

# Cobham Community Garden – Principles.

## Introduction

The garden will be run broadly in accord with the aims of Organic and Permaculture principles, which for this enterprise are quite similar. This document is intended to interpret these principles in a practical way and outline how the garden should be managed.

## Purpose

The purpose of the garden are as follows:

- Bring the community together to grow fruit, flowers & vegetables.
- Manage the garden in a sustainable way.
- Be a welcoming place to encourage visitors & volunteers to come.
- A place to relax.
- To positively reflect the Transition movement in Cobham.
- Improve local resilience by growing our own food.
- Be financially sustaining (target end of season 2018).

## Soil

The most important part of any garden, a fertile soil contains an abundance of living organisms whose role is to break down coarse organic matter thus providing basic nutrients in a form that can be readily absorbed by plants. In nature this cycle is repetitive unless disturbed by environmental upheaval.

An organic approach to growing ensures complex nutrients are replenished in return for those taken from the soil. This is a simple yet essential equation. To maintain the long term health of plants, we must avoid taking more from the soil than is able to be replenished by regular feeding with organic material.

<http://www.organicguide.com/organic/gardening/principles-of-organic-gardening/>

These principles are interpreted in the CCG as follows:

Disturb the soil as little as possible (once we think it is in decent shape) to allow natural organisms and structure to establish.

Apply mulches and composts to provide most of the basic nutrients to improve and sustain the soil.

Protect the soil from rain damage whilst it is bare during the winter.

Use minimal 'artificial chemical' additives. However some substances commonly regarded as organic may be used as general additional fertilisers, such as for example:

- Bonemeal
- Blood Fish & Bone
- Chicken pellet based growmore rather than the chemical pelleted version.
- Worm tea

There may be cases where a particular plant group would benefit from some additional minerals. Such plants could either not be grown, allowed to grow poorly, or have suitable minerals added in – though these may not necessarily be regarded as ‘organic’. We should agree on a case by case basis and/or perhaps experiment to see if commonly used additives actually do what they are supposed to.

For example, a widely accepted gardening principle is that Strawberries benefit from an application of ‘Sulphate of potash’ and ‘Super phosphate’ in spring. But does it actually do any good? We could dose half our bed and compare the yield with the un-dosed plants (though in practice this is not easy).

The soil is quite sandy and (like most soils) needs additional organic matter (compost, manure, etc.) It is unlikely that the garden will produce sufficient compost itself, so we will need to bring in quite large quantities, particularly early on.

## Appearance

Most people appreciate neat and tidy gardens and expect them to conform to certain standards of appearance. The Community Garden will be ‘on show’ all the time to the general public, volunteers and the lease holders, and should aim to maintain a good appearance at all times whilst accepting that this will not always be possible and highly dependent on available resource. The intention is not to try to emulate RHS Wisley, but to be ‘respectable’ and not allow nature a completely free hand.

Typically:

- Defined and mown paths. Cut edges would be nice but unlikely to be achieved often; do for special occasions.
- Minimal weeds. Accumulations of mature weeds (i.e. large or seed bearing) should be avoided, and beds should be as weed free as possible, accepting that at certain times of year this will not be achieved.
- Fence boundary should be kept clear of grass or weeds growing much above 10cm.
- Storage of items within garden & shed / greenhouse to be kept neat and tidy.

## Boundary

The garden is bounded by a chain link fence all around with rabbit proofing under. The fence is strongly constructed, and could be used for supporting plants but only sparingly to minimise potential damage, and avoid scruffiness.

The chain link & rabbit proofing should be inspected regularly, and any repairs identified should be carried out in timely fashion.

## Buildings & constructions

Comprise shed(s) and greenhouse, compost bins, notice board.

Wooden structures should have appropriate protective & decorative treatments applied as needed. Treatment products should have low environmental impact (e.g. water based rather than creosote!).

Timely maintenance should be carried out where needed.

Care should be taken in selecting the type and source of materials or items used in the garden. Where possible these should be taken in preference from local and/or sustainable sources, providing costs are not unreasonable (determine on case by case basis). Re-using & recycling items is good

practice, even though many of these materials may not have originally complied with these aims – they are not being wasted.

## Waste

Once established, the garden should produce minimal waste (i.e. stuff that needs to be carted away to landfill). Organic matter, paper, cardboard, etc. can be composted or, if diseased or too woody, burnt. Broken or non-serviceable items should be recycled (e.g. at the dump) where possible. Plastic products can be a problem; their use should be minimised although their potential service should also be considered – for example, many years of good service can be enjoyed from plastic pots, even though there is no recycling path for them when they break.

Everyone visiting the garden should be encouraged to take their own waste items home with them (e.g. lunch packaging, etc.).

## Compost

Most green and woody waste can be composted, but there will be times when diseased material should be burned to avoid onward transmission of the problem. Bonfire ash can be spread onto the soil, but the fire pit should not be moved about as it will damage the soil beneath.

