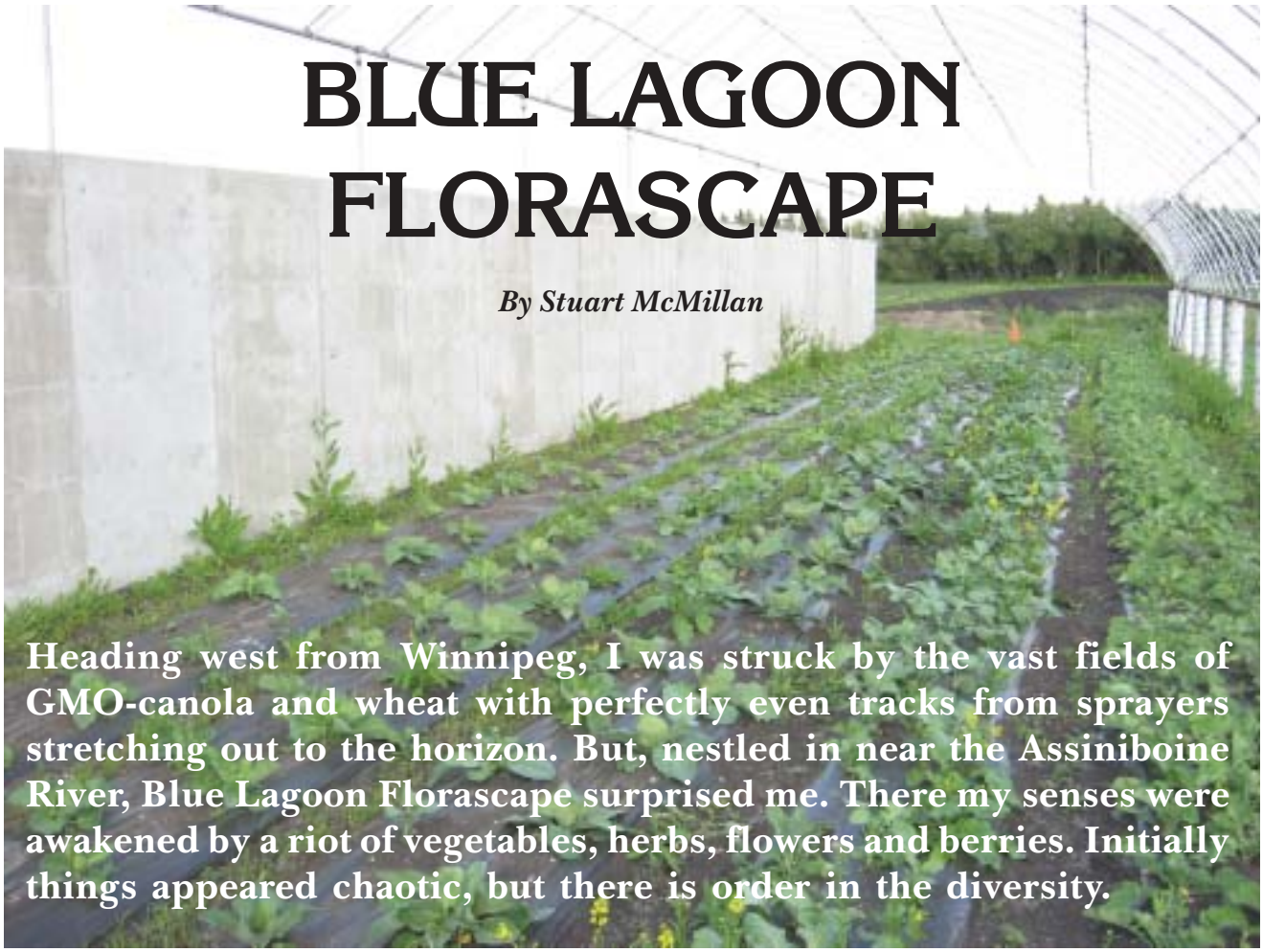
BLUE LAGOON FLORASCAPE

By Stuart McMillan



Heading west from Winnipeg, I was struck by the vast fields of GMO-canola and wheat with perfectly even tracks from sprayers stretching out to the horizon. But, nestled in near the Assiniboine River, Blue Lagoon Florascape surprised me. There my senses were awakened by a riot of vegetables, herbs, flowers and berries. Initially things appeared chaotic, but there is order in the diversity.

