Home Grown

A practical guide to growing your own fresh food

City of KINGSTON

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KINGSTON

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Why grow your own produce?

Growing your own delicious fresh food is rewarding, healthy and fun!

Fig

From a simple container to extensive garden beds you can plan to grow seasonally fresh and naturally ripened food that tastes delicious and is nutritionally better for you.

Home Grown provides you with practical advice on how to grow your own produce at home, from designing and planning your garden, to planting and harvesting your own fresh fruit and vegetables. Growing your own food is a great way to get fresh air and exercise whilst providing fresh and healthy food for your family. It also helps to reduce food packaging, transportation and chemical use, and creating compost with food scraps reduces waste - which is all good for the planet!

Home Grown will also provide you with information on how to connect with other food growers in your local area.

Planning

Start small...but plan BIG!

Practical considerations

Taking the time to plan your produce garden will save you time and money. In planning your produce garden you need to consider what you have, what you would like to end up with and how you are going to get there. And remember, it doesn't all have to be done immediately, but rather according to a well thought out garden plan.

1. What exists?

Have a good look at your garden, preferably at varying times of the year. Sketch out a plan of your garden and mark in the physical elements. Where are your sunny and shady areas in summer and winter? Produce should have at least 5 hours of full sun per day. Are there any areas that get water logged? Do you have steep slopes that would need to be levelled if you put in produce beds? Is your compost bin convenient to access? Mark in any of the following: existing garden beds, clothesline, play equipment, garden shed, paths, rainwater tank, North, slopes, wet areas, taps, underground pipes, deciduous trees, sheltered areas and wind tunnels.

2. What do you want?

What do you like to eat? Do you want to supplement your family's diet? Do you just want some fresh herbs and a lemon tree? What about fruit trees? Do you have space to grow a wide range of vegetables and herbs? Do you want raised veggie beds or to combine productive plants within ornamental beds? Do you want to have chickens? How much time do you have for ongoing maintenance?

3. Do some background research

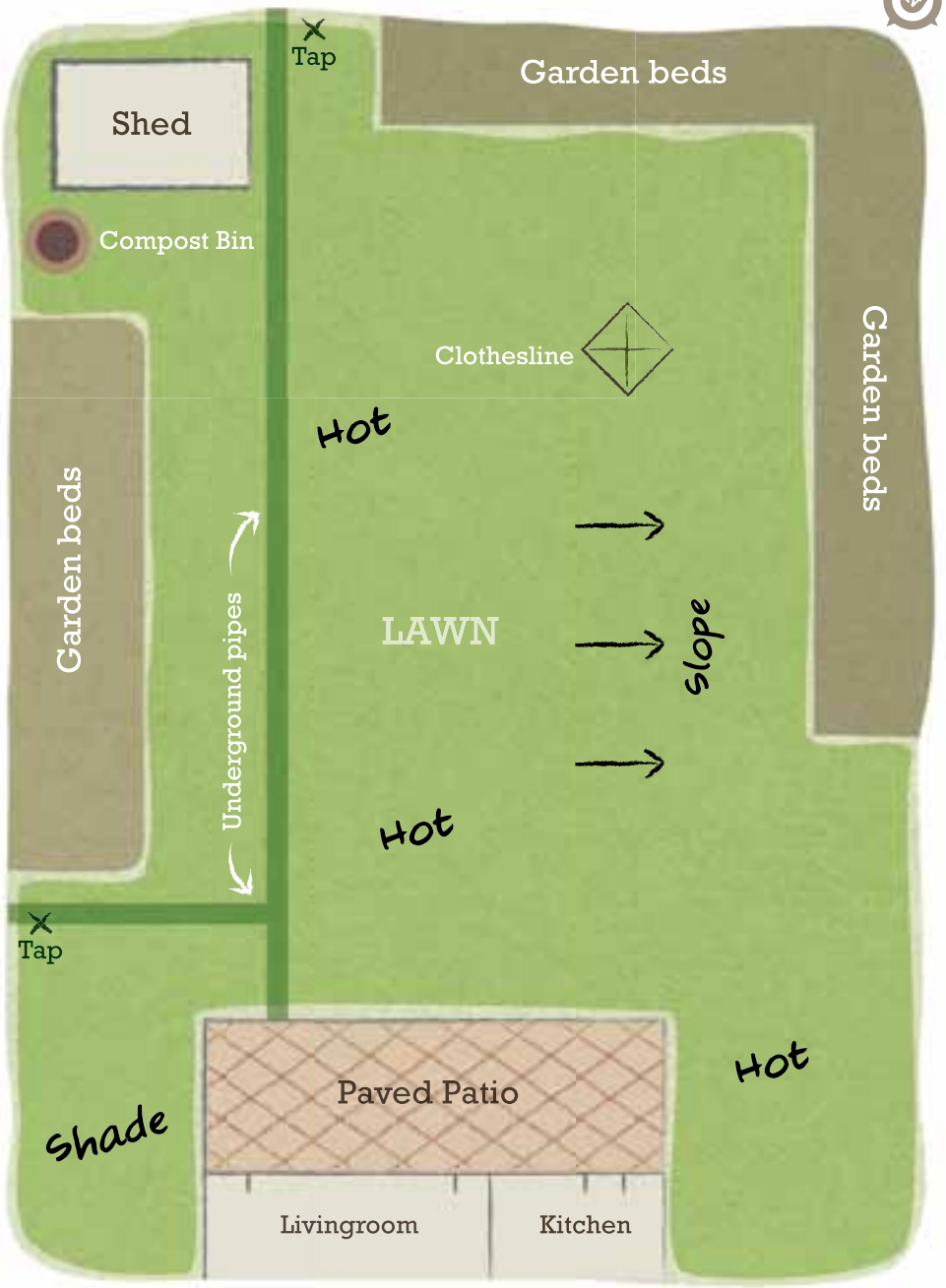
List down any major structures you want to include in your garden. Can you do it yourself, or will you need a professional builder or plumber? Make an estimate of the cost of materials for elements such as raised veggie beds, irrigation system, paving, soil and mulch, fruit trees or a rainwater tank. Do you have the time and money to do it all at once or is it better to take a staged approach?

4. Develop a plan

Once you have decided on what you want and what you can realistically achieve and afford, you can play with your garden plan exploring different options. Tracing paper overlays can work well at this stage. Decide what needs to be done first i.e. structural changes such as levelling a site for a raised bed or putting in paths. Focus on one area at a time so you are not overwhelmed.

Site analysis

Example of a typical backyard site analysis with major features draw in.



Garden plan for a food garden

Example of a garden plan to introduce a wide variety of produce and chickens to the backyard.

Installation

In general, you have three options for where you grow your produce. You can add produce to your ornamental garden beds, build a dedicated veggie bed or, grow your edibles in containers. You may decide on a combination of all three!

Container growing

Growing herbs, vegetables and dwarf fruit trees in containers is a great option for small spaces such as courtyards and balconies, and for renters. Growing edibles in containers close to the kitchen will increase the likelihood of them being used in an evening meal. You can buy glazed pots, hanging baskets, flower boxes or recycle an old bathtub! Just make sure you have drainage holes and the plant roots have ample space to spread their roots and thrive. Aim for a depth of around 30cm.

Growing produce in food cans should be avoided as they are lined with BPA (bisphenol A) which may leach into your edibles. Likewise old tyres can leach chemicals and should be avoided.

If you are using pots on a balcony, courtyard or patio it is a good idea to put them on wheels so they can be easily moved around to catch the full sun across the seasons. Potted plants dry out very quickly so add pot saucers or use self-watering pots and check regularly. Terracotta pots are quite porous and will dry out faster than glazed pots.

Use a high quality, organically certified potting mix and top up as it breaks down. Do not use garden soil in containers as it tends to break down too quickly and can drain poorly.

Add a straw-based mulch deep enough inside your container so that it will not blow away.

Avoid putting too many large pots on your balcony. Remember containers get even heavier when you water them. Balconies can also be quite exposed to high wind, potentially resulting in pots toppling over or plants dehydrating. Select plants that don't grow too tall and avoid light plastic pots.

Basil

Raised garden beds

Building up is an excellent option if you have poor quality or compacted soil, concrete, limited space, a bad back or want to create a kitchen garden feature in your garden. Raised beds can be constructed from a variety of materials including large fruit crates, straw bales, bricks, timber sleepers or galvanised iron. If you use sleepers, make sure they are CCA (Copper Chrome Arsenate) free timbers and avoid treated pine.

The height of raised beds can vary depending on what is comfortable for you. To grow large fruit trees you will need a depth of at least 100cm. If you want to grow dwarf fruit trees you will need a minimum depth of 30-50cm. Width can be an issue for accessing plants easily. If you access plants from one side aim for a width of around 50-60cm, from both sides you should be able to comfortably reach plants at a width of 1.0 -1.2m.

