


The Earthworm



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The Corner

Kathleen and I are gearing up for the *Gardening for Nature* Conference. We anticipate that 150 home gardeners will come together for a fun day of learning how to plant butterfly gardens, landscape for birds, and install water gardens, among other natural landscaping techniques. We hope you'll join us.

For this and all of our programs, we are always searching for ways to reach more diverse and under-served audiences. If you know of organizations representing minorities and other under-served populations who might be interested in our programs, we ask that you call us with information on how we can contact the organization. If you have ideas for other avenues to inform people about our programs, such as newsletters or community centers that reach minority groups, please let us know.

Looking forward to the sweet spring smell of thawing compost,

Sally

Gardening For Nature Conference

By now you should have received your registration brochure for the "Gardening For Nature: Natural Landscaping and Habitat Creation in Your Backyard" Conference to be held at the Schuylkill Center for Environmental Education, Saturday March 25, 2000. We expect this exciting conference to fill, so if you plan to attend, be sure to register early! **We will be needing some volunteer help in pre-conference preparation, and especially during the conference day.** If you would be willing to help prepare registration packets, be a room host, help at the registration table, assist with A-V set-up, help with set-up or clean-up for breaks and lunch, or what-have-you, please let Kathleen or Sally know as soon as possible. Volunteers can expect our undying gratitude. We are racking our brains for an exciting mystery "thank-you" gift to our volunteers that won't bust our modest budget. Have ideas? Give us a call!

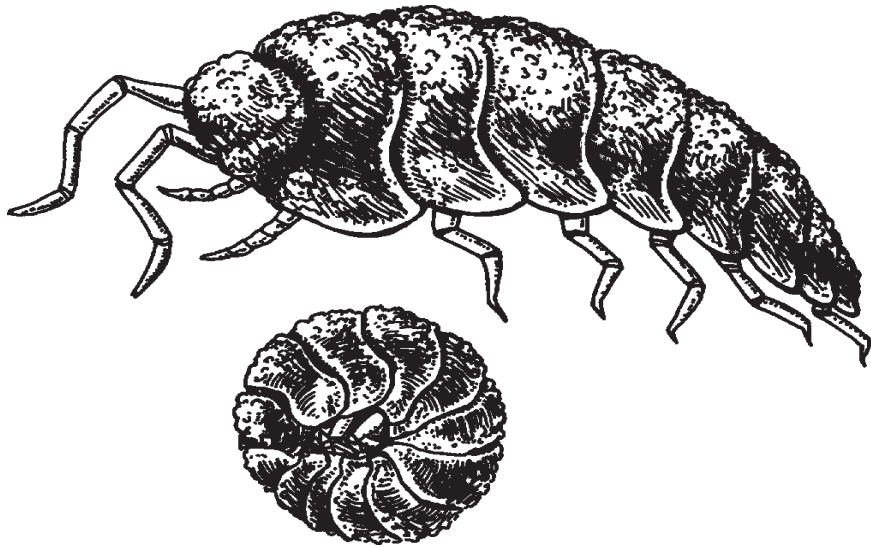
10th Annual Native Plants in the Landscape Conference To Focus on Relationships Between Native Plants and the Land Ethic

The 10th Annual Native Plants in the Landscape Conference (NPITL) will be held June 8-10, 2000, at Millersville University, Lancaster County, PA. This exciting conference includes a native plant sale, expert plenary speakers, a variety of break-out sessions, field trips, and much more! NPITL is an opportunity for a varied audience including nursery and landscape professionals, backyard gardeners, native plant enthusiasts and novices, environmental professionals, students, and teachers, to expand their knowledge of native plant issues, including use, propagation, and restoration.

Featured speakers this year include Buddy Huffaker from the Aldo Leopold Foundation, and Dr. Carl Leopold, a son of Aldo Leopold. Field trips will feature a rare serpentine barrens habitat, as well as watershed restoration sites in Lititz, Lancaster County. The famous native plant sale features the best growers of native plants from the region, as well as books and

(See NPITL, page 4)

Compost Critters: Pillbugs



Pillbugs, potatobugs, sowbugs, wood lice, roly-polies. These little creatures (about 1/2 inch long), with so many names, are not “bugs” at all, but are actually terrestrial isopods, crustaceans related to shrimp and lobsters. Insects, you may know, have 3 pairs of legs and three distinct body parts. The isopods have 7 identical pairs of legs, and a segmented body covered with shield-like plates. They have 1 pair of antenna, and 1 pair of compound eyes. There are over 5,000 known species, living all over the world. The pillbug, scientifically known as *Armadillidium vulgare*, and our common backyard sowbugs, *Porcellio scaber* and *P. laevis*, are non-natives that probably came over from Europe in ships. The children’s favorite, the pillbug, can roll up into a ball. Rolling into a tight ball foils ants, a major predator. The sowbug cannot roll up, and has two pointy tail pieces, called uropods, at its rear.

