

# ECOLUTION

THE ECO-HOME  
JOURNAL

*Bulletin*



SUMMER 2002

# ECOLUTION BULLETIN

E-co-lu-tion is derived from ecology,  
evolution & solution

Summer 2002

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## USEFUL ENVIRONMENTAL DIRECTORY

A new online Environmental Directory, [www.solargarden.com](http://www.solargarden.com) has been recently created by Eco-Home™ Network members Lilly and Peter Lazarov. It lists environmentally oriented manufacturers, contractors, retailers and organizations. Every listing includes name, address, phone and fax number, e-mail and a link to the respective web site. In [www.solargarden.com](http://www.solargarden.com) you can also find information on different subjects like: solar electricity, solar water heating, solar space heating, solar space cooling, wind energy, passive solar, fuel cells, biomass, water purification, sustainable living, straw bale house, organic gardening and others.

The listing of environmental businesses into [www.solargarden.com](http://www.solargarden.com) is free of charge. This list has not been screened by [solargarden.com](http://solargarden.com), so before contracting with anyone on this list, please ask questions, check references and otherwise do due diligence to be sure they meet your environmental criteria.



## JULY 2002 ECO-HOME™ NETWORK MEMBER OPEN HOUSE FORUM

At the Residence of Scott Bartchy and Nancy Breuer

7401 Studio Road, West Hills, CA 91304-1037

Sunday, July 21st - 1:00 PM to 4:00 PM

Members: Free · Guests: \$5 requested donation



The existence of Scott Bartchy and Nancy Breuer's Earthship\*, snugly docked on a southern California hillside with a panoramic view of the Santa Monica Mountains, is nothing short of a miracle ...and a testament to their superhuman persistence. The litany of insurmountable obstacles — bureaucratic, technical and economic — that they relentlessly hurdled during the 3 years of their travail would fill an article 100 times this long.

*\*Earthship n. 1. "A passive solar home made of natural and recycled materials 2. Thermal mass construction for temperature stabilization. 3. Renewable energy and integrated water systems make the Earthship an off-grid home with little or no utility bills." 4. Poetic. "a living vessel that will sail on the seas of tomorrow"*

But for now we'll stick to the good news. The good news is that their mission has been accomplished. Their Earthship has been built, and Scott and Nancy have agreed to host the July 2002 Eco-Home™ Network Member Open House Forum in their new home.

One of the first questions I had for Scott, a history professor at UCLA and his partner, Nancy, a writer and principal of WorkPositive, a business consulting firm, was why they located where they did, since Scott works in Los Angeles.

**S & N:** We knew from years of researching, visiting and photographing Earthships that we needed a south-facing slope on affordable land. The only available

land in LA County these days tends to be vertical, so we expanded our range to the eastern tip of Ventura County. The land itself was ideal, and when we turned around and saw the view, we were hooked.

**E:** What were your goals in building this house?

**S & N:** Our goals have been to:

- a. Demonstrate that an environmentally friendly home could be attractive, comfortable and fully permitted by the building officials.
- b. Build a fire-resistant, earthquake-resistant structure modeling the recycling of used automobile tires into an inviting home
- c. Pave the way for others to build similar homes if they wish to in Ventura County and in California

**E:** Why did you decide to build an Earthship?

**S & N:** We decided to build an Earthship because we fell in love with its organic concept. Unlike homes that seek to be a fortress and refuge from the earth and the weather, Earthships blend with their environment and manage temperature by taking advantage of sun, earth, wind and air, not by fighting to overcome them. We loved the curved lines, minimum of right angles, multiple uses of water, intelligent recycling of tire carcasses, lack of air conditioning systems and low profile of Earthships. Of those features, we managed only to retain the lack of air conditioning and the low, earth-embraced profile. The County of Ventura nixed the others

**E:** I understand that your Earthship was built with concrete rather than earth-filled tires because of Ventura County Building and Safety restric-



Wood-burning Indian Kiva fireplace and wall treatment

tions. What makes your home an Earthship, even though it's not constructed with tires?

**S & N:** Yes, our walls are poured-on-site, 10" thick concrete rather than rammed earth. We were told initially that we could use rammed earth if a local, trusted structural engineer could demonstrate that such a house would be stable in Earthquake Zone 4. \$10,000 and a full set of plans demonstrating that fact later, we were told that now we had to establish Uniform Building Code for rammed earth in tires—as individual homebuilders. The known and unknown costs of that venture ended our hopes of using tires. We then found an Earthship builder in Colorado who has built both with tires and with concrete, and who lives in a concrete Earthship himself. His guidance and example helped us to move forward. The house is still an Earthship because it "floats" in the earth and will provide safe passage into the environmental future.

**E:** Will you describe how the passive solar design works?



Windows from the inside, covered with special insulating blinds.