When your raised bed is in place, all you have to do is fill it up. You can buy some garden topsoil from your garden centre, add a layer of well-rotted animal manure or compost, top with a straw-based mulch and start planting. Or you can fill your raised bed by the no-dig method of layering materials.

The height of raised beds can vary depending on what is comfortable for you.

Raised garden bed

No-dig garden bed

A no-dig garden is filled with layers of material that break down over time to produce a nutrient-rich soil that retains water well and produces heat to accelerate plant growth. And as the name suggests, no digging required! Ideally, no-dig gardens should not be planted into immediately to give the organic matter time to break down. If you construct your no-dig bed in late summer/autumn, it will be perfect for planting in spring.

No digging required!

Once your raised bed frame is in place, fill using the following no-dig method:

1. Create a weed barrier by laying about 2cm of overlapping newspaper, unwaxed cardboard or carpet as a base. Wet down.
2. Add about 10cm of organic waste e.g. grass clippings, vegetable scraps or chopped up garden waste.
3. Cover with 10-15cm of aged animal manure or compost.
4. Add a layer of straw-based mulch to a depth of 20cm.
5. Repeat 2. to 4. if you have a high raised bed.
6. Lightly spread more animal manure to a depth of 2cm.
7. Water well.
8. Let the bed rest for a season.
9. Plant out with seedlings and mulch to a depth of 3-5cm.
10. Top up the bed with more organic matter from time to time.

Traditional veggie patch

A good size for a veggie patch is about 1.2m wide and 3m long. Mark out the bed with a string line and start digging! The soil must be dug to a depth of 30cm with all weeds removed as you go. Cover the dug over soil with about 10cm of aged animal manure and dig this in. Water well and cover with a straw-based mulch.

Pottager garden

If you incorporate your fruit trees, vegetables and herbs into your existing ornamental garden beds you are creating a pottager garden. Adding produce will create diversity, texture and colour to your beds. You will first need to incorporate a significant amount of organic matter into your soil for your nutrient-hungry produce. As indigenous plants thrive in low nutrient soil it is not advisable to add produce to native plant beds.

If you have a clay soil, sprinkle gypsum over the soil surface, as you would icing sugar on a cake, to help break up the clay. Dig over your soil to a depth of about 30cm adding 1 part compost to 3 parts soil. Plant out and mulch around your produce with a straw-based mulch. Be mindful that seasonal produce has a fast turnover that can result in disturbance to the soil around permanent plants when cultivating, so position produce carefully within your beds.

Maintenance

Good maintenance practices lead to a more productive harvest!

Soil

Produce thrives in soil that is rich in nutrients, crumbly to touch, dark in colour and water retentive. Not all soil is ideal for growing produce and so you may need to work with your soil to improve it's fertility, aeration, water holding capacity and organic content.

Soils are broadly classified by the size of the particles they contain as to whether they are sand, loam or clay (and variations of e.g. sandy loam). To work out your garden soil type simply take a handful of slightly moist soil and squeeze it. If it forms a smooth ball, it's a clay soil. If it does not hold form and simply falls apart, it's a sandy soil. If it roughly holds together, but falls apart readily when squeezed, it's a loam soil.

Clay soil consists of very fine particles that stick together. They tend to hold water and nutrients well. The downside of clay soils is that they can hold water a little too well, creating poor water drainage. Also, when they dry out they can become hard, making it difficult for water to penetrate. The solution is to make them more friable by adding a dusting of gypsum and organic matter such as aged animal manure and compost.

Sandy soils consist of large particles that allow water to drain freely. The problem is that plants dry out quickly and nutrients are leached away. A potential problem with sandy soils is that once they have dried out, they can become water repellent and water will bead on the surface rather than soaking in. To improve a sandy soil, regularly apply organic matter and mulch.

Loam soils fall somewhere in between sand and clay and are a mixture of fine and coarse particles. Loam soils drain well and have a good nutrient base for gardening. Add organic matter and mulch to replenish nutrients taken up by your plants.

The pH of your soil refers to the acidity or alkalinity of your soil which affects the availability of nutrients for plants. This is critical in growing healthy produce plants. You can buy pH testing kits from garden centres and routinely check your soil pH, particularly at the end of each growing season and before you plant the next crop. Ideally when growing produce, your soil should be within a pH range of 6.0 and 7.5. Altering your soil pH takes about 6 weeks. If your soil pH is too high (alkaline), it can be lowered with an application of sulphur. If it is too low, raise it with a sprinkling of dolomite or lime. Be sure to follow the manufacturer's instructions.

Kingston soils

Kingston soils provide their own challenges as they are typically sandy and dry. This makes them unattractive to the abundant micro-organisms essential for producing soil nutrients.

Improve your sandy soil by adding plenty of compost and other organic materials. This will improve your soil's moisture holding capacity, make it attractive to worms and promote better plant growth.

The benefits of sandy soils are that they are naturally free draining and warm up quickly in spring. This allows for early germination of veggie seeds such as chillies and capsicums that need long growing seasons to bear fruit.

Fertilisers

Produce requires large amounts of nutrients for optimum growth. This is particularly true for fast growing annual crops. Adding compost and aged manures to your soil will provide most of your plant's nutritional needs. Existing soil nutrients can be made more available by regulating the soil pH.

If fertilisers are necessary, feed the soil rather than the plant. This allows the plant to take up what it needs as it needs it. Before the autumn and spring growing periods begin, apply slow release pelletised fertiliser. Then during the growing period apply supplementary organic fertilisers fortnightly. Choose an organic liquid fertiliser such as worm tea, manure tea or fish emulsions. Avoid synthetic fertilisers as these often have synthetic nitrogen and the high salt content can burn young seedlings.

For information and treatment of some common plant nutrient deficiencies, refer to page 23.

Organic waste recycling systems

When organic (food and garden) waste rots in landfill anaerobically (without oxygen) gases are produced as a by-product.

Landfill gas is approximately 40% carbon dioxide, 55% methane, 5% nitrogen and other gases. Methane is a greenhouse gas that is 21 times more warming than the equivalent amount of carbon dioxide. When organic waste breaks down aerobically (with oxygen) methane gas production is minimised. If you compost your organic waste at home, rather than send it to landfill, you help reduce unwanted gases, plus your plants will love you!

Composting your food scraps, grass and garden clippings can provide your garden with an excellent source of food. Compost does not have to be dug into the soil. Unless the soil needs to be improved, the compost can be laid on top.

ADD TO YOUR COMPOST

- **Fruit and veggie scraps**
- **Coffee grounds**
- **Tea bags**
- **Herbs**
- **Leaves**
- **Egg shells –** crushed
- **Pizza containers**
- **Egg cartons**
- **Vacuum cleaner dust**
- **Onion** – outer skin
- **Finely chopped citrus peel**
- **Grass clippings**
  – thin layers 3 to 4cm
- **Chopped prunings**
- **Weeds**
  – not bulbs or seed heads
- **Shredded newspapers**

KEEP OUT OF YOUR COMPOST

- **Meat and fish scraps**
  – they can attract vermin
- **Dairy**
  – again they attract vermin
- **Office paper**
  – bleached or glossy
- **Weed seeds and bulbs**
  – you will only spread them around your garden
- **Bird, dog and cat poo**
  – can be a health risk
- **Large tree branches**
  – unless you've put them through a chipper
- **Citrus fruit**
  – too acidic in large quantities, okay in small quantities
- **Diseased plants**
  – spreads disease

Kitchen fermentation kits

A kitchen fermentation system converts kitchen scraps into a nutrient rich soil conditioner for your garden. The system is air tight and requires you to sprinkle a handful of the manufacturer's rice husk and wheat bran (infused with micro-organisms) over a layer of kitchen waste to rapidly break down food scraps. The fermented product is then dug into the soil where it continues to breakdown. The kitchen fermentation kit is ideal for those in flats or with small gardens. The kit is small enough to sit on or under a kitchen bench.

Regularly drain the juice produced using the tap at the base of the bucket. Dilute 1 teaspoon with 2-3 litres of water and apply.

Compost bins

Compost bins are a compact closed system to break down organic waste into compost. Locate bin in a position that is shaded in summer and sunny in winter. Under a deciduous tree is ideal. Place on soil so that liquid drains away and worms can enter the bin to aid composting. Fasten a piece of mesh wire under the bin to prevent rats and mice digging underneath. Add alternate layers of high nitrogen ingredients (e.g. food scraps, manure, grass clippings, soft prunings) to low nitrogen ingredients (e.g. dry leaves, straw, garden waste, shredded newspaper). Aim for layers of 1 bucket of high nitrogen followed by 3 buckets of low nitrogen. Keep moist but not too wet. Cover with a layer of hessian to retain heat and moisture. The compost should be ready in 12-16 weeks.

