

*A step to self-sufficiency*

# Making the most of nature and its resources

BY LAURA ENGLAND

BETHEL — While many people talk about becoming more self-sufficient and "getting in tuned with nature," few actually branch out and accept this lifestyle. An exception to the rule is a Bethel couple who have found this lifestyle a welcome change as well as a never-ending challenge.

Owners of Self Sufficiency Systems, Robert and Lissa Olson say they wanted to have more control over their lives, including such natural aspects as food, housing and health. To reach this goal, they built a solar home in 1978 along a wooded, mountain hillside and began a trek to self-sufficiency. But, as Bob points out, they don't consider themselves as products of the 1970's back to the land movement.

"We're not into roughing it," he says, "but we do want to make the most of the land and its resources."

And making the most of nature and its abundant resources is exactly what Bob and Lissa are doing, and they're not afraid to try something new.

After much research, talking to others and reading book upon book, the Olsons have gone from solar home to intensive gardening to a newly acquired project — aquaculture.

Aquaculture, which has been under test for the past five years, is a development of the Rodale Research Center. The Olsons became interested in this new "farming" concept, raising your own fish, in an attempt to have more control over their food supply.

"We're very concerned about what we eat and what's in it," Bob says. "The only way to control that is to grow our own."

Lissa adds that they don't eat a lot of red meat and decided to try the project and have a fresh supply of fish. But as Bob notes, the project is not something that someone can just decide to do.

"You have to know about water quality, nitrification and ammonia," he says.

With the help of a book Rodale

published about aquaculture, which provides a step-to-step guide on building the system, the Olsons put the project to test this spring, but not without problems.

"We're really the first people to take the book and apply the system," Lissa explains. "There were some things in the book that were unclear to us and some corrections were needed."

At the beginning, it was a trial and error period for the Olsons as they lost about 30 of their fish. Some were sucked up through the filter opening which is now covered with a screen. Others died from the dust on the plastic vinyl used to line the 12 foot diameter swimming pool.

From the dust, Lissa explains, a brown, sickly kind of algae grew in the pool. Not realizing that this algae was harmful and grows even in toxic water, the Olsons lost their fish within a couple of days.

To correct the problem, they drained the pool and got the plasticizer out. Within three days, a green, healthy algae grew.

This incident set the Olsons back a couple of weeks in their "planting" season. To get back on schedule, they purchased fingerlings instead of small fish fry. During the first week of June they put catfish in the pool and added Tilapia, a cultivated tropical fish, during the third week.

Unlike normal farm animals, the Olsons have found their fish to be relatively fuss-free. The fish feed off the algae formed in the pool, and for additional feed have access to a self-feeder.

"We wouldn't have to feed the fish," Bob says, "but added feed helps put on weight."

Besides feeding, the Olsons take a daily look at the system itself to make sure all is working properly. The culture system includes the tank, which can be a swimming pool, a season-extending dome, a biodisc and a clarification system.

The biodisc is used as a filter system and is home-built. Lissa explains that the filter oxidizes the fish wastes which are in the form of ammonia to a non-toxic nitrate



Bob Olson, owner of Self Sufficiency Systems, looks over the garden plants fertilized with fish emulsion from his aquaculture system. The pepper plants in the back row have shown sizeable growth with the "fish" fertilizer, Olson says.

substance. Watching the ammonia level is a crucial part of the culture system.

A test kit is used to measure the ammonia level. If it gets above one part per million, the water is at a higher toxic level, Bob says, and to bring the level down feed is discontinued. Once the level is back to 2-4 part per million, feeding is resumed.

The clarification system, designed from recycled oil drums or plastic barrels, removes organic debris, such as the fish wastes and dead fish. This debris is removed and the Olsons use it as a fertilizer in their garden plots.

The aquaculture system has many advantages, Bob says. There's a low cost to set it up, a low cost energy expenditure, and the water quality is better, he adds. It's also more controllable.

Because the system is controllable, the Olsons can vary their harvesting procedures and time. Under a normal situation, the fish would be harvested in mid-October when they reach from one to three pounds. Feed would be discontinued, the pool drained, the fish scooped out and then dressed out.

But the Olsons are pleased with their system and plan to raise fish year-round. This they will do by moving the fish into a smaller pool set up in their garage. As Bob explains, fish stop growing when water temperature drops below 70 degrees. By moving the pool indoors, they can maintain the desired growing temperature.

By growing fish year-round, they can also raise their own fry and save money in the long run. The Tilapia breed constantly, Lissa says.

Another area of aquaculture the Olsons would like to try in the future is a commercial set-up.

Bob and Lissa depend greatly on gardening, raising approximately 80 percent of their own food. This compost plot will be used for growing greens and vegetables indoors during the winter.



made comes from the research the Olsons say is needed.

"We do a lot of reading and research," Lissa says, "and we like to share our experiences with others."

Sharing this experience with others is the backbone of the Olson's Self Sufficiency System business, which is divided into three areas: food, housing and health.

"We started the housing consultation," Lissa explains to start generating money from the investments we made in our own self-sufficiency system." The Olsons are a distributing agent for Helikon Design Cooperation, Cavetown, Md.

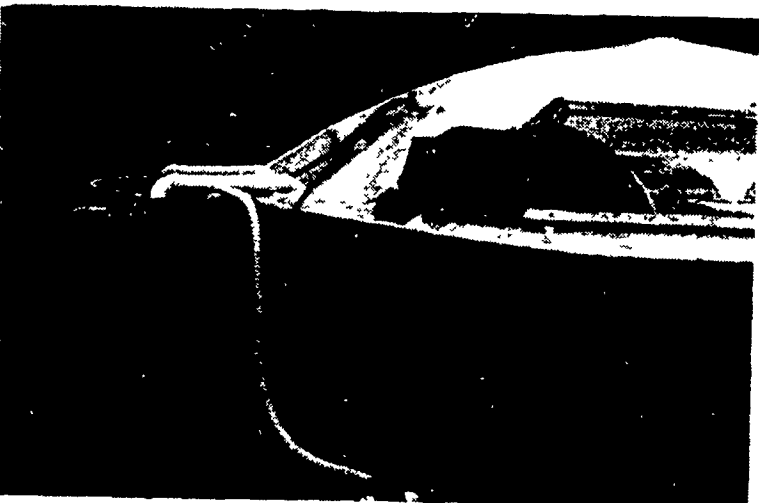
The Olsons, featured about a year ago on PM Magazine, then moved into the food area and run classes and do consulting on their intensive garden beds. The next area they plan to move into is health. Currently, Bob runs a private practice in marriage and family counseling, but both he and Lissa work together in operating Self Sufficiency Systems.

All of this work stems back to the Olson's goal of self-sufficiency. "We want to reach the goal of self-sufficiency," Lissa says, "but we don't want to be like the pioneers of the 1800's. We want the advantages of the times, also."

And through their solar heated home, their intensive garden plots, and now their aquaculture system, Bob and Lissa and their children, Bill, 14, and Dee, 19, have the modern times advantages while tying into what nature provides.



Two important components of the aquaculture system, developed by Rodale Research Center, are the biodisc, above left, and the clarification tanks, bottom left. The biodisc, a rotating filter, oxidizes fish wastes to a non-toxic nitrate substance. Removing organic debris such as fish wastes and dead algae is the function of the clarifying system.



This solar home, located on a wooded, mountain hillside, was Robert and Lissa Olson's first step to becoming more self-sufficient.