**S & N:** The house's passive solar design works this way:

1. First, the house takes advantage of the ambient temperature of the earth by having two of its four walls fully below grade.
2. Second, the front face of the house on both tiers is 80% large windows. When the sun is low in winter, it enters the house through those windows, heats the mass (the concrete) and the dark tile (or concrete) floors, and releases that heat at night when the house is cooler. In summer, when the sun is high, it does not penetrate the house, so the house stays cooler. The earth in which it is embedded is the cooling system.

**E:** Do you need supplementary/backup heat?

**S & N:** Do we need backup heat? That depends on your definition of "need." We like the house to be a bit warmer

than some folks would prefer, so we have installed radiant heating in the bathroom concrete floors and in Nancy's office floor. That was enough, in our opinion. But the County of Ventura insisted that we install heaters, delivering our favorite quotation of the entire maddening building process: "Dr. Bartchy, what you don't understand is that here in Ventura County, we do not consider the sun a reliable source of energy."

What does one say to such a statement? At first they wanted forced air, ducts—the whole unnecessary system. We modified that requirement and installed one wall unit per tier. The house also has three kiva-style fireplaces. A kiva fireplace has a beehive shape that fits with the Southwestern decor and also puts out a lot of heat for a relatively small firebox.

**E:** What other energy efficiency elements are incorporated into the house?

**S & N:** Other energy-efficient elements of the house include:

1. Large solar water heater on the roof (40 gallon storage).
2. Honeycomb window shades that provide a temperature barrier. Even on the chilliest nights (in the Santa Susana Pass, overnight temperatures in the 30's are not unusual in winter), the house loses only about 2 degrees overnight.
3. Appliances chosen by energy rating. All are Energy Star appliances.
4. Dark-colored back walls and flooring to function as "heat sinks."
5. Operable skylights (5 per tier) with their own honeycomb window shades. (These, combined with operable low windows on the front face, are the "air conditioning system," a convec-



The kitchen area

tion cooling system that operates by the chimney effect.)

6. Flash hot water heater.
7. Tint on the double-paned window glass.
8. Earth-bermed walls on the north and east.

**E:** Are you using any alternative energy?

**S & N:** We are using solar water heating and have plans for 24 75watt photovoltaic panels on the roof of the upper tier when we can muster a bit more cash. The cost of hooking up to Southern California Edison — five times what we were quoted (!) and therefore budgeted — eliminated the immediate installation of solar panels. Why did we hook up with SoCal Edison at all? First of all because we plan to sell power back to the SCE via the “net metering” program—our total power production should exceed our total use. Second, those lovely rebates touted by the State of California on energy-saving installations are not funded by the state. They’re funded by the energy companies, and available only to utility company customers. It was a devil’s choice.

**E:** What about water conservation?

**S & N:** We had several fabulous plans for water conservation, all rejected by Environmental Health. Earthships usually recycle water several times: from taps and faucets to indoor planters to toilets to an outdoor irrigation system that deposits nothing into the soil. Our friendly

local bureaucrats, allergic to anything they haven’t been using for years, vetoed everything, despite documentation. Instead, we have been forced to use water as inefficiently as most other Californians. We have a huge sand filtration seepage pit that forced us to spend in excess of \$30,000 rather than the \$8,000 alternative system we proposed when they vetoed the organic, water-recycling design that works in Earthships all over the U.S. and abroad. Sand filtration seepage pits that the county okayed in past years have failed, by the way, leeching nitrates into the soil and the water table. But that’s what we were forced to build.

**E:** What about landscaping? Are you using California natives and other drought tolerant plants in the landscape around the house?

**S & N:** We are installing thousands of California native plants everywhere on the property, many of them native to this microclimate. The landscaping will take a few years to mature, so don’t expect to see much except widely spaced but thriving California natives in July. Anything non-native

planted close to the house will be drought-tolerant. In addition, we will have 13 indoor planters just inside the south-facing windows.

**E:** Is composting part of your waste handling strategy?

**S & N:** Yes, we will be composting. The system is not set up yet, but composting is a solid part of our past and of our future. We have no garbage disposal unit. That drove the builder crazy; he installed switches for garbage disposers at the sinks in the kitchen, convinced that we’d change our minds.

**E:** What other elements in your house do you think will be of interest to Eco-Home™ Network members?

**S & N:** Other elements include:

1. Minimum number of interior walls, to allow air flow and a sense of spaciousness. For example, the kitchen, dining and living room area is 23’ x 45’.
2. Use of color for reasons of heating and cooling as well as for creative design reasons.

—SCOTT BARTCHY  
& NANCY BREUER

**NOTE Eco-Home™ Network members:**

I’m sure you are as utterly intrigued by Scott and Nancy’s Earthship as I am. Put this into your datebook right away. You don’t want to miss it.

It’s quite a trip for many of us, so give me a call if you’d like to carpool with other members in your area. I can fax or mail you a list of members in your telephone area code. See you there!