Compost heaps

This is an open system that requires more space and will attract vermin if kitchen scraps are added. The system needs to be a minimum of $1m^3$ in order to generate enough heat to work. Build a large heap of organic materials 1.2m high by 1.2m wide. This can be on soil or on a hard surface. Alternate your organic materials between high nitrogen (e.g. garden cuttings, lawn clippings and aged animal manures) and low nitrogen (e.g. dry leaves, straw, shredded newspaper) with each layer being 10-20cm deep. As you build, wet down each layer so that the materials are moist but not saturated. Cover your finished heap with hessian and secure. Turn your heap twice a week. The heap should generate enough heat to obtain compost in 6-8 weeks.

Worm farms

Worm farms are a great option if you have limited space and predominantly want to dispose of food scraps. You can buy worm farms that come with instructions, bedding and special composting worms. They consist of 3 containers that sit within each other and a lid. The bottom layer had a filter and tap and this is where the nutrient rich worm tea accumulates. The middle container is for collecting the worm castings, another rich fertiliser. The top layer is where the worms live. You can also build your own worm farms from polystyrene fruit boxes or an old bathtub.

Location

It is important to locate your worm farm in a place that is convenient to access and is away from direct sunlight and rain. Too hot (over 30°C) and your worms will die. Cover your worms and kitchen scraps with damp newspaper or hessian to keep them cool and moist. Too cold (less than 10°C) and wet, they will die. A layer of old carpet on top will help in winter. Adding shredded newspaper or pea straw in with foodscraps will balance out the pH and reduce small vinegar flies in the top layer or dead worms in the bottom layer.

Food

Worms love finely cut or blended fruit and vegetable scraps, tea leaves, coffee grounds, wet shredded newspaper and aged manures. Avoid citrus, onion, garlic, cheese, meat and bread. Don't overdo it, especially when you first set up your farm, and monitor it regularly. If your farm starts to smell the food is rotting rather than being eaten. If this is the case, reduce the amount of food you are adding to your worm farm.

Coarse lime can also help the pH of your worm farm and reduce the smell.

Worm Fertiliser

Worm tea is very strong and needs to be diluted 1 part tea to 10 parts water before you add to your plants.

Worm castings are less potent and can be scooped up and added directly to your soil.

Green Cone

The green cone is an in-ground digester system where your food waste breaks down and releases nutrient-rich liquid into the soil. Once the system has been set up in the ground it remains in that location, there is no need to move it. All food waste can be directly added to the green cone. It is low maintenance as the internal warmth and soil bacteria and earthworms do the job for you. Green cones should be located next to heavy feeders in a sunny position with good drainage. It is ideal if you have limited need for garden compost. It is not suitable for garden waste.

Watering

Australia is the driest inhabited continent on Earth and climate change modelling suggests lower rainfall and an increase in hot days. It is estimated that up to 35% of household water is used on the garden. Consequently, in a situation of water shortage, water restrictions are placed on our access to mains (tap) water for gardening. If we want to grow produce we need to ensure we capture and apply water efficiently and effectively.

Water harvesting

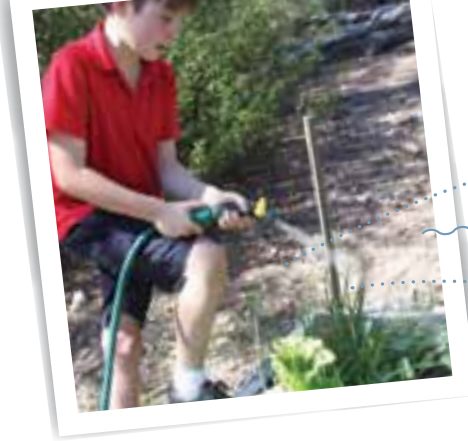
Rainwater Tanks
Collecting your own rainwater is essential if you want to maintain a produce garden throughout the year. Rainwater collected in a tank is not subject to any water restrictions in times of low rainfall. There are a wide range of rainwater tanks on the market from steel, concrete and plastic, to slimline, round and bladder tanks. It comes down to the size you need, the space available in your garden and your budget.
For information on choosing the size and type of rainwater tank visit:
www.sgaonline.org.au

Kingston City Council encourages the installation of rainwater tanks. In most instances, a permit is not required, however it is important to be aware of regulations regarding tank siting to ensure that your tank does not interfere with the amenity of adjoining properties.

For information on rainwater tank rebates visit South East Water
www.southeastwater.com.au

Greywater
Greywater is any waste water that comes from your bathroom, laundry or kitchen. Untreated greywater can be applied to the garden under some circumstances, however it should never be applied to herbs and vegetables that are grown as food crops. Greywater can contain bacteria and other pathogens that can cause illness if consumed through eating herbs and vegetables. It can be applied sub-surface to fruit trees. Untreated greywater cannot be stored for more than 24 hours and if you are using it on fruit trees, you should use phosphorous free, low sodium detergents and flush the soil regularly with fresh water. Not a great deal of research has been done on the long term effect of untreated greywater on plants, soils and soil microbes.

For further information on greywater use in the garden visit:
www.epa.vic.gov.au and search 'greywater'.



Water to the base of the plant,

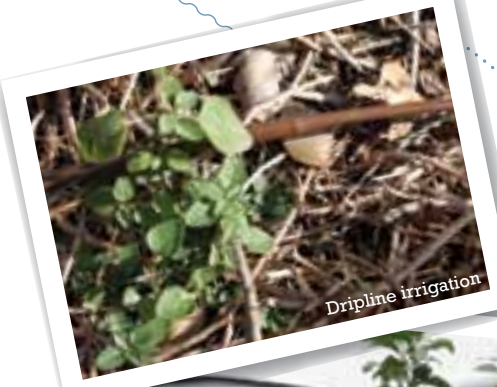
Water application

How water is delivered to your plants is very important. Use a dripline watering system which reduces wastage by ensuring that the water only goes to the base of your plants where it is needed. Check and clean your irrigation system every spring to ensure dripline holes are not blocked up with soil.

If you are using a hose, use a trigger nozzle with an adjustable spray. Do not use a concentrated spray as this will destroy the soil structure. Water to the base of the plant, not the foliage. Water in the early morning so your plants are not distressed through the heat of the day, and you will also prevent fungal diseases and moulds.

Install garden tap timers to reduce over-watering. Use a rain sensor so that watering doesn't occur automatically and ensure the system is turned off if rain is predicted. Give your plants long, deep watering and make sure they are grouped according to their water needs.

For information on current water use rules visit:
www.southeastwater.com.au



Dripline irrigation

Rainwater tank

Mulching

The major role of mulch is to protect the soil and roots of plants from the harshness of our summer sun. Mulch helps to regulate soil temperature, keeping the soil and plant roots cool in summer and warmer in winter. This allows earthworms and microorganisms to be more active. Mulching serves a number of other vital functions in our produce garden.

Mulch conserves water by reducing surface evaporation and helps water to penetrate the soil better. Mulch reduces weeds that compete with your vegetables for nutrients. As mulch breaks down it adds organic matter to the soil. This helps to improve soil structure and nutrient content.

A straw-based (pea straw, lucerne or sugarcane) mulch is best as it breaks down fairly quickly and is high in nutrients.

It's important to top up your mulch at the start of the growing seasons (autumn and spring). Don't mulch right up to the stems of your plants as it can cause fungal diseases. Leave a gap of at least 4cm around the stem. Avoid using grass clippings as a mulch as they tend to mat together preventing water and air from penetrating. Add grass clippings to your compost heap instead.

Mulching can increase the incidence of insect pests like weevils and earwigs.

How to mulch

1. Remove any weeds.
2. Make sure the soil is wet.
3. Lay your mulch to a depth of 5cm.

Commercial cloche

Frost and Sun Protection

Seedlings in particular can be badly damaged by extreme heat and overnight frosts.

If a hot day is forecast protect your produce by attaching shade cloth or even an old sheet to tomato stakes to shade them during the heat of the day. Likewise if frost is forecast, attach a cloth to stakes to protect your crop. You can also purchase 'cloches' from garden centres and hardware stores.

Garden Health

Prevention is better than the cure!

Nutrient deficiencies

Just like people, strong, healthy plants are more resilient to pests and diseases. Produce grown at home needs at least 5 hours of sunlight a day, a good supply of water, fresh air and access to nutrients to be healthy. If they are unable to access key nutrients they will be prone to attack by a range of diseases, moulds and pests.

For information on other plant nutrients and remedies visit
www.rhs.org.uk/advice/profile?PID=456

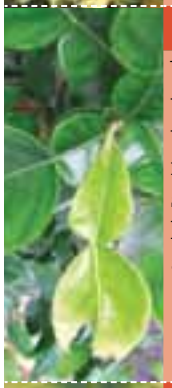
Common nutrient deficiencies

NITROGEN DEFICIENCY

Spindly plants or pale leaves early in their growing season. Nitrogen is very soluble and easily washed out of the soil in heavy rains, leaving the soil deficient. This is particularly problematic in sandy soils. Particularly affects heavy feeders.

Treatment:

- Short term, apply high nitrogen fertilisers like fish (carp) or animal manures.
- Long term, continually fertilise your soil with aged manures and compost to improve the nutrient holding capacity of your soil.