Commercially available compost will be needed for sowing, growing on, potted plants, etc. There are a confusing array of brands with varying claims to sustainability. Unfortunately totally peat free composts have been widely shown to exhibit very inconsistent behaviour, but the garden should support their use where possible.

## Pesticides & Weed killers

Adopting a pure organic approach could mean no pesticides & weed killers should be used at all, although some natural or inert substances might be acceptable. However as everything is based on 'chemicals' and derived from some manufacturing process it is difficult to define clearly exactly what compounds these are, and how to distinguish 'allowable' products from what should be banned.

Permaculture adopts a more pragmatic approach based on sustainable methods and processes. Here 'chemical' (or artificial) interventions are used as a last resort and if so it is acknowledged that some natural imbalance has occurred and something needs to be changed. A good illustration is given in "*Permaculture - A Beginner's Guide*" by Graham Burnett. Broad Beans are notorious for attracting large quantities of sap sucking blackfly as they start to flower & crop. He considers there are four stages to dealing with such infestations:

1. The infestation is not so severe that intervention is required. In a well-designed & smoothly operating system, natural predators are in balance with the pest problem
2. The infestation is more severe but only likely to reduce crops a little, and this is accepted. Perhaps the 'natural predator' system needs a little boost.
3. If the infestation is so bad that intervention is required, then the 'most natural' processes should be used, such as manually squishing the bugs, removing badly affected material, using soapy water, etc.
4. If the scale is beyond the above then a 'low impact' pesticide is a last resort. The natural system must be re-designed to support a more natural response in future, such as means to encourage natural predators.

## Tools

Ideally all tools should have a 'home' in the shed, and be returned there – clean – after each use. Some marking should be used to distinguish CG tools, both as basic security and to avoid getting them mixed up with things people will inevitably bring from home.

Hand tools should be maintained during the winter:

- Wooden handles lightly sanded & oiled (e.g. Danish oil).
- Metal blades cleaned & oiled (e.g. motor oil)
- Cutting blades to be sharpened (may also be needed during growing season) & oiled.
- Hoe blades to be sharpened & oiled.

## Wildlife

It is perhaps ironic that our first act pertaining to wildlife in the garden was to clear out the indigenous species (rabbits), however they & we could not co-exist in harmony. This sets the tone, i.e. we should encourage those things that enhance the experience of the garden, and discourage those things that diminish it.

Many 'pests' will be eaten by many other beneficial insects that can be encouraged through various means, for example:

- Bug piles (heaps of small logs)
- Bug hotels (more sophisticated version of above)
- Leaving 'untidy' areas – odd patch of nettles, long grass, etc.
- Taking care when pesticides are used (e.g. cool of the day to avoid pollinators) so we don't get the good guys.
- Water, damp areas & cool stone piles to encourage toads & newts.

## Finance

Once the garden is established the aim is for running costs to be met by running income rather than fundraising efforts, with any excess income being used within the garden. The target to achieve this state is 3 years from start, i.e. the end of growing season 2018.

# Reference material & notes

The following notes were obtained from the www as background support for our principles.

## Organic gardening

The essential principle of organic growing is stewardship of the soil, basically managing the soil in an organic manner ensures that the soil quality is maintained and enhanced for future generations.

Other principles of organic growing are:

- Principle of Health

Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible.

- Principle of Ecology

Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.

- Principle of Fairness

Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities

- Principle of Care

Organic Agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.\*

## Permaculture

Work with nature rather than against.

Basis for good sustainable gardening (plus a lot of other stuff). Many people may find it too 'brown sandals' or at worst look on it as some religious cult and be put off. Follow the principles but not to obsession. Many (most) gardeners adopt the principles as established good practice in any case.

<https://en.wikipedia.org/wiki/Permaculture>

<https://www.permaculture.org.uk/>

<https://knowledgebase.permaculture.org.uk/principles>

The three core tenets of permaculture are:

- **Care for the earth:** Provision for all life systems to continue and multiply. This is the first principle, because without a healthy earth, [humans](#) cannot flourish.
- **Care for the people:** Provision for people to access those resources necessary for their existence.
- **Return of surplus:** Reinvesting surpluses back into the system to provide for the first two ethics. This includes returning waste back into the system to recycle into usefulness.<sup>[12]</sup> The third ethic is sometimes referred to as Fair Share to reflect that each of us should take no more than what we need before we reinvest the surplus.

## Twelve design principles

Twelve Permaculture design principles are articulated by David Holmgren in his *Permaculture: Principles and Pathways Beyond Sustainability*:<sup>[15]</sup> The practical phrases come from [permaculture.org.uk](http://permaculture.org.uk). Things in bold seem appropriate to us.