—JSR

Directions: From the 405, west on the 118 about 10 miles to the Rocky Peak exit (first exit west of Topanga Canyon),

then left across freeway bridge and immediately turn right (Santa Susana Pass Rd. but unmarked) 0.6 mile to Box Canyon Rd. and left (south) over the ridge exactly 1.0 mile to Studio Rd. on your left in a right-arcing curve (watch for oncoming traffic!). Drive carefully 0.6 mile up Studio Rd. to 7401 on slope on your left and turn a gentle left into the new concrete driveway. Welcome!

From the 101 at the 23: north on the 23 to the 118 and drive through most of Simi Valley, exiting at Kuehner Rd. Turn right (south). At exactly 1.0 mile (third light, at Smith Rd. crossing) Kuehner turns east and becomes Santa Susana Rd. Drive 1.2 miles to Box Canyon Rd. on your right and proceed as stated above.

For more information on Earthships see: *Ecolution*, Spring 2000, Volume 10, Number 1 and:

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Jack Ehrhardt  
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2170 Northern Ave. #8  
Kingman, AZ 86401  
(520) 757-4202  
E-mail: cerbatrip@ctaz.com

Or  
CERBAT, inc.  
HC32 Box 2544, Kingman, AZ 86401

# FROM THE FOUNDER

We're off to a flying start on the *Homes for the Future Tour 2002* and the video documentary, *Going Green: Homes for the Future*. For once, we have started fundraising early enough to enable us to bring in funds to actually hire the staff we need to do the program effectively without totally burning out the people doing it...we hope!!! I've been sending out proposals since March and Tour Coordinator Mary Proteau is contacting potential sites and doing other preliminary work. By the way, it's not too early to contact Jan Hoag, (626) 345-9596, to volunteer to help!

This year, as I mentioned in the last issue of *Ecolution*, we're planning a 30-minute documentary in tandem with the *Tour*. *Going Green: Homes for the Future* will be produced by Mary Proteau and Judith Vogelsang.

Our first sponsors for the *Tour* and video are the Building Industry Institute, the City of Santa Monica, and Warner Bros. The Los Angeles Department of Water and Power has pledged their support as has the South Coast Air Quality Management District.

## EARTHSHIP OPEN HOUSE

Scott Bartchy and Nancy Breuer have gone where none have gone before to build their Earthship in Ventura County. They'll share their unique home with us, as well as hair-raising tales of their voyage through county bureaucracy, on Sunday, July 21st from 1:00 PM to 4:00 PM.

## GREEN BUILDING FLOURISHES

As Eco-Home™ Network and an increasing number of other organizations are helping to support and encourage green home building and renovation, green build-

ing in the commercial and the public sector is also flourishing. See page 12 for more on that.

## E-HN CURRICULA AND AFFORDABLE HOUSING

These programs are on back burners, so to speak, as we focus most of our time and energy on the *Tour* and video. However, we have the personnel lined up and as soon as funding is available for either or both of them we're ready to move them to the front of the stove and start cooking!

## WHAT'S EDIBLE?

The word is defined as "fit to be eaten as food" in my Webster's. A growing number of us feel that plants and animals that are grown with petroleum-based chemicals, contaminated with pesticides or other poisonous or hormonal substances or had their genes "engineered" are not fit to be eaten as food, i.e. are inedible.

I don't want to be a purveyor of doom and gloom. On the other hand, I do feel a responsibility to pass on information that I have found important, interesting and/or useful. On page 17 you'll find lists of fruit, vegetables and fish which are likely to contain the greatest pesticide residues or other contamination. I carry these in my wallet and refer to them when I shop.

Starting on page 14 you'll find more proactive steps we can take to insure our food is truly edible.

## IN THE GARDEN

My poor garden has suffered neglect as I have been so focused on Network business. I'm only now, in May, getting in some summer vegetables. But the new little nec-

tarine tree I planted last year is already providing me with sweet, ripe fruit. (No pesticide worries with these beauties.)

Speaking of pests, last year every apple on both my apple trees was infested with gypsy moth larvae and apple maggots. I know it's because they, too, have been neglected, not receiving the water and nutrition they really need. So this year, as well as vowing to be more attentive to their needs, I have hung traps for these two pests in both trees.

The apple maggot traps are kind of pretty: shiny red balls, simulating (kind of) ripe apples, coated with a sticky (non-toxic) coating. The apple maggot

mamas are attracted to the red "apples" and the pheromone lure attached near them, and get stuck in the coating when they land on them. Each tree has six

traps hung in its branches and they are actually quite ornamental. The gypsy moth trap is green and unobtrusive. Just one hangs in each tree. The pheromone lure is hidden within its sticky interior. I obtained these non-toxic and time- and farmer-tested pest controls from Peaceful Valley Farm Supply in Grass Valley, CA. Their phone number is (888) 784-1722 and website address is [www.groworganic.com](http://www.groworganic.com).

## EASTWARD BOUND

I'm looking forward to a two-week visit

with my family in Pennsylvania in late June. If memory serves me, June is mosquito time back there so I've stocked up on several little electronic mosquito repellents to have and to share. We'll see how they work.

