

Growing Salad Greens During the Cold Winters of Nova Scotia...

An article by Silvana Castillo, North Wallace, Nova Scotia.

This article really illustrates the power of harnessing the energy of the sun to provide a great interior "outdoor" environment during the harsher times of the year in Nova Scotia - Editor.

For the last 13 years, we have enjoyed fresh herbs and green salads during the winter produced in our passive solar greenhouse. We also have a modest income from selling salad greens to friends and two local food establishments. We are talking about cold hardy greens; our favourites are arugula, corn salad (mache), mustard greens, claytona, peppergrass, coriander, curled endive, shallots, parsley and celery leaf. We also have perennial herbs such as sorrel, garlic chives, thyme, rosemary, winter savory, spearmint and anise (and grass for the dog and cats!). In the spring, we also use the greenhouse for growing seedlings to plant in our outdoor gardens.



The 20 by 40 foot passive solar greenhouse is built of hemlock wood sitting on a four-foot deep cement foundation. The south facing roof (on a 35 degree angle), and knee wall is made of a three-layer sheet of polycarbonate purchased at Halifax Seed.

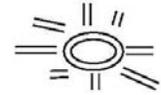
The east and west sides are built using recycled double-pane glass. The inside north wall has a brick facade that serves as a heat storage. Our estimated cost of building the greenhouse by the end of 1998 was \$22,000, including the water system.

We practice biodynamic farming techniques on our land, and in the greenhouse. After working on the design of the greenhouse, we were clear that we wanted to grow plants in the ground, and thus every year we focus on building up the soil in the beds of the greenhouse. We plant the greenhouse in the fall, and harvest all winter long.

At the end of the growing season, in the spring, we let some of the plants bloom and we collect seeds for the next cycle, thus slowly selecting seeds for cold hardiness. In the summer, we mulch the beds with leaves and let the soils in the greenhouse rest. We also try to use the greenhouse as a self-sustaining unit, collecting rainwater, using compost teas, housing a barrel of composting worms, and composting leaves in the corridors.



Why this greenhouse works well, is a combination of factors. The most likely reason for its success is the fact that we grow plants in the ground; the soil is very alive with a diversity of worms, insects,



frogs, snakes, salamanders, etc.; there is a well-established balance and we do not have major problems with pests or diseases. Aphids could be a problem in the spring if we are not careful to monitor the humidity in the greenhouse.

Our main challenge is condensation and keeping the wood dry at the base of the structure. The original design did not include a way to release excess heat from the top of the roof, and the only thing we have now is a bathroom fan that operates



with a humidity meter. This fan is connected to a chimney pipe originally installed for a wood stove (which we didn't use, so don't be misled by the pictures thinking there is additional heat provided to the greenhouse; it works only with the power of the sun).

This greenhouse is more than a place for growing food; it is a garden and a sanctuary, with a hammock and a plaza for sitting and enjoying music, the warmth and smell of herbs and of the earth. On a sunny afternoon, when the temperature outside is minus 10 degrees centigrade, the temperature in the greenhouse can be as much as 25 degrees centigrade. The lowest temperature we have ever experienced inside the greenhouse is -10 degrees centigrade. This happens when the weather is extremely cold and overcast for several days, and the plants can look wilted.



However, once the sun comes up, the greenhouse rapidly warms up and the plants come back to life. As long as the soil doesn't freeze, the plants can survive and thrive.

With health and good nutrition being a priority in these times, it would be wonderful to see this kind of solar technology adapted to other situations, such as schools, nursing homes, hospitals, etc. The health benefits from eating fresh food with vitality, and from working in a garden and connecting with the soil, are enormous. Also, being able to spend time in a warm place during the cold winter days is invigorating. Government institutions would be wise to invest in self-sufficient projects such as this.

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A native of Guatemala, Silvana is a freelance consultant in international community development. Before moving to Nova Scotia in 1995, she worked for CARE USA in several countries around the world. With her partner Heather they are dedicated to the caring of a 100 acre farm of orchards, vineyards, gardens and woods in North Wallace. On their land, they apply concepts of dowsing, Stone Age farming and biodynamic agriculture. Questions and comments are most welcomed, please write to: silvanacastillo@ns.sympatico.ca