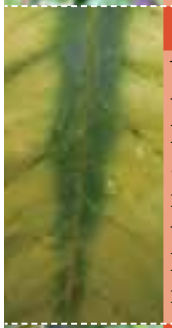


IRON DEFICIENCY

Yellowing will occur between the veins on young leaves, or the entire leaf turns yellow. Can result from waterlogged or cold soil, damaged roots, or soil pH higher than 7.0. Particularly affects citrus and blueberry.

Treatment:

- Check soil drainage around your affected plant.
- Ensure your plant is receiving at least 5 hours of sunlight a day.
- Test and adjust your soil pH (if too high, add sulphur or mulch with pine needles).
- Avoid alkaline mushroom and poultry fertilisers.

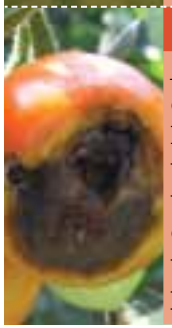


MAGNESIUM DEFICIENCY

Yellowing between leaves similar to an iron deficiency but the base of the leaf remains green, and older leaves are affected rather than young leaves. Results when the soil pH is less than 5.5. Particularly affects citrus and raspberry.

Treatment:

- Check soil drainage.
- Test and adjust your soil pH (if too low, add dolomite or lime).
- Spray Epsom Salts on the leaves.
- Add organic fertiliser in spring and autumn.



CALCIUM DEFICIENCY - BLOSSUM END ROT

A nutrient disorder due to a calcium deficiency caused by acidic soil, insufficient water in the growing season, waterlogged soil or application of high nitrogen fertilisers. Affects tomato, capsicum, zucchini, pumpkin, melon & cucumber.

Treatment:

- Test the soil pH before planting.
- Water regularly and deeply.
- Do not overwater heavy clay soils.
- Mulch with straw.
- Grow in pots if drainage is poor.

Crop rotation

When vegetables from the same plant family are planted in the same place year after year, they gradually strip the soil of the nutrients needed by that crop, and pests and diseases can build up in the soil. To understand crop rotation first we need to know the different vegetable families.

Family	Type	Nutrients
Alliaceae	Onion, garlic, shallot, chive and leek	Light Feeder
Amaranthaceae	Spinach, chard and silverbeet	Heavy Feeder
Apiaceae	Carrot, coriander, parsley, parsnip, dill and caraway	Light Feeder
Asteraceae	Lettuce and artichoke	Heavy Feeder
Brassiaceae	Asian greens, cabbage, broccoli, Brussel sprout, cauliflower, turnip, mustard and radish	Heavy Feeder
Chenopodiaceae	Beetroot	Light Feeder
Cucurbitaceae	Pumpkin, zucchini, cucumber and melon	Heavy Feeder
Fabaceae	Pea and bean (legumes)	Nitrogen Producer
Poaceae	Sweetcorn and maize	Heavy Feeder
Solanaceae	Tomato, capsicum, chilli, potato, and eggplant	Heavy Feeder

The vegetable family a plant belongs to gives us an indication of how much nutrients it needs.

Heavy feeders require a lot of nutrients, and will deplete the soil of nutrients to produce a crop.

Light feeders are mainly root vegetables that need little or no fertiliser in good garden soil.

Nitrogen producers are legumes (pea and bean) that put nitrogen back into the soil.

There are two main rules to crop rotation:

1. If you plant a crop from one family e.g. eggplant from the *Solanaceae* family, the next crop you plant in that bed should be from a different family e.g. carrot from the *Apiaceae* family, or leek from the *Alliaceae* family.

2. Plant a nitrogen producer to restore soil fertility before planting a heavy feeder. Follow with a light feeder. It is recommended that you 'rest' a bed by not growing a crop for a season, but instead focus on adding compost and aged manures to replenish the soil.

	SEASON 1	SEASON 2	SEASON 3	SEASON 4
BED1	Nitrogen Producer	Heavy Feeder	Light Feeder	Rest
BED 2	Heavy Feeder	Light Feeder	Rest	Nitrogen Producer
BED 3	Light Feeder	Rest	Nitrogen Producer	Heavy Feeder
BED 4	Rest	Nitrogen Producer	Heavy Feeder	Light Feeder

Disease and mould control

There are a multitude of microorganisms and fungi living in our produce garden. Many of them are beneficial and necessary for the health of our plants.

For example, rhizobacteria and trichoderma fungi protect plants by keeping other disease-producing bacteria and fungi under control. Problems arise when conditions in our garden change to the advantage of harmful diseases and moulds. There are some simple practices you can undertake to reduce the incidence of disease and mould in your produce garden:

- Check the health of your plants regularly.
- Practice crop rotation.
- Water plants in the morning and, if possible, via dripline irrigation.
- Buy your seeds and plants from a reputable supplier, otherwise you may inadvertently bring diseased plants into your garden.
- Space plants out to ensure good ventilation to prevent disease.
- Make sure your pruning tools are sharp to avoid tearing stems and branches. To do so leaves the plant susceptible to disease attack.
- Prune back any dead or damaged parts of your plants as soon as you notice a problem.
- Use a rag soaked with eucalyptus oil to wipe down your secateurs blades before moving on to each plant.
- If you are treating a plant for a disease e.g. peach leaf curl, make sure you collect any fallen leaves and put them in the rubbish bin. Do not compost them.
- Pick up any fallen fruit. Don't leave dropped fruit on the ground.

Ladybird eating powdery mildew

Companion planting

Including aromatic and flowering plants in your produce beds attracts beneficial insects which may actually control a plant problem naturally. For example, the Australian ladybird feeds on powdery mildew without damaging the plant. Growing mustard is believed to fumigate the soil as the plant exudes chemicals that are toxic to soil fungi. Some plants perform better (or worse) when certain plants are growing next to them. We are not always sure why, but gardeners over the years, swear by the benefit of growing certain companion plants with specific vegetables.

Home remedies

Gardeners have been experimenting with different natural remedies for countless generations. To treat powdery mildew, spray one part full cream organic milk mixed with nine parts water. For downy mildew, spray with 2 teaspoons of bicarbonate soda dissolved in 1.8 litres of water.

Organic commercial sprays

There are a number of fungicides available commercially that can be used without fear of introducing toxic chemicals into our vegetables and herbs. Examples include copper oxychloride and lime sulphur for the treatment of peach leaf curl and apple scab, and potassium bicarbonate for the treatment of powdery mildew.

A healthy biodiverse garden will have a broad mixture of different plants.

Companion Plants

BACTERIAL WILT OF TOMATOES

This bacteria rapidly kills plants in the *Solanaceae* family. Healthy plants wilt and die. If you cut the stem in half it will be brown and if placed in water will exude a milky sap. Prevention is essential. Plants affected include tomato, capsicum, chiili, potato and egglant.

Treatment:

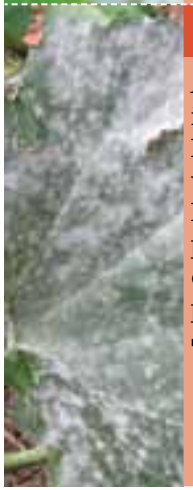
- Buy seeds and plants from a reputable outlet.
- Practice crop rotation to avoid a build up of bacteria in the soil.
- Follow a *Solanaceae* crop with a mustard crop to fumigate the soil.

APPLE SCAB (BLACK SPOT)

A fungal disease that attacks apple and pear trees, particularly with high spring rainfall. Leaves develop dark spots that become raised and corky. Fruit marked with scabs.

Treatment:

- Remove infected leaves and fruit from tree and ground.
- Spray tree at leaf burst with lime sulphur or oxychloride. Repeat at bud burst.
- Lay fresh mulch in spring and autumn to act as a barrier to fungal spores.
- Apply water via dripline irrigation.



POWDERY MILDEW

A fungal disease that occurs in shady areas during warm, humid spring and autumn weather. Powdery white bloom appears on all plant parts. Particularly affects, cucumber, zucchini and pumpkin.

Treatment:

- Avoid high nitrogen fertilisers that produce soft, sappy growth.
- Spray the infected plant with 1 part full cream organic milk to 9 parts water when mildew appears.
- Or spray the infected plant with potassium bicarbonate.
- Apply water via dripline irrigation in the early morning.
- Encourage ladybirds that love to graze on powdery mildew by planting companion plants.

Common moulds and diseases

SOOTY MOULD

Affected plants appear covered in a dark soot, particularly on the leaves and stem. The appearance of this fungus usually indicates the plant is under stress from insect attack e.g. scale and aphids. Affects a wide range of plants including citrus trees.

Treatment:

- Prevent infestations of aphids and scale.
- Hose the plant down with jets of water.
- Use a cloth to wipe the branches clean of fungus.

PEACH LEAF CURL

A fungi that affects stone fruit trees resulting in leaf thickening and young leaves turning pale.