Some other electronic pest repellents I've tried haven't been very successful. I plugged one into my kitchen during our renovation when mice from the basement were coming up through holes in the floor to raid my food stock. It didn't seem to phase them at all. In fact, one morning I found an apple with unmistakable mouse nibbles in it right in front of the plugged in device.



An electronic dog repeller I bought made no impression at all on a couple of dogs who were bothering some children playing recently near Eco-Home™. I finally had

to chase them (the dogs!) away with a broom and a very loud voice.

So, I don't know about these mosquito repellents. But, hope springs eternal. I'll report.

## MISC.

Before I go I want to share a website with you I find interesting and encouraging and useful: [www.sustainablesolutions.org](http://www.sustainablesolutions.org). I look forward to seeing you at Scott and Nancy's.

—JSR

## June 30 - July 5

### Indoor Air 2002: The 9th International Conference on Indoor Air Quality and Climate — Monterey, CA

Technical sessions, poster presentations, and workshops for participants involved in research, technological development, building operation and maintenance, regulation, and all activities that influence the indoor environment. Info online at [www.indoorair2002.org](http://www.indoorair2002.org)

Contact: Hal Levin, Indoor Air 2000, 343 Soquel Ave. PMB 312 Santa Cruz, CA 95062

Tel: (831) 425-0148, Fax: (831) 426-6522

## July 4 - 7

### Ecological Design: The Unstoppable Wave

San Francisco Institute of Architecture To be held in Berkeley, California An international gathering of world renown architects, builders, planners and educators. Over 60 speakers, plus exhibits, book store, special interest group meetings, tours. Exhibitors are invited. Information: [SFIA@aol.com](mailto:SFIA@aol.com) and/or "Eco-Wave 2002" at [www.SFIA.net](http://www.SFIA.net).

## August 4-9

### 14th International Conference of the Society for Ecological Restoration & 87th Annual Meeting of the Ecological Society of America

Tucson, AZ Workshops, Business Meetings and Field Trips, August 3 & 4 Scientific Program, August 5 - 9 Keynote Speaker, E.O. Wilson Information: [www.ser.org](http://www.ser.org) and [www.esa.org](http://www.esa.org).

## August 18-23

### ACEEE 2002 Summer Study Teaming for Efficiency - Pacific Grove, CA

Energy technologies, green products, design and performance of buildings, energy and environmental policies, and integration of renewable technologies into buildings.

See [www.aceee.org/conf/02ss/02call.htm](http://www.aceee.org/conf/02ss/02call.htm). Contact: Rebecca Lunetta, ACEEE Summer Study Office, PO Box 7588, Newark, DE 19714-7588; Tel: (302) 292-3966 Fax: (302) 292-3965 E-Mail: [rlunetta@erols.com](mailto:rlunetta@erols.com)

## August 24-25

### SolFest 2002: 7th Annual Solar & Good Living Festival

Hopland, CA Information: (707) 744-2017 [www.solarliving.org](http://www.solarliving.org)

## September 23-25

### Building Community to Improve Health

Sacramento, CA - Sheraton Grand Hotel Sponsored by the Sierra Health Foundation with others, the conference will be a critical examination of the role of community building in improving health. Information: (415) 616-3930 [info@iecomm.org](mailto:info@iecomm.org)

## October 7-8

### Building with Trees

Nebraska City, NE National Arbor Day Foundation Information: (888) 448-7337 [www.arborday.org/](http://www.arborday.org/)

## October 9-12

### EEBA 2002. Excellence in Building

Phoenix, AZ Sponsor: Energy & Environmental Building Association Information: (952) 881-1098 [www.eeba.org/ct/inference](http://www.eeba.org/ct/inference)

## October 16

### Midwest Green Building Conference & Expo

Auburn Hills, MI Sponsor: Small Business Association of Michigan Information: (810) 229-4135 [www.sbam.org/resource/edc/seminar/seminar.htm](http://www.sbam.org/resource/edc/seminar/seminar.htm)

## October 25-26

### CleanMed 2002

Chicago, IL An International Healthcare Conference on Environmentally Preferable Products and Green Buildings Information: [clea@ed.org](mailto:clea@ed.org)

## November 13-15

### US Green Building Conference

Austin, TX International Conference & Exposition. Sponsor: U.S. Green Building Council with AIA COTE, CSI, U LI. Information: (202) 828-7422; [www.usgbc.org](http://www.usgbc.org)

## INSTITUTE FOR SOLAR LIVING 2002 WORKSHOP SCHEDULE

Please visit the Institute's website ([www.solarliving.org](http://www.solarliving.org)) for complete workshop descriptions and where they are being held, or call (707) 744-2017 to register or to request a workshop brochure.

