



Ecological Gardens Newsletter

<http://www.ecologicalgardens.com/>

Spring 2005

“To know this world is to gain a proprietary attachment to it. To know it well is to love and take responsibility for it. Each species offers an endless bounty of knowledge and aesthetic pleasure. The creature at your feet dismissed as a bug or a weed has a name, a million year history, and a place in the world.” Edward O. Wilson, *The Future of Life*.

Spring is a time for growth, new beginnings, and engagement with nature in our northern temperate climate. It is amazing how nature springs back to life year after year. This year, as always, I am anxious for spring's return but I also have a growing uneasiness. Winters are definitely not what they used to be. Climate change in central Minnesota seems to mean cold temperatures and no insulating layer of snow making it more difficult for plants to survive. This raises important questions for Ecological Gardens.

How can we best insure the money our customer's spend on plants doesn't go to waste? The standard solution has been to add adequate mulch in the fall. This is essential but research consistently says that healthy soil and a healthy soil food web (organisms) is the main guarantor of plant health. It is the soil organisms that deliver nutrients to plants in a form they can use. It is the soil organisms that create good soil structure so that air and water circulate. It is the soil organisms that create a protective sheath on the plant's roots and leaves protecting them from pests and disease. This means a critical element in landscape design and installation is an assessment of soil health and plans to deal with any deficiencies. This presents several problems:

- People don't expect to spend money improving their soil. Only gardeners and organic farmers view this as a necessary and worthy investment.
- Soil improvement often involves moving large quantities of material (topsoil, compost, and mulch) and is back breaking labor.

So where do we go? This week I am going to Corvallis, Oregon for advanced training on the soil food web and the use of compost teas. High quality, aerobic compost teas are formulated to re-inoculate the soil with living organisms. Different formulas are designed for different soils and different plant communities. One formula might be

geared towards lawn care, another towards vegetable gardens, and another towards forests and woodlands.

Wouldn't it be great if we could brew organic teas

- ... to favor grass species over weed species in lawns?
- ... to establish trees in agricultural soils?
- ... to increase plant resistance to disease?
- ... to increase the productivity of our lands and the nutritional value of our foods?
- ... to restore soil health after construction?
- ... to rehabilitate soils after buckthorn removal?

I will keep you posted as we develop a program for making these services available.

New Landscaping Products for 2005

These products are particularly designed for people who want to jumpstart their edible gardens. The designs are based on summarized knowledge of good plant companions and the ecological needs of plant guilds. If you are interested in more information on these products, call (612.588.3942) or email Ecological Gardens (paula@ecologicalgardens.com).

Herb and Edible Flower Spiral. The herb and edible flower spiral contains 13 different edibles in a 5' wide semi-circle. Herbs are an important part of any garden and any diet – they are aromatic... they impart flavor to foods... they have medicinal qualities... they are good at attracting beneficial insects (natural pest control)... or repelling pests. Edible flowers can be used in lettuce or fruit salads. The planting location should have a minimum of 6 hours sunlight.

Fruit Tree Guilds. The fruit tree guilds are designed as sustainable plant communities where, over time, the needs of each plant will be met by other plants in the community. The guild includes nitrogen-fixers, insectories, pest repellents, weed suppressors, and mulch makers. Most of the plants are perennials and have edible fruit, flowers, or shoots. The planting location should have a minimum of 6 hours sunlight and be 8' by 8' for a cherry, plum or pear guild and 16' by 8' for an apricot or apple tree guild.

Keyhole Companion Garden. The keyhole garden is a complex companion garden with 18 different fruits, vegetables, herbs, and edible flowers. A perennial bed is at the center of the keyhole and contains strawberries, bachelor buttons, asparagus, and chives. Radiating out from the center are 6 annual beds of companion plants. The planting location should have a minimum of 6 hours sunlight and be 13' by 9'.