Treatment:

- Spray the leaves in early winter at leaf fall and again in spring at bud burst with copper oxychloride or lime sulphur.
- Remove infected leaves or spray plant with potassium bicarbonate.
- Remove and bag any infected leaves or fruit.
- Apply water by dripline irrigation in the morning.
- Mulch with clean straw in autumn and spring.

DOWNY MILDEW

Angular yellow spots appear on the upper leaf surface before enlarging and becoming brown. The under surface has white cotton-like fungi. Affects a wide range of plants including fruit trees.

Treatment:

- Plant in full sun with good air circulation between plants.
- Always water to the base of the plant, not the leaves.
- Remove diseased leaves. Do not compost.
- Spray with 2 teaspoons of bicarbonate soda dissolved in 1.8 litres of water.

caterpillars and snails - chooks love them.

Insect Pest Control

Chewing, sap-sucking and rasping pests are part and parcel of gardening. We can often tolerate a minor infestation, but need to take action if the pest is damaging our plants.

It is important to correctly identify the pest, its consequences, the severity of the problem, the possibility of natural predators keeping the pest under control, and control techniques you can put in place. You can help minimise pest problems if you:

- Check your garden regularly for signs of infestations
- Practice crop rotation
- Plant a diverse range of plants in your produce garden
- Avoid using high nitrogen fertilisers that produce soft, sappy growth that attracts pests
- Squash or remove pests with a gloved hand. e.g. caterpillars and snails - chooks love them
- Spray the pest off with a jet of water e.g. aphids
- Cut off heavily infested plant parts. Do not put into compost
- Cover crops in wildlife friendly netting (Refer pg 36).

Ladybird eating aphids.

Use a trap to attract snails, slugs and earwigs.

Companion planting

A diverse garden will attract birds, bats, frogs and lizards that hunt and prey on insects. So too do ladybirds, praying mantis, lacewings, spiders, hoverflies, wasps and dragonflies. These beneficial insects are attracted to plants such as alyssum, marigolds, lemon balm, cosmos, parsley, carrot, tansy and coriander.

Plants can also be used to deter pest insects. For example, mustard grown between plantings inhibits nematodes (microscopic worms), that cause root knot. Planting white violas amongst your brassicas mimics other Cabbage White Butterflies and acts as a deterrent (as do egg shells). Planting scented herbs e.g. mint, dill, sage, near brassicas is believed to mask the scent of the brassicas making it harder for pest insects to locate them.

Home remedies

Some popular home remedies to control insect pests include the following:

To control aphids, crush a whole bulb of garlic and cover with vegetable oil. After two days, strain off the liquid, add a couple of drops of dishwashing liquid and use one millilitre of concentrate to one litre of water. Spray on pests.

Pour linseed or fish oil in a flat dish at soil level to trap earwigs.

Deter snails and slugs by ringing your plants with a circle of coffee grounds or sawdust. Pour beer into a dish at soil level to trap snails and slugs.

Trap coddling moths by half filling a jar with water and add a little sherry and some vegetable oil. Hang in your apple and pear trees.

Dab mealybugs with a cotton bud that has been dipped in methylated spirits.

APHIDS

Aphids are sap sucking insects that affect the growing tips of plants resulting in distorted leaves, flowers and fruit, and possibly yellowing and wilting. Aphids attack a wide range of plants but particularly affected are bean, cabbage, cucumber, pea, potato, pumpkin and tomato.

Treatment:

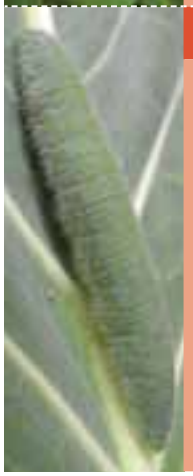
- Squash aphids by hand.
- Hose off with a water jet.
- Spray with a homemade garlic and oil spray.
- Use an insecticidal soap. Dilute in water as per manufacturer's instructions, and spray directly on aphids.
- Encourage predatory insects and birds.

CITRUS LEAF MINER

The larvae of a moth that burrows under the leaf cuticle. Usually found on citrus tree leaves, particularly in late summer and autumn.

Treatment:

- Remove infected leaves, bag them and place in rubbish bin.
- Spray leaves with a commercial botanical oil spray.
- Avoid using high nitrogen fertilisers.



CABBAGE WHITE BUTTERFLY CATERPILLAR

Caterpillars hide on leaf veins during the day and feast on seedlings by night. They affect a wide range of plants but particularly cabbage, radish, broccoli, kale, Brussel sprout, Asian Greens, celery and beetroot.

Treatment:

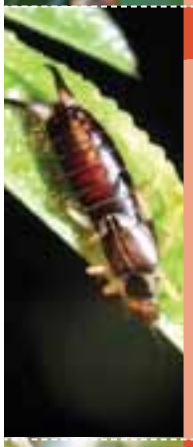
- Plant scented herbs e.g. mint .
- Plant white violas or place egg shells amongst seedlings.
- Remove by hand.
- Cover bed with wildlife friendly netting, when adult white butterflies are first noticed.

CITRUS GALL WASP

The adult female wasp emerges from the gall (calluses) in late winter and lays her eggs in the soft stem of the same tree. The larvae grow in the stems until they pupate and reinfest the tree. Plants affected include all citrus trees but particularly grapefruit and lemon.

Treatment:

- Avoid high nitrogen fertilisers in late winter and spring.
- Remove all newly formed galls before the end of winter.
- Hang yellow sticky traps on infected trees in late winter.
- Remove infected stems and burn.



EUROPEAN EARWIGS

Earwigs are active at night and hide in mulch during the day. They mainly feed on seedlings and soft berries such as strawberry.

Treatment:
Trapping earwigs is the most effective control. Try:

- Fill upturned pots with scrunched newspaper and empty each morning.
- Place covered snail traps with fish or linseed oil in garden beds.
- Put rolled up newspapers in garden beds and empty daily.

MITES

Mites are tiny spiders. Empty egg casings on the underside of leaves are easier to spot than the mites. Webbing appears on the tips of plants and silvering on the leaves. Plants affected include bean, cucumber, zucchini, pumpkin, pea, tomato and strawberry.

Treatment:

- Hose with water jet.
- Remove infected leaves and plant parts.
- Use crop rotation.
- Clean up weeds and leaf litter around the plant base.
- Spray with botanical oil or insecticidal soap.

PEAR AND CHERRY SLUG

This slug is the larvae of the sawfly wasp. It rasps across the upper surface of leaves peeling off the cuticle leaving the leaf skeletonised. Leaves dry out and turn brown. Plants affected include pear, cherry, apple and plum.

Treatment:

- Remove with a gloved hand.
- When the slugs first appear dust the leaves with a sprinkling of lime or potash. Repeat a month later. Don't use too much or you will alter your soil pH.

SCALES

There are many different types of sap sucking scale; hard, soft or fluffy. Each scale lives beneath its own casing that appears on leaves and stems. They feed on young plant tissue. Plants affected include fruit trees such as citrus and fig.

Treatment:
Early control of scales is effective through a combination of:

- Remove with a soft toothbrush or by flicking off.
- Spray with botanical oil or insecticidal soap.
- Cut off heavily infested plant parts and destroy.
- Encourage predatory insects and small birds to your garden.

SNAILS AND SLUGS

These molluscs are active at night and hide in moist, shady places during the day. They affect a wide range of plants feeding mainly on seedlings.

Treatment:

- Hand removal.
- Spray plants regularly with black coffee.
- Sprinkle used coffee grinds around seedlings.
- Place snail traps with beer or soapy water at soil level.
- Create a barrier around plants with an exclusion band of copper tape.
- Encourage predatory insects and small birds to your garden.

WEEVILS

These long nosed insects feed at night and shelter in the day. Larvae feed on plant roots often wiping out seedlings. The adults feed on stems and leaves causing a distinctive scalloped edging. Plants affected include carrot, tomato, potato, cabbage, onion, beetroot and spinach.

Treatment:

- Adults can be removed by hand but eradicating larvae from the soil is more difficult.
- Turn over the soil to disrupt larvae.
- Allow beds to go fallow for a season. Remove all weeds.
- Avoid planting brassicas, a favourite of weevils.

WOOLLY APHID

Heavy infestations of these sap-sucking insects look like cotton wool on your apple or pear tree. They weaken the tree and affect the quality of fruit produced.

Treatment:

- You can buy apple trees resistant to woolly aphid (*Rootstock M102 or M106*).
- Use a cloth to wipe off infestations.
- Paint aphids with methylated spirits.
- Spray with a botanical oil or insecticidal soap.
- Encourage predatory insects.

WHITEFLY

Sap-sucking insects that cause silvering on leaves, potentially leading to leaf curl and wilting. Whiteflies can be difficult to control because they swarm about when disturbed. Plants affected include eggplant, cabbage, bean, tomato, broccoli, sage and mint.

Treatment:

- Hang yellow sticky traps near infected plants.
- Vacuum whiteflies from the plant.
- Spray directly with botanical oil or insecticidal soap.
- Encourage predatory wasps.