### June

15 Women in Solar  
16 Energy Eff. Solar Syst/Rebates  
22 & 23 Beginning PV  
29 & 30 Natural Building Workshop

### July

6 & 7 Beginning PV  
13 & 14 Strawbale Construction  
15 & 16 Sustainable Living Workshop  
20 & 21 PV Design and Install  
27 & 28 Insider Tips For Less Expensive and More Efficient Solar Systems

### 27

Energy Eff. Solar System Rebates — Saratoga

### August

3 Herbs for Sustainable Living  
3 & 4 Strawbale Construction  
5 - 9 Sustainable Living Workshop  
10 & 11 PV Design and Install  
24 & 25 Solfest

### September

7 Retrofitting for Energy Efficiency, Saratoga  
8 Hydrogen  
14 & 15 Strawbale Construction  
21 & 22 Beginning PV & 29 PV Design/Install

## October

5 Wind Generation  
5 & 6 Building with Stone  
12 & 13 Strawbale Construction  
12 Energy Eff. Solar System/ Rebates — San Jose, CA  
19 & 20 Beginning PV

## CLASSES, COURSES & SEMINARS

### The San Francisco Institute of Architecture: A Center for Innovation in Design and Education

555 Howard Street, between 1st & 2nd Streets, San Francisco.

Master of Architecture and Master of Ecological Design degree options.

Evening and Saturday courses in:

- Ecological Design
- Nature-Based Architecture
- Visionary Creativity

Superb faculty. Low fees. Enrollment open to all.

San Francisco Institute of Architecture Information Office Box 749, Orinda, CA 94563 1 (800) 634-7779 FAX (925) 299-0181 [SFIA@aol.com](mailto:SFIA@aol.com)

## August 26 - December 13

### Total Immersion Semester in Sustainable Design

The Ecosa Institute 123 East Goodwin Street, Prescott, AZ A select group of students will dialog with internationally recognized leaders in the field of Sustainable Design, visit ancient and modern sites throughout the Southwest and learn the latest information in this fast changing field. They will live and work as a community, exploring new concepts and philosophies confronting the most fundamental issue of our time - how the design profession can contribute to creating a sustainable future.

Information: (928) 541-1002 [www.ecosainstitute.org](http://www.ecosainstitute.org)

## "GREEN" BUILDING TAKES ROOT IN LA

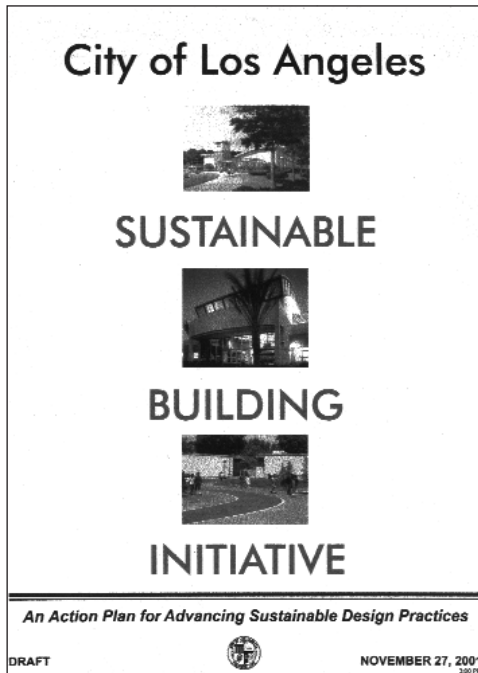
In April 2002 the Los Angeles City Council adopted the "Sustainable Building Initiative: An Action Plan for Advancing Sustainable Design Practices" to apply to all renovation and construction of municipal buildings in the city of LA. A capital investment of over \$1 billion is planned over the next five years.

And in early March the Los Angeles Community College District (LACCD) Board of Trustees

adopted a sustainable building plan in which new structures with more than 7,500 square feet and that are more than 50 percent funded by Proposition A\* will be required to incorporate green building practices advocated by the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) rating system.

\*A year ago, Los Angeles voters approved the \$1.2 billion Proposition A bond measure that will fund new construction and renovation at each of LACCD's nine campuses. Some 50 to

60 new LACCD buildings are planned over the next decade.



## GREEN BUILDING GUIDELINES

The Sustainable Buildings Industry Council is a nonprofit organization whose mission is to advance the design, affordability, energy performance, and environmental soundness of residential, institutional and commercial buildings nationwide.

Over the past two years a number of builders have worked to develop a comprehensive guidebook titled *Green Building Guidelines* to meet the demand for low-energy, resource-efficient homes to help home builders and others design "greener," more energy- and resource-

efficient homes.

For more information on the Guidelines, please visit:

[www.sbicouncil.org/store/resources.php](http://www.sbicouncil.org/store/resources.php) and look up *Green Building Guidelines*.

Ms. Sanja Kovac  
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1331 H Street, NW, Suite 1000  
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## NEW VOC-FREE PAINT

The latest major paint company to offer a zero-VOC\* interior latex paint is PPG Architectural Finishes. PPG's VOC-free "Pure Performance" line is now being sold under its Pittsburgh Paints brand.

