

Organic gardening for beginners

By Dee Pignéguay

Congratulations, you are about to join the growing revolution of people who are digging up their lawns, sheet mulching, installing raised garden beds, and filling containers with edible plants. Over the centuries the very same planting, growing and harvesting skills you will be learning have been the basis of life.

Plants really grow themselves once you get the soil right, but if you have not gardened before you may be wondering where to start. There are many ways to get advice and mentoring. Visit your local school; there has been a revolution taking place there as well. Or join your local gardening club, or Soil and Health branch (see page 53). New Zealand is a nation of gardeners – and they are always keen to share their skills. Two essential books to add to your gardening library are *Gardening For Planet Earth* and the *Earth User's Guide to Permaculture* (see page 60 to order).

Growing soil: lunch in the compost heap

Scientists believe the plant–soil relationship is one of the most extraordinary interactions in nature. It is amazing that a healthy soil full of micro-organisms can digest, clean up and detoxify human soil pollution. Nature's soil organisms have been making compost since life on earth began. All over the garden, bacteria, fungi, earthworms and

other creatures digest plant and animal materials, changing it into nutrient-rich humus. The process of decomposition provides living organisms with carbon, nitrogen, magnesium, potassium and phosphorus, as well as all the other mineral elements they need.

Composting is the oldest form of soil treatment. Until 1850 farmyard manure (dung) –horse, cow, poultry, sheep and goat manure – was the main source of organic material. Some countries used night soil (human waste) as well. Today you can use seaweed, weeds, plant material, kitchen scraps, paper, grass clippings, leaves, feathers and hair, herbs, teabags, and coffee grounds – in fact anything that has been alive. Once you have put the pile together, all organic materials will decay – compost makes itself!

Liquid manures are a cheap and effective way of increasing and maintaining garden fertility and replacing soil nutrients. Suitable barrels are readily available, or you could recycle an old wheelie-bin. You will need to insert a tap close to the bottom of the barrel. Drill a hole slightly smaller than the diameter of the threaded tap and screw it into the hole. Mount the barrel on a stand in a cool shady place and leave room for a watering can or bucket to fit under the tap. Then fill with a mixture of seaweed, nettles, fish scraps or manure and water, keep covered and leave to brew. It's ready in two weeks but can be kept for longer.

Mulching

When you apply a layer of organic material on the ground around plants you are mulching. Straw, aged grass clippings, shredded leaves, or 'green manure' (plants such as mustard, oats, vetch and lupins grown and dug back into the soil) provide nutrients and a home for soil food web organisms. Mulch is best used with compost. Put the compost down first and cover with the mulch. Covering the soil with mulch protects it from wind, rain and the drying

Photos: Mike Pignéguay

Top: Composting can be done right in the garden. Note the collection here of liquid 'manure', from moisture draining through the heap, running off the corrugated iron underneath, via the old gutter pipe to the half-buried bucket.

Bottom: Salad gardens can be grown in containers such as these polystyrene containers

sun. Mulch should be 5–7.5 cm thick so it doesn't block air and moisture. Keep mulch clear of plant stems and fruit tree trunks.

Timing is critical; if mulch is applied too early, on cold soil, it will delay plant growth, if too late, weeds may have already taken control. Experiment with living mulches like chickweed and red clover. Clover 'fixes' nitrogen from the air into the soil, attracts beneficial insects and suppresses weeds. Chickweed also suppresses weeds and provides lots of succulent greens for salads.

Soil acidity

Soil acidity and alkalinity are measured in terms of pH units. Acidity is the measure of the amount of free hydrogen ions in the soil which are capable of combining with other elements to form acids. The pH affects how well your plants can absorb nutrients.

The natural action of earthworms and soil organisms help keep soils from becoming too acidic. Make sure there is plenty of compost in the soil to keep soil organisms healthy and they will ensure the soil maintains the correct soil pH for healthy growth.

Water

Plants cannot live without water, but too much can kill them. Plant roots need moisture and air. The movement of air brings oxygen to the roots and allows the CO₂ they give off to be carried away. Water allows plant roots to absorb minerals from the soil. But when water fills up the air spaces in the soil, roots cannot get the oxygen they need and the plant stops growing. A sure sign of waterlogged soil is yellowing of plant leaves.

Observe your plants and check the soil moisture to figure out when you need to water the garden. Plant needs vary depending on soil type, weather conditions, including wind, humidity and temperature, and how established the plants are.

Nutrients

Just like people, plants have a life cycle; this is the time it takes them to grow, flower, set seed and die, and during this cycle nutrients support their ability to grow and develop. Essential chemical elements called nutrients are needed for carrying out the functions of photosynthesis, assimilation, respiration and growth. The lack of any of these nutrients will affect plant development, yield and resistance to pest and disease.

Plants grown organically receive nutrients naturally from compost, manure, liquid fertilisers, green manure, rock dust and recycled plant material. Remember that vitamin levels in fresh leaves deteriorate as soon as they are picked. Fresh is definitely best!

Garden design

There will be many micro-climates in your garden which will determine how quickly and how well your plants grow. These special growing areas are influenced by sunlight hours, soil and air temperature, soil types, rainfall, wind and frost. Find warm sheltered spots and experiment with cloches, frost netting, trellises and growing structures to reduce cold air flows, trap heat and maintain soil temperature around plants. Night temperatures are determined by the heat that comes up from the soil, so remove all mulch at this time of the year and use cloches to warm soil and trap heat close to plants during cold spring nights, allowing for early planting. Cold soil and air temperatures result in poor germination, slow plant growth and disease.

Gardening is all about timing when deciding what to plant. With climate change it is becoming harder to judge just when to plant. Instead of worrying about what to plant each month, try to understand the difference between warm season crops that thrive in the heat of summer, and the cool season crops which struggle in hot temperatures. All the salad vegetables can be grown now.

Getting started

Most gardeners think digging is essential, but it disturbs the soil structure and micro-organisms. Raised garden beds make efficient use of limited space and are more productive. By planting intensively rather than in rows the gardener is able to conserve water and concentrate soil building.

- Start small and expand your garden over the season as you improve your skills and knowledge.
- Plan raised garden beds and plan paths for easy access. Make sure the bed size allows you to reach across the beds without walking on them: 1–1.5 metres.
- A continuous supply of compost is critical to success. Make sure you have room for making compost and liquid manure, and somewhere to store mulch material.
- Be on the lookout for materials you can recycle to use in the garden. Home gardens don't require garden centres to flourish! 🌱

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Spring salad plants

Many of the basic components of a healthy diet can be found in fresh organic salads, and if you follow organic principles and work with nature's cycles you can easily grow salad vegetables while you are developing your skills. To create spring salads with a wealth of diversity, nutrients and colour, grow some of the following plants. They will not all mature at the same time and you can continuously pick the leaves or flowers while the plants keep growing.

- Varieties of lettuces
- Snow peas
- Rainbow chard
- Spring onions
- Spinach
- Beetroot
- Turnips
- Calendula (flowers)
- Parsley
- Cilantro/coriander
- Radishes
- Strawberries
- Nasturtiums
- Chickweed
- Dandelion (leaves)
- Borage (flowers)

Below: Planting close together to conserve moisture, kill weeds and have an assortment of greens for salads