Keeping your wildlife at bay

For as long as we have been gardening birds, possums, rats and bats have been helping themselves to our produce.

While most gardeners are happy to share some of their produce, unfortunately our wildlife is more inclined to feast on our roses, fruit and veggies, leaving little behind.

There a large number of products available on the market to try and address this problem.

Chemical repellents:
Whether they be homemade chilli/garlic sprays or commercial pest repellents many of them have limited results. It seems possums develop a fondness for chilli over time, and a study by Deakin University revealed most possums adapt very quickly to commercial sprays. For further information visit:
www.depi.vic.gov.au and search 'possums'.

Scare Devices:
High audio scare devices, roost inhibitors, plastic owls, scarecrows, rubber snakes, CDs, plastic bags, whirligigs….there are a lot of devices out there that work to varying degrees. The most important thing is to move them about regularly to avoid your wildlife getting used to them.

Fruit Protection Bags:
These are available commercially or you can make your own with plastic bags or orange mesh bags. Use the bags to cover individual fruit and secure firmly to the tree branch.

Tree Collars:
Attach a ring of hard plastic or thin metal around the trunk of your trees to prevent wildlife climbing up and down.

Fencing:
You can enclose your garden beds in a fence of floppy chicken wire with the top curved outwards. The wire roll should be about 80cm wide with the bottom 20cm buried. String high tensile fencing wire between your posts and attach chicken wire loose enough so that if an animal attempts to climb it the wire will sway. For smaller areas you can build a portable wire frame to cover your plants.

Netting:
If you use netting you should buy densely woven nets. Loosely woven netting will trap birds, bats, reptiles and mammals often resulting with their death. As a rough guide, if you can insert your finger through the netting it is capable of trapping wildlife. Choose netting with a mesh size less then 1cm². Ensure that your netting is securely fixed to the ground or tied around the base of your tree above ground level. Remove nets when they are not required e.g. after fruiting. For more information on wildlife friendly netting visit:
www.wildlifefriendlyfencing.com

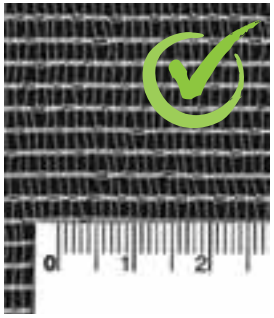
If you find an injured animal call either of the following volunteer organisations:

- Wildlife Victoria: **13 000 94535**
- South Oakleigh Wildlife Shelter: **9503 9872**
  www.sows.org.au
- Help for Wildlife: **0417 380 687**

Information and photographs supplied by Wildlife Friendly Netting.

Grey-headed Flying Fox

Brush-tail Possum



If you use netting choose a densely woven net with a mesh size less than 1 cm².

Preparing for harvest

The fun part!

Seeds and seedlings

SEEDS:

- Collecting vegetable seeds at the end of the growing season is more cost effective than buying seedlings.
- Popular produce such as tomato, pea, bean, pumpkin and lettuce are self-seeding.
- Organic seeds are now commercially available, as are a wide range of vegetable varieties.
- To sow seeds, rake over the soil and firm down. Water well. Make a shallow trench about twice the depth of the seed width.
- Large seeds, such as pea and corn, are placed in the trench about 15cm apart.
- Fine seeds, such as carrot and lettuce, are sprinkled in a very shallow trench.
- Carefully cover your seeds with soil and water as gently as possible.
- Keep you seeds moist, but not wet.
- Once your fine seeds have germinated and have two sets of leaves, thin them out so that you have one seedling for every 10cm.
- Fertilise with weak liquid fertiliser (manure or worm tea) solution.

SEEDLINGS:

- Punnets of seedlings are popular because they are convenient, are more advanced in growth and allow you to grow only what you need.
- Avoid seedlings that have spindly growth and a lot of roots coming from the base of the punnet.
- Prior to planting water well, dig a hole as deep as the rootball and just as wide. Water the hole and let it drain.
- Gently remove your seedling and place in the hole. Replace soil and firm down.
- Water gently. Keep moist, but not wet.
- Fertilise with weak liquid fertiliser solution.

Annuals or perennials

Annuals are plants that are grown for one season and need to be replaced the following year. This includes most of our productive crops, such as lettuce, broccoli and tomato.

Sometimes they self-seed and you may get a new crop e.g. tomatoes. Other annuals such as parsley and chilli are productive for two years before losing productivity. Annuals are usually planted in a dedicated veggie bed because they tend to require higher amounts of water and fertiliser. Annuals also have a fast turn-around that can cause soil disturbance and may result in damaging the rootzone of permanent plants.

Perennials are plants that will grow in your garden for a number of years. They include rosemary, mint, oregano, sage, rhubarb and asparagus. Perennials can be planted in your ornamental garden beds and are best planted in autumn or spring in order to establish before the more extreme winter cold or summer heat. For more detail on growing herbs refer to page 58.

PLANT	J	F	M	A	M	J	J	A	S	O	N	D
Asian Greens ✻							■	■	■	■	■	■
Basil ✻	■	■						■	■	■	■	■
Beetroot	■	■							■	■	■	■
Bean •			■	■	■	■	■	■	■			
Broad Bean ✻			■	■	■	■	■	■	■			
Broccoli				■	■	■	■	■				
Brussel sprout			■	■	■	■	■	■	■			
Cabbage			■	■	■	■	■	■	■	■	■	■
Capsicum •									■	■	■	
Carrot	■	■	■	■					■	■	■	
Cauliflower			■	■			■	■	■			
Celery		■	■	■			■	■	■			
Chilli •									■	■	■	
Coriander ✻ •								■	■	■	■	
Corn ✻	■									■	■	■
Cucumber •	■								■	■	■	■
Eggplant •									■	■	■	■
Endive •	■	■	■	■	■	■	■	■	■	■	■	■
Garlic						■	■	■	■			
Kale	■	■	■	■	■	■	■	■	■	■	■	■
Leek	■	■								■	■	■
Lettuce •	■	■	■	■					■	■	■	■
Onion			■	■			■	■	■	■		
Parsley •	■	■	■	■	■			■	■	■	■	■
Parsnip	■	■	■						■	■	■	■
Pea ✻ •					■	■	■	■	■	■		
Potato •	■	■							■	■	■	■
Pumpkin	■								■	■	■	■
Radish ✻ •	■	■	■	■	■	■	■	■	■	■	■	■
Rocket •	■	■	■	■	■			■	■	■	■	■
Silver beet •	■	■	■						■	■	■	■
Spinach •				■	■	■	■	■	■			
Spring onion		■	■	■	■	■	■	■	■	■		
Strawberry •	■	■	■	■	■	■	■	■	■	■	■	■
Tomato •	■	■	■						■	■	■	■
Zucchini ✻	■									■	■	■

Annual seedling planting guide

This guide indicates the months to plant your seedlings. Climatic variations such as a late summer or early winter need to be taken into account.