Pittsburgh's tints are not VOC-free, so adding color does add a small amount of VOC to the product. According to Pittsburgh Paint's marketing manager the most saturated color in a neutral base is less than two grams per liter.

Pure Performance does contain an antimicrobial additive to help prevent indoor mold growth. PPG will not provide details on the additive except to say that it was reviewed for health and safety concerns and that it "came from the personal care industry."

Pure Performance is the first paint to be officially certified under Green Seal's paint standard, and it meets the special "Class A" rating reserved for zero-VOC paint. Green Seal's standard focuses mainly on VOC levels, but it also prohibits the use of certain toxic constituents. To become certified, PPG provided full test reports from an ISO\*-certified independent laboratory and had Green Seal representatives

personally review their manufacturing process. Retail prices range between \$20 to \$25 per gallon, depending on sheen level and tint base.

According to Nadav Malin, Editor of *Environmental Building News*, "This may well be the best zero-VOC paint on the market in terms of long-term performance and PPG's commitment to it, in replacing one of their standard lines with this one, is a good indication."

For more information:  
PPG Architectural Finishes, Inc.  
One PPG Place  
Pittsburgh, PA (888) 774-7732  
[www.pittsburghpaints.com](http://www.pittsburghpaints.com)

Green Seal's paint standard may be found at:  
[www.greenseal.org/standards/paints.htm](http://www.greenseal.org/standards/paints.htm)

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\*VOC - volatile organic compounds are those substances in paints which evaporate when drying and contribute to smog.

\*ISO - International Organization for Standardization

## PARADE OF GREEN BUILDINGS

Santa Barbara County, California  
Reception: October 11, 2002

Speaker: Bill Browning, Green Building Expert, Rocky Mountain Institute

Tour of 20 sites October 12, 2002

Admission: \$10

For further information check The Sustainability Project website:

[www.thesustainabilityproject.org](http://www.thesustainabilityproject.org)

Contact: Emilio Casanueva, (805) 893-2661 x 2208 or April Wethe, (805) 963-1955 x 110

# FIT TO BE EATEN

"Fit to be eaten as food," is the way Webster's defines "edible." What percentage of the products filling out supermarkets might be considered edible by this definition? I find that I go to the supermarket now only to buy Bon Ami scouring cleanser, sponges, an occasional kitchen utensil, etc., certainly not for anything edible!

Elsewhere in this issue of *Eco-olution* we've talked about food that has been contaminated in some way through cultivation methods, additives, pesticides, genetic engineering or other outlandish manipulations and mutilations to which the food industry subjects the products it sells to us. Now we're going to talk about how to obtain truly edible food; food that is fit to be eaten, will actually nourish us AND help us to reduce and ultimately eliminate the serious damage done by industrial agriculture to the environment and to the people who work on our farms.

The first option is to cultivate our own food organically. I know this is not possible for everyone and that even those of us who have the opportunity won't necessarily be able to, or want to, raise ALL our own food. But let me encourage all of us to raise SOME of our own food. Even if it's as small as one potted tomato plant in a sunny window, or a cluster of lettuce or one dwarf fruit tree. The harvest you reap goes beyond edible, delicious food for the body. Your soul, too, is nourished by your connection to the earth which is made explicit in the act of eating food you have tended and watched unfold leaf

by leaf from the dark, still soil.

It didn't take many years of organic gardening for me to learn that we don't "grow" plants or animals. They grow themselves.

Within the great sustaining forces of living soil, wheeling earth, sun and moon, wind, rain, stars and who knows what other unfathomable mysteries of the universe, they grow. We humans can plant seeds and HELP them grow. We can cultivate them, i.e. "promote or improve the growth (of a plant or crop [or animal]) by labor and attention." We can tend them — "raise" them — by serving them and the soil from which they grow with enough

water and proper nutrients in proper proportions to help them be healthy and strong. Ah, and then they in turn sacrifice their lives to sustain ours. Reciprocity is at the core of sustainability.

Organic food gardening generally requires some resources beyond your local garden shop. The key to successful organic cultivation is healthy, pH balanced soil. This is the matrix from which plants draw their sustenance. That means plenty of organic matter, so composting is fundamental to producing a continual supply of healthy, nutrient-rich, living organic matter to add to the soil.

You also need to know the soil pH and what nutrients are in the soil, at least the quantity of 3 basic nutrients, nitrogen, phosphorous and potassium (NPK). Peaceful Valley Farm Supply sells a soil test kit that will enable you to find out all of that. Peaceful Valley's catalog also has anything and everything else you'll need

for organic cultivation. They're the only source of pesticide-free cottonseed meal (good non-animal source of nitrogen) that I know of. They're in Grass Valley, CA. Their tel. # is (888) 784-1722 and website is [www.groworganic.com](http://www.groworganic.com).