As descendants of marine creatures, the terrestrial isopod family fights a constant battle against drying out. They stay out of the sun in dark, wet, places, such as under compost, mulch, dead logs, or flowerpots, and venture out at night. They breathe with modified gills, though some species have a supplemental tube system for breathing in air. To stay hydrated, the sowbugs can sit on a wet spot and drink through their rear ends. To do this, they press together their uropods, to make a tube that wicks water up into their bodies.

Like other crustaceans, pillbugs and sowbugs grow by molting. They crawl out of the back half of their exoskeleton first, and then out of the front half. Males will often guard molting females so they can be the first to mate with her. However, the females of some species can reproduce parthenogenetically, making daughter clones of themselves. Males are only needed to make sons. The females carry eggs in a brood pouch on their underside until the self-sufficient young emerge several weeks later.

Pillbugs and their kin are scavengers. They eat dead leaves, rotten wood, or anything already being decomposed by fungi & bacteria. They are champion composters and soil makers. They are valuable in the garden too, because they will eat the eggs of stinkbugs, a crop pest. If you find pillbugs or sowbugs in your compost, welcome them. Don’t be afraid to pick them up for a closer look, they don’t bite, sting, or transmit disease. Children enjoy discovering if these creatures are “rollers” (the pillbugs, which roll into a ball when disturbed), or “hikers” (the sowbugs, which run when disturbed). Return them after your investigations, to the compost heap where they can continue their valuable work.

For Peat’s Sake!

Many of us are used to buying and using peat in our gardens. Some gardeners would not consider starting seedlings without peat pots. Peat is considered by many to be a vital component of potting soil. Others of us mix peat in with our compostables, use it as bedding in our worm boxes, or use it alone as a soil amendment. In Ireland and much of Europe, peat is burned as fuel.

What is peat? Sphagnum peat moss is harvested from peat bogs where the moss is currently living, dying and decomposing. Fuel peat is harvested from peat beds that formed in the Carboniferous era, 300 million years ago. The peat is brown and spongy, or black and compact, depending of how far it decomposed and what sediment layers fell on top of it. With enough time and pressure, some ancient peat beds became coal. The less compacted areas became low-grade coal called lignite; more time and pressure created soft or bituminous coal; peat under the greatest pressure became hard or anthracite coal.

Peat beds can form only where plant material lies in moist, temperate conditions where drainage is poor. In these swampy areas where oxygen levels in the water are low, dead plant material is deposited faster than it can decompose. In the oxygen-poor environment, it does not decompose completely and becomes compacted.

What we may not realize is that the world supply of both forms of peat, ancient and modern, is dwindling more rapidly than it can be replenished. Peat bogs the world over are disappearing. In Britain, only 6% of the bogs remain. Peat bogs are a unique habitat for many rare and usual forms of life. Many species of birds, amphibians, and insects depend on peat bogs. Many plant species are endemic to peat bogs, and are found nowhere else.

Recognizing the environmental impacts of peat bog depletion, some harvesters are taking measures for reclamation and preservation. The Canadian Sphagnum Peat Moss Association members agree to a reclamation policy which includes:

- Identifying bogs for preservation.
- Leaving a buffer zone around the perim

(See Peat, page 3)

Peat (from page2)

eter of the harvest area.

- Leaving a layer of peat to encourage regrowth.
- Returning harvested bogs to wetlands if possible. If not, the land is reclaimed for wildlife habitat or agricultural production.

Peat alternatives:

- Instead of peat pots, use pots formed from recycled newspaper. Easy kits are available to make your own. As with peat pots, seedlings started in these can be set in the ground, pot and all, reducing transplanting shock.
- Instead of peat planting blocks, use peat-free blocks made of waste coconut hulls.
- Reducing the amount peat in planting soil mixes or as a soil amendment, by using compost. One good recipe is to use 1 part mature compost, 1 part peat moss, 1 part vermiculite, perlite, or ground Styrofoam.
- Instead of peat as bedding for worm boxes, use bedding of shredded egg cartons or newspapers.



only 3 times, others “often”. Dr. Elaine Ingham, of Soil Foodweb Inc., stresses mixing every hour plus having a bubbler in the bucket, for she believes the best teas are aerobic rather than anaerobic. (Luckily, she is the one who says your tea can be ready in 2 days!)

Dr. Ingham states that the most beneficial foliar sprays are bacterial dominated, and the best soil drenches are fungal dominated (to promote mycorrhizal fungus growth around the roots). Using well-composted animal manure (cow, horse, rabbit) is a good way to ensure plenty of beneficial bacteria in your brew. The pH of your finished tea should be neutral, rather than acidic.

If you are using a backpack sprayer, you will need to strain and filter your tea very well to avoid clogging the nozzle. Because you are spraying living organisms, keep the PSI of your sprayer below 300, and spray either before 10:00 a.m. or after 2:00 p.m. if it is a sunny day.