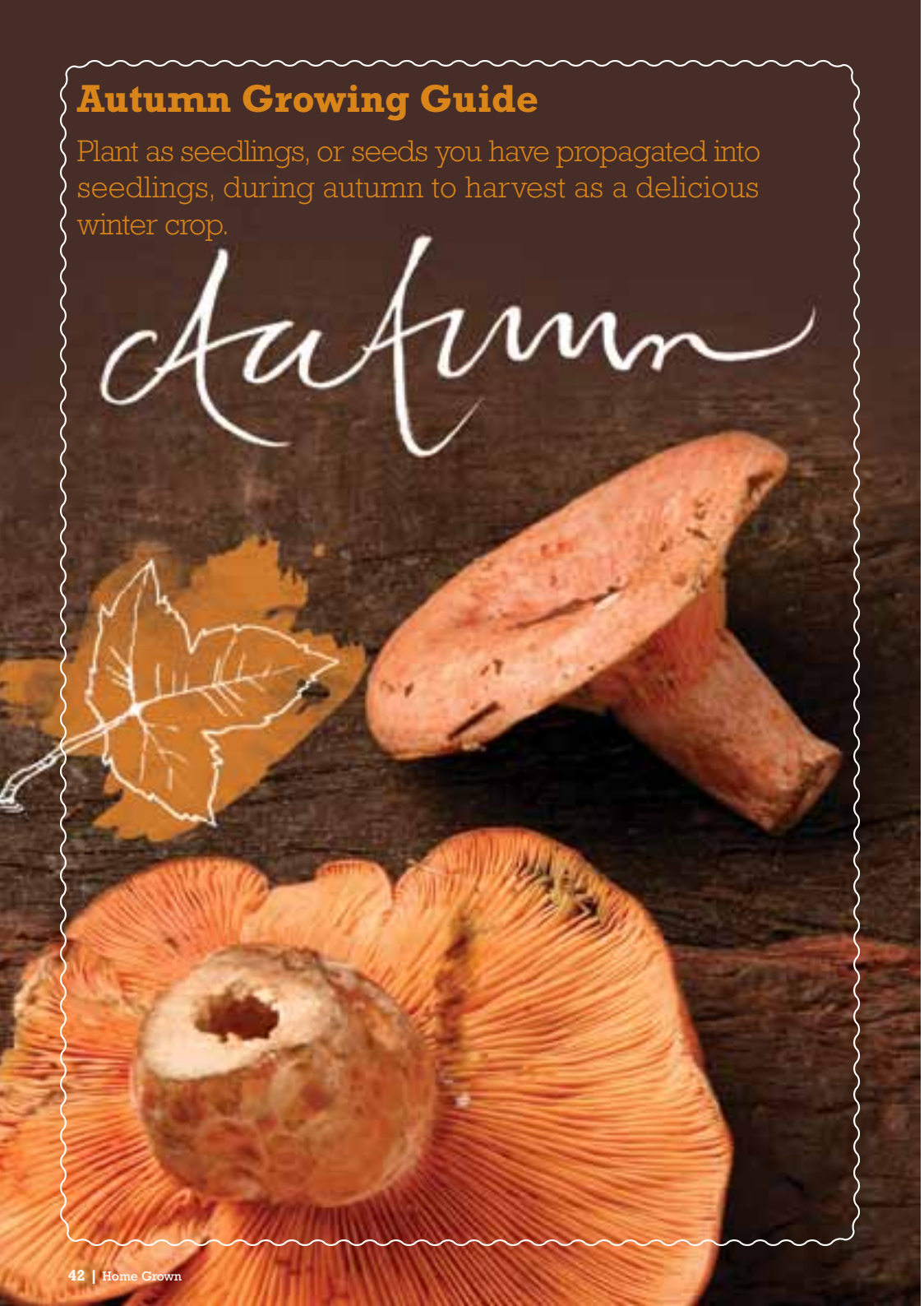
✻ Indicates plants that are best grown from seed. Sow six weeks earlier than the guide indicates.

• Indicates plants that grow well in a container.

For a complete planting guide visit:
www.gardenate.com

Autumn Growing Guide

Plant as seedlings, or seeds you have propagated into seedlings, during autumn to harvest as a delicious winter crop.



Asian Greens (Bok Choi and Pak Choi) **and Winter Lettuce (Mignonette & Mesclun)**

- Soil pH of 6.0 to 7.0.
- Plant in full sun.
- Water frequently as these plants are shallow rooted.
- Apply manure or worm tea fertiliser fortnightly.
- Premature bolting and bitterness can be caused by damaged roots at planting, or lack of water and fertiliser.
- Harvest the outer leaves after about 6 to 8 weeks of growth. This will encourage more growth.
- Companion plants include bean, cabbage and pea.

Garlic

- Soil pH of 6.5 to 7.0 and full sun.
- Buy organic garlic bulbs with large cloves.
- Store in the fridge for a month before planting.
- Plant garlic cloves pointy end up in about 7cm of well-drained soil.
- Keep your soil moist and fertilise weekly.
- Garlic is ready for digging up when the leaves start to yellow and die off. Harvest when there are still 4-5 green leaves left on the stem.
- Withhold water for a few days prior to harvesting to promote storage life.
- Garlic should be hung to dry for about 2 weeks for the skins to harden.
- Companion plants include cabbage, broccoli and cauliflower.

Broccoli, Brussel sprout, Cauliflower, Cabbage and Kale

- Soil pH of 6.5 to 7.5. Add plenty of poultry manure and compost to the soil about 5 weeks before planting. At planting time add a small handful of dolomite or lime per plant.
- Plant in full sun and protect from strong wind. Stake plants if they grow top heavy.
- As the plants grow, mound up the soil around the base to provide support.
- Water deeply and consistently.
- Apply manure or worm tea liquid fertiliser weekly.
- Harvest between 10-14 weeks.
- Companion plants include bean and lettuce.

Onion

- Soil pH of 5.5 to 6.5 and full sun.
- Plant seedlings about 2cm deep in rich well-drained soil.
- Keep your soil moist and fertilise weekly.
- Harvest onions when the leaves wither and collapse.
- Allow two weeks for your onion to dry out after harvesting.
- Companion plants include cabbage, broccoli and cauliflower.

Onion

Spinach (English and European)

- Soil pH of 6.0 to 7.0. Add well-rotted compost to the soil about a month before planting.
- Plant once the temperature has dropped below 20°C in a sunny spot that receives 3 to 4 hours of sun a day.
- Spinach needs lots of water and should never dry out.
- Apply manure or worm tea fertiliser every 3 weeks to prevent plants setting seed too early.
- Harvest after about 6 weeks, as soon as outer leaves are large enough.
- Companion plants include cauliflower and pea.

Pea (Snow, Sugar Snap and Shelling)

- Peas like a soil pH of 6.5 to 7.5. Add plenty of poultry manure and compost to the soil about 5 weeks before planting. At planting time add a small handful of dolomite or lime per plant.
- Plant in full sun and protect seedlings from any frost.
- Most peas are climbers, so provide a stake or trellis for them to climb as they grow.
- Avoid over-watering.
- You can apply manure or worm tea fertiliser every 3-4 weeks.
- Most peas are ready to harvest between 10-16 weeks. The more you pick, the more they produce.
- Companion plants include lettuce, cabbage and cauliflower.

Asian Greens Stir-fry

SERVES 4

INGREDIENTS:

1 bunch of Bok Choi
1 bunch Pak Choi
2 cloves of garlic
2 cm of peeled and grated ginger
1 long red chilli, deseeded and chopped
2 tablespoons chopped coriander leaves
1 tablespoon vegetable oil
¼ cup oyster sauce
2 tablespoons chopped roasted peanuts

METHOD:

Separate leaves from stem of Asian Greens.

Heat wok over high heat. Add oil. Swirl to coat wok surface.

Add garlic, ginger and chilli. Stir-fry for 1-2 min until fragrant.

Add Asian Greens stems. Stir-fry for 1-2 min until bright green.

Add leaves and oyster sauce. S tir-fry 1-2 min until leaves are wilted.

Serve with garnish of peanuts and coriander.

Cream of Broccoli Soup

SERVES 4

INGREDIENTS:

1 tablespoon olive oil
1 small onion
1 clove garlic chopped
4 cups chopped broccoli (incl. stems)
¾ cup cooked brown rice
750 ml water
3 teaspoons vegetable stock powder
Pepper and salt to taste
250 ml milk
2 tablespoons fresh parsley chopped
+ sour cream to garnish

METHOD:

Heat oil in saucepan over medium heat. Add onion and garlic.

Saute for a few minutes until onion is translucent, then add remaining ingredients, except the milk. Bring to the boil, then reduce the heat and simmer for 20 min.

Add the milk and cook uncovered for a further 10 min. Transfer to a food processor and blend until creamy.

Garnish with parsley and sour cream.

Maggie's Spanakopita

SERVES 4

INGREDIENTS:

Olive oil
1kg spinach
8 spring onions
125g fetta cheese
4 tablespoons grated parmesan cheese
500g cottage cheese
50g grated tasty cheese
4 eggs, lightly beaten
2 tablespoons chopped parsley
¼ teaspoon grated nutmeg
Freshly ground black pepper to taste
250g filo pastry
80g melted butter
3 tablespoons sesame seeds

METHOD:

Preheat oven to 180°C and lightly oil 35cm x 25cm baking dish.

Wash spinach and cut off and discard stems. Chop coarsely and place in colander. Pour boiling water over, then rinse in cold water. Squeeze out as much liquid as possible. Place spinach in a large bowl.

Heat 1 tablespoon of oil in frying pan over a medium heat. Add spring onions and fry until soft. Add to bowl of spinach and stir in cheeses, eggs, parsley and nutmeg. Season with pepper. Mix well.

Line baking tray with 5 sheets of filo pastry, brushing each sheet with melted butter as you lay it in the dish. Add spinach filling and spread it evenly. Cover with 6 layers of filo pastry, again brushing each layer with butter.

Wet your hands and flick your fingers to moisten the top layer of filo. Sprinkle with sesame seeds. Make 6 knife cuts in the pastry, being careful not to cut right to the bottom.

Bake for 45min until lightly golden. Remove from oven and let stand for 5 min before serving.

Roast Cauliflower with Stir-fried Snow Peas and Cashews

SERVES 4

INGREDIENTS:

1 cauliflower, broken into florets
Olive oil
1 teaspoon salt
¼ teaspoon asafoetida powder (available Indian spice outlet)
150g snow peas
2-3 tablespoons water
½ cup sour cream
½ cup roasted unsalted cashews
1 teaspoon sweet chilli sauce
½ teaspoon black pepper
1 tablespoon chopped coriander leaves

METHOD:

Preheat oven to 200°C. Add cauliflower to baking dish and drizzle with olive oil, then sprinkle half the salt. Bake for 30min until tender and slightly brown. Remove from oven and keep warm. Heat 1 teaspoon oil in frying pan over high heat. Sprinkle in asafoetida powder and fry briefly, then add snow peas and stir-fry 1 min. Add water and put a lid on the pan. Reduce the heat to medium and steam for 1-2 min until peas slightly tender, then remove the pan from heat and fold the cauliflower and remaining ingredients in. Serve immediately.