In my customized fertilizer I combine NPK (all from organic sources) in portions based on my soil test and I also add some kelp meal for "trace minerals." Science doesn't know the functions of "trace minerals" and so they are normally left out of commercial fertilizers. But trace minerals are found in healthy native soils and weeds and so organic farmers deduce that they are useful to plants and probably to humans and other animals.

Other sources of organic gardening products are:

Gardens Alive, 5100 Schenley Place, Lawrenceburg, IN 47025, Tel #: (812) 537-8651, Web: [www.GardensAlive.com](http://www.GardensAlive.com)

Johnny's Selected Seeds' catalog has a full array of gardening products and books as well as seeds. They are at 1 Foss Hill Road, RR 1 Box 2580, Albion, ME 04910-9731, Tel #: (207) 437-4301, Web: [www.johnnyseeds.com](http://www.johnnyseeds.com)

Seeds of Change, PO Box 15700, Santa Fe, NM 87506-5700, offers 100% certified organic seeds, books, gardening and kitchen products and tools. Tel #: (888) 762-7333, Web: [www.seedsofchange.com](http://www.seedsofchange.com)

Get ALL the catalogs. They're great reading. You'll learn a lot about organic gardening from them. But the mother of

all organic gardening magazines is still Organic Gardening magazine, Emmaus, PA., Tel #: (610) 967-5171.

In addition to our own little food plot or pot, we have several ways to obtain organically grown food:

## Community Supported Agriculture (CSA)

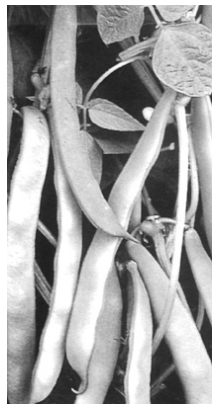
Community Supported Agriculture is just a step away from cultivating your own food garden. It creates a direct and sustaining relationship between a local farmer and the consumer. Consumer-members pay a fee to the farmer every year, providing him with a secure income, and the farmer provides a supply of fresh organic produce to the consumer-members every week during the growing season, providing them with a secure supply of organic produce. In many CSA members can visit "their" farm and help care for the crops, if they wish.

A CSA in southern California is Tierra Miguel Foundation. Their website is [www.tierramiguel.org](http://www.tierramiguel.org), e-mail: [csa@tierramiguel.org](mailto:csa@tierramiguel.org) and telephone # is (760) 742-1199.

For those not living in southern California, check out [www.umass.edu/umext/csa](http://www.umass.edu/umext/csa) for a resource list and directory of CSAs in the U.S. and Canada.

## Farmers Markets

Happily, farmers' markets are a growing (pun intended) phenomenon. They take place in many major urban centers now and are easy for most of us to get to. Farmers actually bring their own produce to a designated area in a town or city, usually an empty parking lot or cordoned off streets,



and sell directly to consumers from temporary stalls they set up for the day and pull down again in the evening. They're atmospheric and lots of fun, and help support local farmers, which is very important as the global market threatens to put small, local farmers out of business. Not all farmers' markets are exclusively certified organic farmers' markets, however.

In California, to find certified organic farmers' markets near you go to <http://farmersmarket.ucdavis.edu> and you'll find a button right on the first page to click to find a directory of certified organic farmers markets. You log in your zip code and are given a list of those nearest to you. Please note these are exclusively certified farmers' markets, which means all the participating farmers are certified by the California Certified Organic Farming Association (CCOFA).



For those of you not in California, here's a website with a national directory of Farmers' Markets. Please note these are not all certified organic farmers markets. You must ask at each stall and ask for some kind of proof of certification.

Website: [www.farmersmarkets.net](http://www.farmersmarkets.net).

#### Health Food Stores

Thank God for health food stores is all I can say. Yes, they're expensive and yes, one can complain about what they do or don't include on their shelves, but for many years they were the only source of organ-

ic produce in the city—that I was aware of, anyway. I've been very grateful to have Nature Mart within walking distance since the '70's. Unfortunately, even in health food stores, not all the produce or products are organic or free of sugar and other additives. So ask and read labels.

I wasn't very successful finding a directory of retail health food stores like the one on certified farmers markets on the Internet. The following is the best site I found: [www.organicconsumers.org/foodcoops.htm](http://www.organicconsumers.org/foodcoops.htm) but it didn't have my local health food store listed, nor Wild Oats nor Whole Foods in Los Angeles. So I don't know how many others are missing. I guess the best place to check is your yellow pages.

#### Why is "organic" so important?

Organic certification is the only way you can be sure your food is far less tainted by the list of unsavory substances and procedures with which the food industry contaminates their products. By using organic cultivation methods ourselves, by joining an organic CSA and buying from farmers markets, we are manning the barricades to protect our right to edible food.

Believe it or not, the Federal Government has long been waging a battle to undermine the standards for organic labeling so that just about any commercial grower could label their food "organic" no matter what their cultivation practices were. Organic farmers, certifying organizations, lobbying groups and consumers who want to protect their right to be able to identify food that is edible have fought mightily against the government and so far succeeded. But the agriculture industry will not tire of trying to take away that right and so we all need to support the organizations that are

fighting to protect it and sustainable agriculture as a whole.