Principle	Detail	Practical phrase
1. <i>Observe and interact:</i>	By taking time to engage with nature we can design solutions that suit our particular situation.	<b>Beauty is in the eye of the beholder.</b>
2. <i>Catch and store energy:</i>	By developing systems that collect resources at peak abundance, we can use them in times of need.	<b>Make hay while the sun shines.</b>
3. <i>Obtain a yield:</i>	Ensure that you are getting truly useful rewards as part of the work that you are doing.	<b>You can't work on an empty stomach.</b>
4. <i>Apply self-regulation and accept feedback:</i>	<b>We need to discourage inappropriate activity to ensure that systems can continue to function well.</b>	"The sins of the fathers are visited on the children of the seventh generation"
5. <i>Use and value <a href="#">renewable</a> resources and services:</i>	Make the best use of nature's abundance to reduce our consumptive behaviour and dependence on non-renewable resources.	<b>Let nature take its course.</b>
6. <i>Produce no waste:</i>	By valuing and making use of all the resources that are available to us, nothing goes to waste.	Waste no want not
7. <i>Design from patterns to details:</i>	By stepping back, we can observe patterns in nature and society. These can form the backbone of our designs, with the details filled in as we go.	<b>See the wood for the trees.</b>
8. <i>Integrate rather than segregate:</i>	By putting the right things in the right place, relationships develop between those things and they work together to support each other. <b>Many hands make light work.</b>	Many hands make light work
9. <i>Use small and slow solutions:</i>	Small and slow systems are easier to maintain than big ones, making better use of local resources and producing more sustainable outcomes.	<b>Slow and steady wins the race.</b>

<b>10. Use and value diversity:</b>	Diversity reduces vulnerability to a variety of threats and takes advantage of the unique nature of the environment in which it resides.	<b>Don't put all your eggs in one basket.</b>
<b>11. Use edges and value the marginal:</b>	The interface between things is where the most interesting events take place. These are often the most valuable, diverse and productive elements in the system.	<b>Don't think you are on the right track just because it's a well beaten path</b>
<b>12. Creatively use and respond to change:</b>	We can have a positive impact on inevitable change by carefully observing, and then intervening at the right time.	<b>Vision is not seeing things as they are but as they will be.</b>

## No dig gardening

[https://en.wikipedia.org/wiki/No-dig\\_gardening](https://en.wikipedia.org/wiki/No-dig_gardening)

This technique recognises that micro- and macro-biotic organisms constitute a "[food web](#)" community in the soil, necessary for the healthy cycling of nutrients and prevention of problematic organisms and diseases.<sup>[5]</sup> The plants transfer a portion of the carbon energy they produce to the soil, and microbes that benefit from this energy in turn convert available organic substances in the soil to the mineral elements the plants need to thrive.<sup>[6]</sup>

No-dig methods allow nature to carry out cultivation operations. Organic matter such as well rotted [manure](#), [compost](#), [leaf mold](#), [spent mushroom compost](#), old straw, etc., is added directly to the soil surface as a [mulch](#) at least 5-15 centimetres (2–6 in) deep, which is then incorporated by the actions of [worms](#), insects and microbes. Worms and other soil life also assist in building up the soil's structure, their tunnels providing aeration and [drainage](#), and their excretions bind together soil crumbs. This natural biosphere maintains healthy conditions in the upper soil horizons where annual plant roots thrive. No-dig systems are said to be freer of [pests](#) and [disease](#), possibly due to a more balanced soil population being allowed to build up in this undisturbed environment, and by encouraging the build-up of beneficial rather than harmful soil [fungi](#). Moisture is also retained more efficiently under mulch than on the surface of bare earth, allowing slower percolation and less leaching of nutrients.<sup>[8]</sup>

Another no-dig method is [sheet mulching](#) wherein a garden area is covered with wetted paper or cardboard, compost and topped off with landscape mulch.

A no-dig system is easier than digging.<sup>[9]</sup> It is a long term process, and is reliant upon having plentiful organic matter to provide mulch material. It is also helpful to remove any perennial weed roots from the area beforehand, although their hold can be weakened by applying a light-excluding surface layer such as large sheets of cardboard or several thicknesses of spread out newspaper before adding the compost mulch. The newspaper or cardboard should be thoroughly wet to help it lie flat and keep it from blowing away until the overlying material is added.

Since 1982 [Charles Dowding](#) has been practicing no dig in his market gardens, on areas ranging from a quarter to seven acres. He has written seven books on gardening organically and without digging, and gives regular talks and courses on the subject. His methods centre on using compost as a mulch, rather than un-rotted organic matter which tends to accumulate slugs in the damp, British climate. He

encourages gardeners to be adaptable in their approach, according to local soil, conditions and crops grown. His own speciality is salad leaves for sale to local outlets and the plants grow well in undisturbed soil.

## Cardboard mulch

Used on its own as a weed suppressant rather than a soil improver, but with other materials on top to achieve both. Some concern about dyes and adhesives used during manufacture but the latter are probably starch based, and using board having little printing will minimise dye chemicals.

<http://www.permies.com/t/17828/composting/Cardboard-mulch-year>

<http://www.theguardian.com/lifeandstyle/2011/feb/26/aly-fowler-lasagne-gardening>

<http://permaculturenews.org/2012/07/20/gorgeous-gardens-from-garbage-how-to-build-a-sheet-mulch/>

## Mulching general

<http://bobflowerdew.co.uk/mulching>

Many materials can be used as a mulch and soil improver; the best is the one you can get for free.