

## Hydraulic Presses for Herbal Extraction

Goodnature Products, Inc. (P.O. Box 866, Buffalo, NY 14240, phone 716-855-3325, URL [www.goodnature.com](http://www.goodnature.com)) is offering self-contained presses for processing small batches of herbs (output: several gallons per hour). Also available from the company: hammermills, evaporators, grinders, and other processing equipment. The GPI catalog is free upon request.

## Thripsnet

This Internet mailing list, initiated by University of Vermont entomologist Dr. Margaret Skinner in October 1995, is devoted to "the free and open exchange of ideas and information" about thrips, those ubiquitous little insects that feed on a wide array of crop plants. Currently, there are more than 300 Thripsnet participants, including several from outside the U.S. There is no fee to join Thripsnet. To sign up, contact Dr. Margaret Skinner, University of Vermont, Entomology Research Laboratory, P.O. Box 53400, Burlington, VT 05405, phone 802-656-5440, e-mail [mskinner@zoo.uvm.edu](mailto:mskinner@zoo.uvm.edu).

Dr. Skinner also is helping to set up another mailing list to discuss issues related to greenhouse production in Vermont, New Hampshire, and Maine. This list is an offshoot of the Northern New England Tri-State Greenhouse IPM Program. If you are interested in joining this net, contact Dr. Skinner.

Reference: Elizabeth Seyler and Michael Brownbridge, "Focus on Research: Thripsnet: Outpacing a Traveled Pest," *Cultivating Connections* 5(1), Winter 1999, 3. (Center for Sustainable Agriculture, University of Vermont, 590 Main St., Burlington, VT 05405-0059.)

## Hot Water Treatment Stops Mold on Various Fresh Fruits

From Becky Buckley, who lives in Colorado:

I think I read in *HortIdeas* about treating fresh strawberries with hot water before refrigerating them. It not only works with strawberries, but with raspberries and blueberries I've bought in those little boxes and baskets ... makes them last a week in the refrigerator without a sign of mold.

## Agroforestry Project on a Farm in Iowa

The following is adapted from "Comprehensive Integrated Agroforestry," by Tom Wahl and Kathy Dice, who own Red Fern Farm, Wapello, Iowa. The article originally appeared in the Fall/Winter 1998 issue of *Inside Agroforestry*, published by the National Agroforestry Center, U.S. Dept. of Agriculture, University of Nebraska at Lincoln-East Campus, Lincoln, NE 68583. Subscriptions to *Inside Agroforestry* are free from the NAC.

Comprehensive Integrated Agroforestry is a system of sustainable agriculture we established on our farm near Wapello in southeast Iowa. It combines a number of agroforestry practices, including forest farming, shelterbelts, riparian buffer strips, silvopasture, and a few others which have yet to be named.

The project, which was funded in part by the U.S.D.A.'s Sustainable Agriculture Research and Education (SARE) program and the Practical Farmers of Iowa, consists of plantings of fruit and nut trees arranged in 1/10th-acre blocks, one species to a block. Adjacent blocks contain different and preferably unrelated species.

Up to 10 species of trees may be planted on each acre. This arrangement plus the natural vegetative ground cover results in high biodiversity. The diversity prevents serious outbreaks of pests and provides excellent habitat for wild plants and animals.

The plantings are on level ridge tops, one to three acres in size. Between the ridges are steep-sloped drainages left in native timber. The drainages serve several purposes, including shelterbelts for the tree plantings, riparian buffer strips, and wildlife travel corridors.

High-value plants such as ginseng, goldenseal, and Echinacea are interplanted under and between the trees on ridge tops and drainages. The soil is kept covered by vegetation and mulch. The ground cover is initially managed by mowing. As the trees mature, rotational grazing may be used. Fertilization is by animal manure and wood ashes. Most of the tree species produce valuable wood and are managed for both fruit/nut production and lumber/veneer. The intensive management yields crops at four levels: underground (medicinal roots), ground level (medicinal plant tops and livestock forage), in the trunks of the trees (fuel, lumber, veneer), and at the tips of the twigs (fruit, nuts, leaves).

Tree species included in the system so far are black walnut, hazelnut, chestnut, pecan, shellbark and shagbark hickories, heartnut, nut pines, ginkgo, persimmon, and pawpaw. Some species which might be added in the future are kiwi, medlar, maypop, passionflower, and grapes.

The agroforestry system has several advantages over conventional agriculture, including: negligible soil erosion, little or no use of chemical fertilizers and pesticides; low fossil fuel consumption; no need for expensive, high-tech equipment; high biodiversity; excellent habitat for wild plants and animals; positive balance between energy produced and energy consumed; efficient use of solar energy; a carbon sink (carbon dioxide removed from the atmosphere and put in long-term storage); a durable system requiring little or no human intervention once established; diversified income sources; high profit potential from a small area of land (potentially more than \$20,000 per acre per year at maturity); and a healthier, more aesthetically pleasing environment for humans.

