

The Miracle of a *Year-Round Greenhouse* Near Downtown Livingston, MT!

David Christopher & Mona Lewis

With our economy experiencing high inflation as food, gas, utilities and other consumer

goods skyrocket, it's a great time to grow food locally on our own properties. In addition to saving money, eating fresh produce provides a much healthier alternative to the equivalent grown in other states or countries.

In 2018, my wife Mona secured funding through grants and donations via our 501c3, Paradise Permaculture Institute, to purchase from Four Season Tools Company what's called a Rolling High Tunnel (RHT)—a greenhouse that can be moved on stationery rails to more than one position. In our case, the 30' x 48' RHT greenhouse we erected from a kit with the help of a half-dozen friends, which can now be moved by two to four people to three positions. This allows us to extend the growing season on both ends and grow hardy greens all through the winter!

Although we expected to assemble the RHT in two weeks, because of some material shortages in our kit, we experienced a 3-week delay, and so the work was completed over two months, just before winter's onset. First, we had to carefully measure the plot where the RHT would be set and level, and pack the soil where the rails would be laid. After considerable research, we opted not to install concrete footings for the rails, mostly to save a few thousand dollars.

The assembly was painstakingly arduous, although fortunately, we had a building contractor whose knowledge of materials, tools, and basic construction methodology proved invaluable. He

kept us all on task as we spent many hours attaching metal to metal within the huge, galvanized 2 3/8" pipe frame with special self-drilling screws. Hundreds of feet of special cable reinforced the metal grid to maintain its stability and integrity, especially during our area's high winds.

Once the superstructure was complete, we had the joy of stretching the high-mil plastic covering over the 14' tall frame, and then used dozens of special wiggle-



wires to secure it both vertically and horizontally into place. One of the final procedures was to install 18 heavy-duty augurs, with rings set in concrete on the outside edges of the plot lengthwise, to which we would attach expandable turnbuckle connectors to secure the RHT in place. Eight sets of wires with smaller turnbuckles were attached to rings on the inside of the track for even greater stability.

Mona insisted that our specific RHT have end-



Because we chose not to install an automated heating system, to keep crops warm enough in the winter, we've had to install long stretches of an agribond fabric, over wire wick-

Installing irrigation hosing was an important upgrade during our second season to avoid the requirement of watering everything by hand! We've been fortunate to provide an abundance of fresh spinach and occasional arugula (grown without chemical fertilizers, pesticides or herbicides) to Foodworks Health Food Store, Woods Rose Market, and Campione Roman Kitchen Restaurant in Livingston throughout this past winter. Many happy customers have commented on the freshness, quality, and flavor of our produce. We look forward to providing hundreds of pounds of fresh tomatoes, cucumbers, and other produce soon to feed ourselves and provide to current and new venues. ■

—David C. Lewis



walls (including doors) that would fold up to avoid damaging crops, which are still viable when we move the RHT from one plot to another. This turned out to be a genius decision for many reasons. Windows that automatically open based on temperature settings allow a more stable environment within the RHT for optimal plant growth.

ets over the rows of crops, to seal in warmth for healthy and happy greens—mainly spinach, kale, and arugula.

Paradise Permaculture Institute (PPI) added the RHT to our demonstration site using the permaculture design principle of “obtaining yield” to support our vision of teaching people how to grow nutrient-dense food for themselves and their families. In Montana, we need the support of both an inside garden and an outside garden.

Yields aren't just what people take from the garden, but also what is produced or given back. Compost is an example of an indirect yield from food preparation and food scraps that gives back to us by building soil.

Another permaculture principle we use in the high tunnel is plant diversity. Just as in nature, plants in the greenhouse have

their favorite companions to grow with. We purposely plant groupings of tomatoes, celery, basil and peppers.

You too can grow hardy winter spinach and greens in your backyard. Just a frame built with 2 x 4s or 2 x 6s, with plexiglass, clear plastic, or recycled glass windows on top creates a growing space. Plant in the fall, dust off the snow in the winter, then lift the frame and continually pick your greens until gone in the spring!

PPI has found spinach to be the easiest crop to grow throughout the winter.

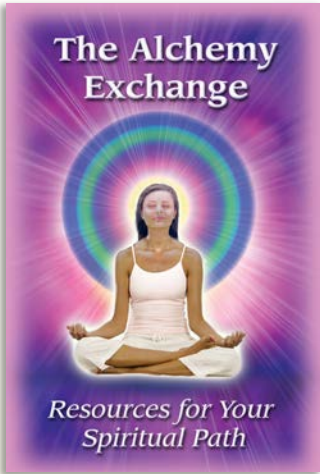
If there is room in your growing space, prop up a lightweight growing fabric, such as Agribon® to act as a blanket to hold in heat

from the sun during the day and heat from the soil at night. This is the same concept we use in the RHT by using wire wickets with a tent of Agribon not touching the plants. This protective layer, along with the plastic covering of the RHT, allows us to grow food in a cold climate and reduce our carbon footprint by not installing a heating system. ■

—Mona Lewis

Mona Lewis is President of Paradise Permaculture Institute. For more info visit ParadisePermaculture.org.





THE ALCHEMY EXCHANGE

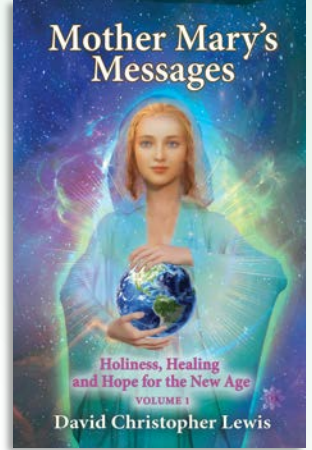
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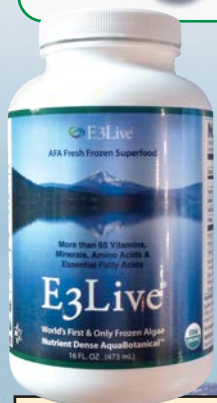
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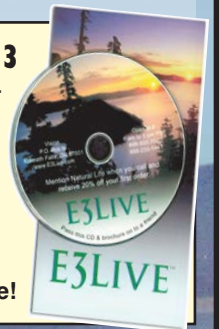


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