At Peaceful Gardens, it's always growing season

■ Bigfork co-op tries year-round gardening in domed greenhouse

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Brenda Ahearn/Daily Inter Lake

Paul Renner transplants a tomato plant on Wednesday at the Peaceful Garden in Swan Lake. Renner's reasons for starting the Peaceful Garden included growing high quality produce.

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On a slushy, snowy April morning, Paul Renner stands surrounded by lush produce in a 51-foot diameter, 22-foot high geodesic dome greenhouse off the Swan Highway near Bigfork.

He bends over and snaps off the top of a young Italian parsley plant and pops it in his mouth.

"I graze in here all the time," Renner said, gazing with satisfaction at the thriving crops. "We've got every square foot planted."

The bounty reflects the work of members of Peaceful Gardens, a group Renner founded to grow organic produce year-round as a new model of food sustainability.

At a recent gathering of The Essential Stuff Project members in Bigfork, Renner explained the genesis of his interest in developing a source of local, high-quality organic vegetable and fruits. He traced its roots to April of 2008 when he was extremely sick.

"I was at death's door literally," he said. "I wasn't suppose to see December of 2009."

But thanks to Jeanette Cheney's wellness program emphasizing organic produce, Renner said he lost over 100 pounds, placing his insulin-dependent diabetes and congestive heart failure in remission.

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**FLATHEAD LAKE ICON:**

"I was on 14 pharmaceuticals and now I'm on none" he said. "I refer to her as the woman who saved my life. I'm still in shock and awe of what happened to me."

His continuing healing and new lifestyle infused him with a passion for sharing the benefits of eating organic produce and a desire to grow a dependable, high-quality source.

Renner was inspired by the gardens and facilities of "Tree of Life Rejuvenation Center" founded by Dr. Gabriel Cousens in Arizona. The complex grows all the food consumed at the vegan spiritual center, where he took classes in organic farming.

Renner returned to found Peaceful Gardens early last summer.

"Our idea was that 15 to 20 people could get together and do everything we need to do to grow good fresh food regardless of weather," Renner said.

He signed up some interested co-op members and broke ground in July. Renner's first challenge was to level the ground and build an accurate foundation and pony wall to hold the 51-foot diameter geodesic dome greenhouse.

Along with the dome, the group built a large root cellar and plans to add external gardens and a small orchard. Renner had hoped to power and heat the operation with alternative energy — biodiesel — but found that wasn't practical.

"Right now we're using conventional methods until we figure out how to go off the grid," he said.

As they built the structures and planted their first crops, Peaceful Gardens members documented every step in hopes of inspiring others to try this model. At the Essential Stuff meeting, Renner detailed the building of the passive solar greenhouse on an insulated foundation reaching below the frost line.

"It's a pre-manufactured kit that you put together like a jigsaw puzzle," he said.

Constructed in October, the dome was formed from over a hundred triangles of 2-by-6 inch Douglas fir boards with galvanized steel gussets. A skin of five-layered polycarbonate with an R factor of 3.05 covers the building.

"We have pretty good heat-retention capacity," Renner said. "We have two ponds inside as a heat and cooling source. This winter the water never got below the low 50s."

A blanket of reflective insulation covers the north-facing section of the greenhouse, boosting heat retention in the winter and reflecting sunlight and heat down into the ponds in the summer. Solar operated fans pick up heat near the ponds and pump it through ducts to warm the perimeter beds.

Five air-intake fans fire up when the temperature in the dome hits 80 degrees. Hot air exits through four vents located in the top of the dome. They operate on hydraulic hinges filled with beeswax that expands as it warms and opens the vents.

"It's all part of the passive solar design," Renner said.

Wooden raised beds were constructed inside the greenhouse with "key hole" openings that allow a gardener access to work. A 32-zone automated irrigation system keeps the plants moist without hauling hoses and hand watering.

"I tell it what days of the week to water and for how long," Renner said.

Netting hangs 8 feet up perimeter walls, for climbing vines such as cucumbers. He said the nets add growing area while also providing a green wall for shade in the heat of summer.

A network of drains carries excess water out and away from the beds.

"You must have a way for excess nutrients to flush out," Renner said.

Plans call for reclaiming these nutrients and water by piping them into an outside orchard. Renner expects to build outside beds and develop the orchard this summer.

"We'll plant about 100 trees, peaches, pears, plums and cherries," he said. "We'll find out what grows best."

Greenhouse beds were filled with high-quality topsoil and organic compost with perlite for aeration. Peaceful gardeners also amend the soil with micro organisms, rock dust for minerals and concentrated sea water with complete trace elements.

"Most agricultural soil is extremely mineral deficient," Renner said. "This is principally due to farming techniques of industrial farming. What we're doing is growing healthy mineral-rich vegetables."

According to Renner, healthy soil also helps plants resist disease and pests. Peaceful Gardens shuns all chemicals, using only organic methods should pests or disease appear.

As an example, he released ladybugs into the dome recently to devour aphids. Renner, who had a career in the financial industry, learned these techniques as he evolved the project.

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"I had no knowledge when I started — I just decided to do it," Renner said. "The entire world has been growing food for all of our existence. It's not impossible to learn."

He improvised when necessary. Faced with no shed for starting plants, he equipped his garage with metal racks and twin bulb light fixtures to germinate the heirloom seeds.

"I've got a wood burner stove in there that keeps it at 70 degrees," Renner said. "We started hundreds and hundreds of plants, germinating them all from seed."

In March, he had photographs of Peaceful Gardens' first crops of radishes, broccoli, kale and chard transplanted in late February. During the April greenhouse tour, Renner pointed out the newly planted radishes replacing those harvested and some recently shorn lettuce.

"We have six kinds of lettuce," Renner said. "You cut it down to a half-inch and it continues to grow."

Other produce on the way to maturity includes cilantro, brussel sprouts, okra, peppers, zucchini, cucumbers, eggplants, carrots, broccoli, cauliflower, chard, squash, Dino and Red Russian Kale.

"Kale is the single most nutritious vegetable there is," Renner said.

Cooperative members get a share by paying \$120 a month for a full share or \$60 a month for a half share to pay for operating expenses such as power, seeds and fertilizer. Each member agrees to become an expert in one aspect of the greenhouse operation and to spend one day a week (at least five hours) planting, nurturing or harvesting produce.

According to Renner, they find the atmosphere more pleasure than work.

"Some people come in the building to meditate," he said.

Renner estimates that the 51-foot dome may feed 15 to 20 people. They continue to work out the details of the cooperative and need people to take on research areas like pollination, root-cellar management, green composting and seed saving.

"We're still open (for members)," he said. "We have nine fully-committed people."

Profit played no role in the birth of Peaceful Gardens and Renner said they have no plans to sell produce. He was motivated solely to grow high-quality produce and experiment with a community approach to food sustainability.

"It's a grand adventure," Renner said. "It's a practical approach to sustainability. If we grow a lot of produce, we might inspire others to do the same."

Anyone interested in more information may contact Renner at 212-9793 or paulrenner299@gmail.com.

Reporter Candace Chase may be reached at 758-4436 or by e-mail at cchase@dailyinterlake.com.

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