The system has some major disadvantages. Large investments in capital, labor, and time are needed for establishment. There is a long lag time between that initial investment and the first returns, the break-even point, and the mature level of production. In spite of these disadvantages, we are confident this system will prove to be a viable alternative to conventional agriculture.

## Twigs to Soil

An agro-ecologist, a forester, and an agronomist in Quebec are touting twigs (specifically, "wood chipped from branches that are less than 7 centimeters [2.75 inches] in diameter") as the key to building soil containing abundant *stable* organic material (humus). The researchers decry the current emphasis on soil mineralization (adding soluble nutrients) coupled with a general neglect of soil humification (providing the building blocks for an "organo-mineral humic complex"). They claim impressive increases in crop yields, reduced pest problems, more nutritious produce, and even better tasting fruits due to humification stimulated by mixing chipped twig-wood into soil. In temperate areas, twig-wood from *deciduous* trees, rather than conifers, is recommended, because unless temperatures are high, conifer twigs are broken down very slowly by microbes in soil. And it is important to use *small* twigs, as noted above, because these have low carbon-to-nitrogen ratios and high concentrations of plant nutrients. However, the twigs should not have green leaves when chipped, lest the wrong microbes dominate in the breakdown process, resulting in reduced humification.

Specific recommendations for soil humification in temperate areas are as follows: The aim of chipping or shredding of

# Center for Rural Studies Serves Public via Web

The Center for Rural Studies (CRS) is more than a busy maze of offices on the second floor of UVM's Morrill Hall. In fact, without leaving the warmth of my office on a chilly spring morning, I was able to explore links to places as far flung as Honduras and as close to home as my local elementary school. I also read about CRS's mission statement, program areas and research projects, and printed some useful information on agriculture education resources. The key to my investigation of CRS was their well-designed site on the World Wide Web at <http://crs.uvm.edu/agriculture.htm>.

Most definitions of sustainable agriculture include a social component in the sustainability of food and fiber production and distribution systems, and it is this aspect of sustainable agriculture that CRS addresses through their programs. CRS describes itself as "a nonprofit, fee-for-service research organization, which addresses social, economic, and resource-based problems of rural people and communities."

Research at the CRS is conducted in four main areas: Agriculture, Human Services and Education, Rural Community and Economic Development, and Vermont Community Data. Director Fred Schmidt emphasizes that CRS works with many state agencies on basic demographics, including the VT State Health Department, to make annual estimates of population change for every community in Vermont. This data is invaluable for local planning and economic development, and CRS is working to expand its capacity in this area.

The web site acts not only as an easy place to access the data gathered through CRS's research, but also to explore the options quickly and pick out the information that best fits your needs. The web site home page has received more 25,000 visitors in the past two years, allowing CRS to meet its mission—"to promote the dissemination of information through teaching, consulting, research, and community outreach." That doesn't include about 2000 requests for other files per day, plus 13,000 visits per year to the VT Dept. of Education School Report page, which was developed and is now hosted by CRS.

To find out more about how this mission is served by the web site, I spoke to Michael Hathaway, a CRS staff member who often works with the web pages. In the past, CRS's primary tool for disseminating information was paper media, still a large part of what Michael called

"specialized requests"—those that address a particular aspect of the CRS's research or programs. However, with the web site, general information is readily available and, since a large part of the CRS's work is research into different aspects of rural communities, the public's continuous access to data and reports is important.

According to Craig Donnan, CRS's webmaster, the broader objectives of CRS involve developing interactive databases to help rural citizens get the information they need for decision-making. "This is the deeper significance of the web and why we are so focused on it as an outreach tool," said Craig.

The site comes with internal search engine and e-mail links to CRS staff members, allowing visitors to find information or to make direct requests for information not available electronically. Despite these features, Michael commented that the site's weakness is that there is no way of tracking everyone who visits the site and whether or not they use the resources available. This is remedied in part by a guest book for comments about the site.

The web site also hosts information from other organizations and sources, such as the Vermont/Honduras Partnership and U.S. Census Data. As can be imagined, this site did not come together overnight and is not the work of only one person. "The site is worked on by most people in the office. Sometimes the people here who work primarily with the computers host workshops for our employees so that they know how to put information onto the web site or update what's there," said Michael.

To make the site manageable for users, the site has template pages to display information. For example, school statistics for any district appear on a template page,

## GREENGROWER Email List is Resource for Greenhouses

GREENGROWER is a computer network in northern New England designed to promote communication on greenhouse pest and crop management among growers, extension specialists, and researchers in Maine, New Hampshire, and Vermont.

At no cost to subscribers, GREENGROWER provides:

- quick answers to difficult pest management questions,
- early warnings of pest outbreaks in this and other regions, and
- announcements of pest management conferences and workshops.

To Subscribe: send a request to Margaret Skinner at [mskinner@zoo.uvm.edu](mailto:mskinner@zoo.uvm.edu)

*GREENGROWER was established by the Northern NE Greenhouse IPM Program, a cooperative initiative between faculty at UVM, UNH, and UMaine.*