Plant Community Database Update

Last summer I received a two-year grant from the Sustainable Agriculture Research and Education (SARE) program to create a query tool for the database that will be easy for

farmers and gardeners to use. We are now building the application in Visual Basic.net and hope to have it available on a website later this year. Currently data is being added to the database and now there are 1400 plants with ecological functions, human uses, companions, and concerns. We currently have 98 plant communities and guilds ready for trial and will be working with 3 farmers and the University of Minnesota student farm to develop validation protocols and begin plant trials at different sites this spring.

I am also collaborating with an international group of permaculture software developers who are working on a more robust query tool for designing plant communities and guilds.

Multifunctional plants – Elderberry (*Sambucus canadensis*)

Plants perform many important ecological functions in the landscape as well as provide beauty, medicine, and food for humans and wildlife. Elderberry, a native edible, is a very useful shrub that grows 10-12' tall. This information is taken from the plant community database.

Food

The fruit is rich in vitamins and is normally cooked and used in pies, jams, jellies, sauces, and bread. A pleasant tea is made from the dried flowers.

Medicine

Elderberry was widely used as a medicinal herb by native North American tribes. It is still commonly used as a domestic remedy. A warm tea of the flowers induces sweating and is used in the treatment of fevers and infant colic. An infusion of the leaves and flowers is used as an antiseptic wash for skin problems and wounds. Elderberry has a powerful influence on the blood and is used to remove the stagnation found in bruises and boils. Because Elderberry improves oxygenation of the blood, breathing capacity, respiratory problems, and kidney function, it has been suggested that Elder might be a preventative for sudden infant death syndrome (SIDS).

Pest Repellent

A decoction of the leaves can be used as an insecticide. Effective against many insects, it also treats various fungal infections such as leaf rot and powdery mildew.

Compost

When grown near a compost heap, the root activity of this plant encourages fermentation in the compost heap.

Insectory

The flowers are very attractive to insects.

Nurse

This is an excellent pioneer species to use when re-establishing woodlands. It is very tough and wind-resistant, grows quickly and provides shelter for longer-lived and taller woodland species.

Wildlife Food

Elderberries provide food for many species of birds including bluebirds, magpies, woodpeckers, grosbeaks, warbling vireo, red-eyed vireo, scarlet tanager, western tanager, house finch, green-tailed towhee, Townsend solitaire, American crow, grouse, quail, and pheasant. Elderberries also provide food for mammals such as rabbits, squirrels, foxes, woodchucks, chipmunks, ground squirrels, and mice.

Wildlife Habitat

Elderberries provide valuable nesting and perching habitat for birds.

Upcoming Events (not to miss)

- **April 8th – April 9th. Grafting Workshop, Permaculture Film Festival and Agroforestry Presentation.** Mark Shepard, founder of New Forest Farms in Viola, Wisconsin will lead this series of workshops hosted by the Sustainable Farming Association of Central Minnesota and the Brainerd Chapter of the Minnesota Forestry Association. For more information call Jim Chamberlin at 218.828.6197 (days) or email harvey.chamberlin@mn.nacdet.net.
- **April 15th. Permaculture Film Festival.** Northfield, Minnesota. For more information email paula@ecologicalgardens.com.
- **April 30th – May 1st, Living Green Expo.** Over 200 Green exhibitors, 100 workshops, food, dance, and song at the Minnesota State Fair Grounds in St. Paul on Saturday, April 30th and Sunday May 1st from 10am-6pm. Ecological Gardens is organizing the Yard and Garden exhibitors and workshops for the Expo. For more information visit the website, www.livinggreen.org.
- **May 6th – May 8th, Friends School Plant Sale.** The largest plant sale in the Midwest is a fundraiser for Friends School in St. Paul. It will be held at the Minnesota State Fair Grounds on Friday, May 6th – Sunday, May 8th. On Saturday, Ecological Gardens, will be selling greenhouse plants.

We could use your help designing more plant communities.

Are there problems in your landscape that you would like to have a plant community designed for?

Are there assets in your landscape - particular trees, water features, etc - that you would like to have a plant community designed for?

Send any suggestions or ideas to: paula@ecologicalgardens.com

Enjoy the spring!!

For information on upcoming events:

http://www.ecologicalgardens.com/upcoming_events.cfm

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