So, in addition to the actions listed above, I urge everyone reading this to also support The Organic Consumers Association, 6101 Cliff Estate Rd, Little Marais, MN 55614, a public interest organization dedicated to building a healthy, safe and sustainable system of food production and consumption. They are a global clearinghouse for information and grassroots technical assistance. Their websites are: [www.purefood.org/](http://www.purefood.org/) and <http://OrganicConsumers.org/>

Also contact the National Campaign for Sustainable Agriculture, PO Box 396, Pine Bush, NY 12566, (845) 744-8448, [campaign@sustainableagriculture.net](mailto:campaign@sustainableagriculture.net). Visit their website at [www.SustainableAgriculture.net](http://www.SustainableAgriculture.net), and have

them put you on their Action Alert lists to be notified when important legislation needs our support or opposition. Now, especially, it is very important to be engaged politically, as the Bush Administration is, to say the least, no friend of sustainable agriculture.

Isn't it odd that just as a majority of us in the so-called "developed" world are freed of the daily struggle to obtain enough food for survival we find ourselves confronted by the need for a daily struggle to protect our food supply from purposeful contamination by some of the very institutions that are entrusted with producing and delivering our food to us?

I leave you with that conundrum to ponder as you plant your beans.

—JULIA S. RUSSELL

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# MOST CONTAMINATED FOODS

Food grown without synthetic pesticides and fertilizers is better for our health and protects our water and soil fertility. Certified organic foods are safer for consumers because they're largely free of residues of pesticides that may harm the brain or cause cancer and disrupt children's delicate hormonal systems. Organics are also safer for farm communities and wildlife because dangerous pesticides aren't released into the local environment, where they can contaminate water and kill birds and fish. And organic crops aren't genetically engineered.

Also look for locally grown food, which is less likely to be treated with post-harvest pesticides.

The following list of fruit and vegetables (including baby food) most likely to contain pesticide residues is based on 1999 and 2000 studies by Consumers Union and the Environmental Working Group:

- Peaches • Apples • Pears • Grapes • Cantaloupe
  - Winter Squash • Green Beans • Strawberries • Raspberries • Spinach • Potatoes • Tomatoes
- (This list, of course, refers only to non-organically grown food)

## "YES" AND "NO" FISH

While fish can be one of our healthiest foods, some varieties also serve an unwanted side dish of mercury or other toxins. You can use the lists below to choose the safest seafood for your family as well as for the oceans' ecological balance.

Eat "Yes" fish. They're freer of toxins and fishing them has a low impact on the environment. Avoid "No" fish. They contain more mercury and/or are overfished, or caught in ways that kill non-target species, such as turtles and dolphins, as accidental "bycatch."

Also, check with the state department of health before eating fish from local fresh or ocean waters, as worrisome levels of PCBs as well as pesticides and other industrial chemicals may be present. Young children and women who are pregnant (or may be in the future) should especially avoid those "NO" fish with the mercury symbol (Δ) in the chart below.

To be sure you're picking right, ask your merchant or restaurateur where a fish comes from. Most Atlantic species are over-fished.

### "YES" FISH

- Anchovy • Sardines • Herring • Clams • Catfish
- Pacific Flatfish (flounder/sole) • Pacific Cod
- Pacific Pollock • Mid-Atlantic Blue Crab
- Scallops (farmed) • Tilapia (farmed)
- Oysters (farmed) • Trout (farmed)
- Wild Alaskan and Californian Salmon.

### "NO" FISH

Δ = high mercury + = high bycatch x = overfished

- Blue Crab (from the Gulf of Mexico) . . . . . Δ
- Mahimahi • Mackerel . . . . . Δ
- Wild Scallops (except from Georges Bank MA) . . . . Δ
- Wild Shrimp (but shrimp farming has harmful environmental impact) . . . . . Δ
- Gulf of Mexico & Eastern Oysters . . . . . Δ
- Striped Bass • Ocean Perch . . . . . Δ
- Pacific Halibut • Lobsters • Yellowfin Tuna . . . Δ
- Chilean Sea Bass/Patagonian Toothfish . . . . Δx
- Shark • Atlantic Cod . . . . . Δx
- Atlantic Pollock • Atlantic Halibut . . . . . Δx
- Oreo Dory • Orange Roughy . . . . . Δ+x
- Groupers • Swordfish . . . . . Δ+x
- Snappers • Bluefin Tuna . . . . . +x
- Atlantic flatfish (flounders, sole, Plaice) . . . . . x
- Haddock • Pacific Rockfish . . . . . x
- Atlantic Salmon (escaped farmed fish threaten survival of wild salmon) . . . . . x

Note: Information for this article is excerpted from an article by Allison Sloan which appeared in *The Green Guide*, published by Mothers and Others, web: [www.mothers.org](http://www.mothers.org)

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