

Workshop Title: Positive Solutions with Permaculture

Speaker(s) & their titles: Graham Calder, P3 Permaculture Design

Executive Summary

Permaculture is a design science that is based in the observation of nature. It involves looking at what natural systems have been doing for millions of years and integrating the most successful practices into our lives, farms, architecture, etc. Permaculture is rooted in ethics. Its guiding principles are a framework to respond to the vast challenges that lie ahead for us in our world.

There are 3 underlying ethics:

- Care of the earth
- Fair share
- Care for people

Detailed Notes

Graham discussed what his company is offering in both consultation and certification in Nova Scotia and the Montreal area as well as many countries of the world. He also does workshops in Antigonish at Canary Farm, his family farm in NS. A large piece of Graham's discussion centred on recommending and sharing information about permaculture activities and resources around the world.

Focus: WATER

Water accessibility is essential in agriculture. Swales, mulch and catchment ponds are three ways to make water more accessible on a farm. Flat bottom swales hold water and allow it to drain straight down and hold there. On a mid-sized swale with a large berm on one side – it is useful to plant fruit trees up on top of the berm and the bowl, when filled, will serve to water them, resulting in long term accessibility to water even in times of very dry weather.

Water holding elements of soil are organic matter, mycelia and other elements, so mulches are necessary to hold water and protect the earth. It is important to re-establish and recreate the natural systems.

In conventional agriculture, tilling can destroy the biological matter in the soil. Give the biology an environment that is healthy and encourages life in the soil. Mulch feeds the soil; not just the plant.

Geographic areas of Canada and the US have been designated with certain Zone numbers which indicate what plants can over-winter there, what average temperatures prevail in that zone and other information pertinent to growing. Microclimates can be created all around the farm, effectively increasing the Zone number. Diversity is the key.

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Swales can be used effectively in heavy clay soils: Dig swales of a larger capacity with calculated overflow. One of the main things is to employ cover crops with deep roots to open the clay.

Focus: FOOD

Collective Gardens – No Dig Gardens—or Lasagna Gardens:

Adding layers of cardboard, compost, organic matter. Reduce pathways to a minimum. Everything should have multiple uses. Old techniques – like planting onions near roses to prevent black spot – should be re-adopted.

Mandala Gardens – Companion planting can be beautiful and still productive

Fruit Tree Guilds – Food Forests & Forest Gardens—look at what exists and add companion plants and trees; in the beginning, comfrey reaches deep and mines minerals. It can be cut 4x per year. We must mimic the layers of the forest. There are 7 layers in a forest garden.

Book Recommendation: *Gaia's Garden: Bringing Permaculture into the Home Garden*

Video Recommendation: Beacon Food Project

Integrate the heritage of homesteading and the techniques and habits of the original aboriginals. Pine nuts grow well in our Zone!

Hugelkultur – the creation of rich, productive garden beds by piling up branches and trees and then adding layers of soils on top.

Book Recommendation: *Edible Forest Gardens* by Dave Jacke

Midwest Permaculture Presents: Plant Guilds by Bryce Ruddick

Other Resources:

-International Aid: Ted Talks--- Borneo Project, Permaculture Kenya

-Community Forests International forestsinternational.org Sackville, NB

-Earthships are shelters made from recycled available materials: earthquake resistant, fire resistant.

-globalpermaculture.org will give you contact to permaculture practitioners

-www.P3permaculture.ca

Questions and Discussions:

- Building and designing structures? Cob, square bale, adobe
- There is an earthship currently being built in Havelock New Brunswick
- Two doctors on Kingston Peninsula also building an Earthship (architect designed)
- What are some examples of dynamic accumulators?

Dynamic accumulators are plants rich in a certain substance that can then be cut down or integrated into the soil. They can be used as a fertilizer or as part of a fertilizer mix for other plants that may be deficient in those particular nutrients. For example, the use of a

nitrogen dynamic accumulator, such as a clover patch, could potentially replace nitrogen-rich fertilizers. Others include dandelion, comfrey, and others grown for a specific nutrient.

They can also be used as green manures or cover crops to mine certain nutrients lacking in a certain area and are an excellent as an addition to the compost pile.