

# MOTHER EARTH NEWS

## Community Solar Greenhouses

July/August 1980

<http://www.motherearthnews.com/nature-community/solar-greenhouse-zmaz80jazraw.aspx>

By the MOTHER EARTH NEWS editors



Community groups have studied the potential of the solar greenhouse concept as a tool to advance local self-reliance.

PHOTO: FOTOLIA/SFRAME

The solar greenhouse—a proven heat and food producer for the family home—is beginning to be appreciated for its commercial potential. Many community groups, particularly those in big cities, are hoping that such hothouses might open up business possibilities to enable urban organizations to become more self-reliant.

So far, however, the going hasn't been easy. Even with rising energy and transportation costs, it's still *less* expensive (in most instances) to grow a tomato in the South or Southwest of the United States and ship it cross-country than it is to produce the *same* kind of fruit in a local solar greenhouse.

It is probable, however, that the gap between the costs of agricultural transport and local food production will continue to close as fuel prices rise. And greenhouses that incorporate true solar design principles will certainly go a long way toward making economical local crop production a reality.

Furthermore, solar greenhouses will become even *more* attractive investments as people gain experience in their design and management. It's important to realize that most existing solar greenhouses *don't* provide the

same sort of environmental controls as do conventional commercial greenhouses. The lack of such amenities (which include misting equipment, automatic venting, backup lighting systems, and supplementary CO<sub>2</sub> ... and are left out of most solar designs for economy's sake) causes solar greenhouse yields to be consistently *lower* than those of conventional hothouses!

Improved solar designs are currently beginning to solve such problems, but not all the difficulties in the production of commercial solar growing sheds are structural in nature. As more "solariums" are tested, researchers are beginning to suspect that new horticultural techniques will have to be developed if maximum solar greenhouse yields are to be achieved. In fact, some horticulturists now believe that many of the plant varieties bred to be grown in more conventional greenhouses might not even be suitable for propagation in a fully solar structure. Other scientists are beginning to grapple with the complex and delicate artificial ecosystems created by solar greenhouses, mini-communities which often result in unique pest-management problems.

Despite such obstacles, however, the number of business operations based upon solar greenhouses continues to grow. In general, today's moneymaking "sunhouse" firms are either small, individually owned enterprises, each of which tends to specialize in a single crop ... or else large corporate-owned facilities that most often don't grow produce organically.

Such operations can provide several guidelines for anyone interested in trying to earn cash with a solar greenhouse. Here are some "rules of the road" suggested by successful entrepreneurs:

[1] Capital and operating costs must be kept to a minimum. (This goal can be accomplished by using grants or low-interest loans to finance construction, by employing as few workers as practical, etc.)

[2] Marketing procedures should always be planned in advance. It's best to locate a fairly consistent group of consumers ... preferably folks who will be willing to pay a little extra to obtain organically grown produce.

[3] The grower should have excellent horticultural skills, *and* ought to be sure that his or her abilities are developed *before* setting up the business. (Knowledge of disease management and pest control techniques is especially important.)

## **Them That's Doin'**

Two notable commercial community greenhouse projects have been recently established ... one in Orange, Massachusetts and another on an Indian reservation in Washington state. The northeastern operation was started—and will be managed—by a food co-op that intends to eventually market its produce. The Washington greenhouse will be run by the residents of the reservation and will sell food to other people who live in the area. Both structures were partially funded by grants from the National Center for Appropriate Technology, which plans to provide \$1,000 grants to build another 200 greenhouses during the coming year.

It should not be surprising if these projects require a few years of experience before they become full-fledged, profitable organic solar greenhouse operations. It is most important, at this time, that such experiments are merely underway, that their owners are learning about the management of the projects, and that—in time—they will be able to share their experience with people in other interested groups.

*For the past several years, the good folks at the Institute for Local Self-Reliance in Washington, D.C. have worked to help urban residents gain greater control over their lives through the use of low-technology, decentralist tools and concepts. We strongly believe that more people (city dwellers and country folk alike) should be exposed to the Institute's admirable efforts ... which is why we've made this "what's happening where" report by ILSR staffers one of MOTHER EARTH NEWS' regular features.*