If you want full, detailed information on Dr. Ingham’s recommended compost tea recipes and uses, a manual is available for \$15 from www.growingsolutions.com.

Compost Tea

More than just a tasty treat (for your plants, not you)!

Dedicated organic gardeners have long touted the values of compost tea. As a soil drench, it can enrich the soil with nutrients. Used as a foliar spray, it can combat fungal diseases on plant leaves. Just as your healthy skin is covered with beneficial bacteria that block skin infections, a healthy plant is covered with a biofilm of beneficial bacteria. Pesticides and fungicides kill these beneficials, creating gaps where foliar leaf diseases can infect your plants. A spray of compost tea inoculates the leaf surface with food for beneficial bacteria, which then either crowd out or eat the disease organisms.

Recipes for compost tea vary, from the very vague, to the quite precise. All agree, however, that the best compost to use is both mature and microbiologically active (Compost that is past the “hot” stage, but is not so old that the microorganisms have exhausted the food supply and died off). The best water to use is either pond or rainwater. Tap water may contain chlorine that will kill your microorganisms.

Now for the many variations among the tea brewers. One source stresses that wood or plastic barrels or buckets should be used, not metal. Some say contain the compost in a gunny sack, others say to keep the compost loose. Ratios range from 1:1 to 1 part compost to 3-10 parts water by weight. Some add an ounce of molasses per gallon of steeping tea, to induce even more bacterial growth. The length of time the compost should steep ranges from 2 days to 14. Some brewers mix

NPITL (from page 1)

displays. The plant sale is also open to the general public (non-conference registrants) at scheduled times.

Registration costs are \$125 for commuter, \$170 per person for a comprehensive double (lodging and meals), and \$195 for a comprehensive single. Optional field trips are \$40. Continuing education certificates are also available at a cost of \$5 per person.

For registration information, please contact the Department of Continuing Education, Millersville University, at (717) 872-3030, FAX: (717) 871-2022, Email: roma.sayre@millersv.edu.

If you would like some conference publicity fliers to distribute to friends or co-workers, contact Kathleen Geist, Recycling Education Office, Penn State Cooperative Extension, Montgomery County, at (610) 489-4315, Email: keg9@psu.edu.

The NPITL Conference is co-sponsored by the following organizations: Millersville University's Departments of Biology and Continuing Education, Rodale Institute, The Nature Conservancy, Penn State Cooperative Extension, Octoraro Native Plant Nursery, Bowman's Hill Wildflower Preserve, Windrose Nursery, and Pennypack Ecological Restoration Trust.

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Compost Parks

If you happen to pass by any of the eight composting education parks in Montgomery County in the next few weeks, please take a few minutes to give it a once over and report back to us on park status using this checklist. We would like to make sure everything is tidy before spring.

Compost Park Location _____

Master Composter _____

Date of Survey _____

- All bins in good condition
- Bins need repairs
- Bin ingredients well-balanced
- Too much brush
- Too many leaves
- Needs to be mixed
- Trash in bins
- Bin sign missing
- Need signs for: _____
- Signs need gluing
- Information in the mailbox
- Information needed
- Repair/replace mailbox
- Mulch in good condition
- Additional mulch needed
- Other

Please clip and return to:
Montgomery County Coop. Ext.
Recycling Education Program
1015 Bridge Road, Suite H
Collegeville, PA 19426-1179

Spring Schedule

March

- Weds. March 1, 7:00 p.m. **Compost Workshop**, Thomas Paine Unitarian Universalist Church, Lower Providence.
- Fri. March 17, 3:30 p.m. **Gardening for Nature conference volunteers walk-through at Schuylkill Center for Environmental Education.**
- Saturday, March 25** **Gardening For Nature Conference at SCEE.**

April

- Mon. April 10, 10:00 a.m. **Compost park clean-up** at Upper Dublin Twp., followed by clean-up at Montgomery Twp.
- Wed. April 12, 7:00 p.m. **Compost Workshop** at Level Road Schoolhouse, Lower Providence Township.
- Tue. April 18, 10:00 a.m. **Compost park clean-up** at Perkiomen Watershed Conservancy.
- Wed. April 26, 7:00 p.m. **Compost Workshop**, Estate of George Snyder.
- Sat. April 29, 10:00-3:00 **Earth Day at Perkiomen Watershed Conservancy.** We will have a table with literature and be answering compost questions.

May

- Sat. May 6, 10:30 a.m. Meadow planting, at 4-H center. Come help us plant plugs!
- Weds. May 10, 7:00 p.m. **Compost Workshop** at Methacton High School.

Can you help with any of the above dates?

Call Sally or Kathleen at 610-489-4315!

Or email us at: Sally: sjp6@psu.edu Kathleen: keg9@psu.edu

Remember, you must register by March 15 for the Gardening for Nature Conference to avoid paying late registration fee!