Blue Lagoon Florascape is operated by the Regnier family—Rene and Lori Ann, along with their adult son Stefan. The farm gets its name from the many dugouts, which resemble lagoons, that are dotted around the property. The Regniers are part of the increasing number of vegetable farmers who are trying to make local food production in the prairies a viable prospect.

Lori Ann is a former teacher with a long-time passion for gardening. Initially, she started farming echinacea in 2000. Shortly afterwards she became more and more interested in organic food, partially because, as a teacher, she used to worry about children's nutrition.

Lori Ann began growing vegetables organically. She enjoyed this but was always challenged by the prairie weather. "We would find ourselves out there picking tomatoes trying to beat the frost and freezing our hands," she said. While travelling though the mountains in Italy, she was struck by the number of greenhouses providing food through the cool autumn months. Upon returning to Manitoba she spent more time with her friend Wenkai Liu. He grows oriental vegetables in a greenhouse in Elie, Manitoba, throughout most of the winter, stopping only for the coldest months. His greenhouse, which was built in a northern Chinese design, has a sand-filled northern wall painted black and thermal blankets that cover the greenhouse plastic at night.

> **"Most people don't care what they eat, but I am catering to a niche who do."**
>
> *—Lori Ann Regnier*

With a growing demand for their vegetables, the Regniers decided to take the plunge and start the groundwork for a large greenhouse, 106 by 22 feet (32 m x 6.7 m) or 2200 square feet (204 m^2) in size. But they did not want to build the average greenhouse requiring enormous amounts of natural gas and electricity for heating and lighting. They

wanted to build a sustainable greenhouse.

The north wall is made of 8 inch (20 cm) of concrete which has been painted black—this thermal mass collects heat during the day and releases it to the greenhouse at night. The Regniers decided to use concrete because of its ability to store heat, structural strength and resistance to rodents. The steel arches support a double layer of poly inflated with air. The wooden east and west end walls have large windows for additional light.

After their greenhouse was constructed, the Regniers were approached by researchers who were interested in low-input greenhouse production in Manitoba. The group was made up of scientists and extension agents from the University of Manitoba, Manitoba Hydro and the Government of Manitoba. They wanted to try different methods of retaining the heat while still letting the light in.

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In the winter of 06/07, the Regniers' greenhouse was divided into four chambers. Thermometers and test equipment were set up in each one. There were two controls—one heated and the other unheated—and two chambers with insulation between the arches and the outside double layer of air-inflated plastic. One chamber had pillows of 3-mil poly/nylon filled with argon. Argon is a transparent inert gas used in some energy-efficient windows. The other chamber had two layers of bubble-wrap insulation with the bubbles facing the sun. This gives an R-value of 2.

While the temperature dropped down to –38°C (before the windchill was factored in), the chamber with the argon pillows was +7°C, the bubble-wrap chamber was +5°C and the unheated control was –5°C. While –5°C might be too cold for tomatoes, it was still 33°C warmer than outside. The research showed that, even in the frigid prairies, a sustainable solar greenhouse is possible.

In the summer, the Florascape greenhouse is surrounded by fields filled with a huge array of certified organic vegetables. To the south of the greenhouse, greens of all shapes and colours are mixed in with root vegetables. Nearby is the frame of a second greenhouse waiting to be completed.

Recently the Regniers started using plastic mulch for their field crops and have found it to be a tremendous help, not only with weeds, but also for heat gain during the spring. The dark horticultural plastic is designed to reflect certain light waves. It is removed at the end of the growing season, except in the strawberries where it is left in place.

