



“Organic Growing”
Saturday June 11th, 2016
Presenter: Alison Juta

Why grow organically?

Starting from the earth upwards:

- Soil is a living organism, and growing organically keeps it in good condition so it helps plants grow well, in a better balanced medium which is rich with microorganisms, worms and other beneficial insects.
- Above ground plant leaves, stems, flowers and fruit are stronger, more resistant to pests and diseases.
- Pollinators, birds and other animals such as amphibians, mammal's reptiles and insects are not affected or killed by chemical sprays or chemical fertilizers,
- No bad gases are emitted in the process of organic gardening – (no greenhouse gases), and organic growing and composting can create carbon sequestration situations.
- Composting is one of the most basic aspects of organic growing and saves on huge percentages of food waste going to landfill each year, thus reducing methane and other harmful gases.
- Mulching shared by organic growing and permaculture helps save water and the growing of stronger plants, with fewer weeds drawing off the food from the soil.

Tips and tricks of growing organically

Organic fertilizers are almost all slow release so plan well ahead –i.e. fertilize in the fall for spring grown.

Organic fertilizers are mostly made up of natural elements (minerals) from the earth or sea, and manures.

Understand p H and NPK and the major trace elements – this will help you grow the best plants.

pH testing tells you how acid or alkaline your soil is. Most plants will grow well in soil that is still slightly acid (i.e. 5.8-6.8), but not above 7.0 which is neutral. It is worth doing at least twice a season. Follow the instructions on the tester. Add lime if you want to increase the numbers – check websites or the back of the packet for amounts.

NPK – i.e. nitrogen, (N) phosphorous (P) and potassium (K) are the staple diet of all plants. Their mix ratio differs from plant type to plant type, but all must be present. Nitrogen creates the best environment for a plant to grow strong green shoots and leaves, phosphorous will create better flowers and fruits, and potassium is good overall plant development and health. Other minerals and trace elements such as magnesium and boron can stop diseases. Magnesium (Epsom salts) releases calcium in the soil and roots can pick that calcium up to make stronger stems and shoots. If you look at the back of a cereal packet to find out what extra vitamins and additives there are – you will find that humans and plants share many of the same needs.

Fertilize twice a season especially if it is very dry or very wet. Compost teas contain most of the best overall ingredients for a general purpose fertilizer. (See below for details)

Water:

Water seems a strange topic to choose just as we are getting drenched again in June. But come July we will be very dry. Too much water plants go floppy and die, too little water, plants shrivel up and die. Where is the happy medium? One can buy all sorts of water meters these days but still more plants die from overwatering than under watering inside our homes. When growing vegetables or annuals the rule of thumb is **an inch a week** in hot, sunny, dry summer conditions, such as those we often experience in late June into July.

Tips on applying water (to save on water and electricity costs):

Water either **early morning or early evening**. That way less water will get wasted; the plants will not get scorched leaves from water droplets being exposed to the sun's "prism effect", and the roots will absorb more water. However, if plants are visibly wilting midday water immediately but around the roots only.

Water at root level – do not use a sprinkler – much of the water evaporates before it can get to the plants: use drip hoses or hand water instead. Powdery mildew, amongst other diseases, is also encouraged by overhead spraying. Make an indent around every plant that you wish to water – it will funnel water to the roots. Mulch is also a wonderful way to keep soils moist.

When transplanting, water the seedlings before and after the operation to mitigate against transplant shock. I often use a 1:25 mix of sugar and water when transplanting – the sugar aids absorption and gives the young plant a carbon boost. Transplants do not like very cold water –like us they suffer from shock! Warm water in the sun before using it.

Use "olla's"-the original albas or olla's were unglazed earthenware pots, stored underground, with a neck sticking out through which water was poured into the gourd shaped vessel below. The fact that they were unglazed allowed seepage out of them, and plants grown around them were watered without any loss to evaporation. Today we tend to use milk cartons, pop bottles, cider containers or the like – with slits cut into them through which the water can flow. Given that most of these containers are made of food grade plastic there is little likelihood of plastic contamination of the soil. (Be warier of liquid soap or laundry liquid containers and the like). One can also use them for liquid fertilizing with mixes such as compost teas, and diluted fish or kelp products.

Compost teas- concoctions for liquid fertilizing. Cheap and easy and good for leafy vegetables: 1 garbage pail minimum of 5l with lid ,1 cup alfalfa pellets, ½ cup (optional) manure, 1T Epsom salts (magnesium) ,1T molasses every 3 days for a week. Green leaves egg comfrey, clover is also a good additive, as are fish and kelp emulsions

- Mix in warm water and stir at least daily. Mix 1 tea:5 water and use on all leafy greens and flowers.

Mulching:

- Weed mitigation
- Water retention
- Root cooling in summer and root warming in winter
- Soil enrichment as it breaks down into humus (eventually – and not man made mulches)
- Stops erosion by water and wind
- Keeps fruit e.g. squash clean and dry

Types:

- **Natural:** Grass, compost, straw, hay, leaves, moss, coconut husks, peanut shells.
- **Man made:** Sheet plastic- clear, red, black, cardboard, newspaper, landscape fabric, coloured bark,

- **Compostable /bio degradable:** Corn starch – weed killer, Planter's paper
- Best of all **COMPOST** It has been found to contain all sorts of extra "goodies" that makes plants grow best. And the best method that integrates all this is **lasagna layering** – layers of dry materials, and green materials, interspersed with soil or compost or both, laid over cardboard to a height of about 2 feet. Add a 6-inch layer of good soil on top of this. This is then watered thoroughly, rots and becomes very fertile compost over time (normally spring- fall) even while you are growing plants on top of it .

Worm composting –vermicomposting can be done at home and the castings and tea can be used in the garden. This is the "black gold" of composts.

See : <http://www.planetnatural.com/composting-101/vermicomposting/fro> ideas on home worm composting – but note you can buy two pails or two totes and not have to spend a huge amount on setting it up.

Worm tea – dilute 1: 40- it is extremely potent

All those dry leaves at the end of fall –gather them and use as mulch or bag them, make slits in the bags so that they can stay damp and stack them up in a corner of your garden for a year. They make very lush compost – after all trees have to be well fed to grow so tall!

Bugs and diseases

Always a problem. My bible is "**The organic gardener's handbook of natural insect and disease control**" by **Barbara W. Ellis and Fern Marshall Bradley. (Rodale Books)**

Most bugs found in community gardens:

- **Flea beetles** – all seedlings in early –late spring
- **Striped cucumber beetles**-love cukes and all squashes and beans
- **Colorado potato beetle**-potatoes, pepper, eggplant tomatoes
- **Cutworms** –collar your plants with paper towel insides- 1 "deep and 1" high above soil surface
- **Slugs and snails** –use yeast, sugar and water to attract them to a container where they drown.

A good general bug spray: 1-gallon water, 1 cup percolated coffee, 2 Tbsp. ammonia, couple of squirts of hot sauce, 1 tbsp. dishwashing liquid. Spray after every rain fall.

Most common diseases:

- **Blight** – this is why generally no potatoes are allowed, tomatoes are discouraged.
- **Powdery mildew** – plants are planted too close together – baking soda diluted 1 tsp to 1 litre water sprayed early in the morning helps.
- **Wilts** – plants are also too close together and will suddenly go yellow or brown and "fall over". Pullout and put in the garbage – no remedies. Buy wilt resistant seed or seedlings
- **Aphids** – a strong jet of water will knock them off , a tsp of vinegar in 1 litre water in a spray bottle helps