There are ten acres of diverse vegetables on the Regniers' farm. It is hard to think of a vegetable that is not grown on Blue Lagoon Florascape proving that local organic vegetable production can meet the prairie's need for fresh produce for at least part of the year. Currently the percentage of local organic food consumed by Canadians is dwarfed by the amount of imported food and the trend seems to be continuing.

Finding ways to supply regional markets is a challenge for many organic farms. This farm has many different marketing channels. Herbs are dried and prepared into tea bags throughout the winter. They offer a full CSA

Lori Ann and Stefan show off their produce.

service with boxes of produce delivered to Winnipeg or picked up from the walk-in coolers on the farm. They sell to two Winnipeg food distributors, Eat It and Fresh Options Organic Delivery (FOOD), both of whom offer home delivery service. FOOD is increasingly involved with COG's Growing Up Organic project (see page 14) so, at times, Florascape's vegetables provide much needed organic nourishment at childcare centres.

The Regniers sell to a number of local independent organic grocery stores as well. Stefan is a chef with a passion for the vegetables produced on his family farm. This summer he catered meals and hosted groups for full sit-down meals in the field. Providing restaurants with colourful seasonal offerings rounds out the marketing channels. Lori Ann commented that the desire for local foods and diverse hundred-mile diets is increasing the demand for their delicious produce. She said, "Most people don't care what they eat, but I am catering to a niche that does."

Blue Lagoon Florascape has worked hard to build relationships with their markets. Marnie Feeleus, the owner of FOOD, has found the Regniers to be a reliable source of produce for five years. "I appreciate the Regniers' willingness to grow whatever vegetables are needed. They don't just grow the easy crops that are oversupplied," she said.

Every winter, when Lori Ann is looking over the seed catalogues for new varieties, she and Marnie discuss what would work for both businesses. Marnie said, "It's great that they like to try out new varieties. That is very important for FOOD." Another important thing for FOOD is that Blue Lagoon Florascape continues to be certified organic even though they have built up a personal relationship of trust. "It is important that certification occurs. It provides accountability and transparency," Marnie explained.

Even with all of the demands of running a commercial vegetable and greenhouse operation, Lori Ann has found time to stay very active with her certifier, the Organic Producers Association of Manitoba. She is currently a member of the board of directors. This requires a lot of travel, meetings and committee work, particularly with the new Canadian organic standards.

The farm has been growing steadily and the Regniers plan to continue expansion. They have more land that is now certified organic after being green manured during the transitional years. Though not planted this year, it is ready for more vegetables when that time comes. As well, they already have the materials for their next greenhouse.

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—Marnie Feeleus

The greenhouse experiments aren't over yet. There are plans for more trials during the 07/08 winter to compare the performance of argon with other gases. Lori Ann felt they would do things a little differently with the second greenhouse. One change could be not using polyethylene glazing but investing in something more durable such as lexan.

Building the greenhouses requires a substantial financial

"The way food should smell and look," according to a CSA customer.

commitment. Lori Ann commented that "Before the greenhouses, it was a hobby, but now it is an investment."

I asked her if she ever questioned her choice to take up growing on this scale after retirement. She walked over to the answering machine and played me a message that had been recorded that day. One of the CSA customers had phoned Lori Ann and described her joy upon opening up her box and found delight in the rich smells of real food. "The way food should smell and look," the customer said. A bouquet of daisies was included in the box, apparently the customer's favourite flower. After playing the message, Lori Ann turned to me and said "This is what makes it all worthwhile."

Stuart McMillan is a contributor to TCOG *and works as an organic inspector in the Eastern prairies. He is available for comments and questions at organicinsp@gmail.com.*

For more information on the greenhouse, see www.hydro.mb.ca/your_business/farm/solar_energy_greenhouses_results.pdf or www.hydro.mb.ca/your_business/farm/solar_energy_greenhouses.pdf