Spring Growing Guide

Plant as seedlings, or seeds you have propagated into seedlings, during spring to harvest as a delicious summer crop. Do not plant until the frosts have finished.

Summer bean

- Soil pH 6.5 to 7.5. Add plenty of poultry manure and compost to the soil about 5 weeks before planting. At planting time add a small handful of dolomite or lime per plant.
- Plant in full sun, but provide temporary shade cover if hot and windy.
- Most beans are climbers, so provide a stake or trellis for them to climb as they grow.
- Avoid over-watering, especially when young. Yellow leaves can be a sign of this. An occasional deep watering is best.
- Apply manure or worm tea fertiliser at flowering to promote production.
- Harvest after 12-14 weeks. Pick daily to increase yield.
- Companion plants for beans include carrot, corn and cucumber.

Capsicum, Chilli and Eggplant

- Soil pH of 5.8 to 6.8. Add plenty of poultry manure to the soil about 4 weeks before planting. At planting time add a small handful of dolomite or lime per plant.
- Plant in full sun, but provide temporary shade cover if hot and windy.
- Deep rooted plants, so they need regular, deep soakings.
- Harvest as the fruit ripens. Picking encourages more fruit.
- Companion plant with tomato, carrot and basil.


Eggplant


Beetroot

Beetroot

- Soil pH of 6.5 to 7.0. Add plenty of poultry manure and compost to the soil about 8 weeks before planting. At planting time add a small handful of dolomite or lime per plant.
- Plant in full sun or part shade.
- Water consistently to prevent the beetroot going woody.
- The faster beetroot grows the tastier it will be. Apply manure or worm tea fertiliser weekly.
- Harvest after 4-6 weeks.
- Companion plant with lettuce and bean.

Carrot and Parsnip

- Soil pH of 6.0 to 7.0. A deep, loose soil will produce straight veggies.
- Plant in full sun.
- Avoid over-watering.
- You can apply manure or worm tea fertiliser fortnightly. Avoid applying too much fertiliser as this will produce excessive top growth at the expense of the root.
- Harvest can begin at 8 weeks.
- Companion plant with cucumber, tomato, bean and lettuce.


Carrot

Celery

- Soil pH of 5.8 to 6.8 preferred. Apply compost to the soil prior to planting.
- Plant in full sun in early spring or late summer.
- Celery has shallow roots and requires a lot of water and a weekly feed of liquid fertiliser.
- Nutrient-stressed plants will be tough and stringy.
- Harvest individual stalks as you need them.
- Companion plant with bean and cucumber.


Cucumber

Cucumber

- Soil pH of 6.0 to 7.0. Mound up soil/compost mix about 40cm across and plant two seedlings per mound.
- Plant in full sun, but provide temporary shade cover if hot and windy.
- Cucumbers are essentially a vine and need support, so supply a trellis or plant next to corn.
- A thirsty plant so water long and deep. Prone to fungal disease, so water via sub-surface dripline irrigation or early in the morning.
- Apply manure or worm tea fertiliser weekly.
- Ready to harvest after 6-8 weeks.
- Companion plant with bean, basil, carrot, corn and lettuce.


Pumpkin

Potato

- Buy seed potato which are tubers with 'eyes'. Expose to light a week before planting.
- Plant in full sun.
- Mix compost with aged manure and straw, lay to a depth of 20cm and water. Lay out your seed potatoes about 25cm apart and cover with 15cm of the same mix. Water. When shoots begin to appear through the mix, add another 15cm of your mix and water. Keep repeating until your mound is about 60cm high. Do not use tyres as chemicals leach from the rubber.
- Water occasionally and add liquid fertiliser when flowering.
- When the lower leaves begin to yellow it's time to harvest.
- Companion planting with bean, corn and eggplant.

Pumpkin

- Soil pH of 5.5 to 7.0. Plant in full sun.
- Pile up mound of compost and plant two seedlings. Pumpkin will send out vines that will root when they come into contact with the soil. Pumpkins need at least 1m² of space.
- Provide an ample supply of water.
- Supplementary feeding not needed if planted into compost.
- A pumpkin is ripe when the skin feels hard, the tendril closest to the fruit is dead and you knock on it and it sounds hollow. Cut off with about 10cm of stalk.
- Companion plant with corn, eggplant and bean.

Summer lettuce (Cos, Oak, Red & Green-Leaf, Rocket and Mizuna)

- Soil pH of 6.0 to 7.0.
- Plant in full sun after the frosts have finished. Protect with shade cloth in hot weather.
- Water frequently as these plants are shallow rooted.
- Apply manure or worm tea fertiliser fortnightly.
- Premature bolting and bitterness can be caused by damaged roots at planting, or lack of water and fertiliser.
- Harvest the outer leaves after about 6 to 8 weeks of growth. This will encourage more growth.
- Companion plants include bean, cabbage and pea.

Corn

- Soil pH 6.0 to 7.0. Add well-rotted compost to the soil about a month before planting.
- Full sun and protected from strong winds.
- Plant in blocks to encourage cross-pollination. Apply liquid fertiliser after planting.
- Pile up compost around the base as the corn grows to an eventual height of around 20cm. This will support the plant and increase production.
- Water frequently and deep.
- When the tassels on top of the cob become brown and shrivelled and the husk loses its gloss, they should be ready for harvest.
- Companion plant with cucumber, potato, pumpkin, carrot and bean.


Corn

Tomato

- Soil pH of 6.5 to 7.0. Add a handful of dolomite or lime per plant mixed through the soil prior to planting.
- Plant in full sun and deep in the soil up to the first set of leaves. This will encourage additional roots providing good anchorage. Add stakes or trellis to support growth. Ensure good airflow.
- Water management is important with tomatoes. Don't let the soil dry out and don't overwater. Sub-surface dripline irrigation first thing in the morning is ideal.
- Apply liquid fertiliser every 2 to 3 weeks.
- Pick when fruit has changed colour but is still firm and a little green. Leave them to ripen on the kitchen bench. Never put them in the fridge as this destroys their structure and flavour.
- Companion plant with corn and basil.

Zucchini

- Soil pH of 6.5.
- Plant seedlings in mounds of 3 compost to 1 soil.
- Full sun and frost free.
- Water long and deep and apply liquid fertiliser after planting and at first harvest.
- Harvest after about 6 weeks when about 15cm long. Cut zucchini off the vine rather than pull them.
- Companion plant with corn and summer bean.

Roasted Vegetable & Haloumi Salad

SERVES 4
INGREDIENTS:

2-3 potatoes
1 orange sweet potato
1 purple sweet potato
½ small pumpkin
3-4 cloves garlic, unpeeled
1 tomato, halved
3 tablespoons olive oil
½ teaspoon raw sugar
a small handful of bay leaves, freshly chopped rosemary and sage
1x 250g block haloumi cheese
1x 400g tin chick peas, drained & rinsed
2 tablespoons freshly chopped coriander leaves
3-4 tablespoons Erriba Salad Dressing (pg 55)

METHOD:

Roughly chop the potatoes, sweet potatoes and pumpkin into large chunks, then place in large baking dish with the garlic cloves. Add the tomato halves, flesh side up. Pour over the olive oil and use your hands to coat the vegetables with the oil. Sprinkle a little sugar onto each tomato half and scatter the bay leaves, rosemary and sage over everything. Bake for 45 minutes or until the vegetables are soft. Remove from the oven and let cool sightly, then transfer to a large salad bowl. Discard the bay leaves.
Line your griller with foil. Cut the haloumi in half lengthways and place on the foil (to catch excess liquid). Grill each side on med-high heat until golden brown (4-5 mins each side). Cool a little, then cut or rip into 2.5cm squares.
Add the haloumi, chick peas and coriander to the salad and mix gently. Drizzle with the dressing to serve.

Beetroot, Fetta & Walnut Salad

SERVES 4
INGREDIENTS:

3 beetroots
3 tablespoons Erriba Salad Dressing
10-15 shelled walnuts
1 tablespoon honey
150g fetta
Olive oil
Small handful of chopped corinader

METHOD:

Bring a large pot of water to the boil. Add the beetroots and cook for 45 min to 1 hour until tender (test with skewer). Transfer to a bowl of cold water and remove skin. Cut beetroot flesh into 2-3cm cubes. Place in salad bowl and add Erriba dressing so the warm beetroot absorbs the dressing. Set aside.
Preheat oven to 150°C and line baking tray with baking paper. Using your fingers, rub the walnuts with honey and place the nuts on baking tray. Cook in the oven for 5-10min until the walnuts begin to caramelise. Remove and cool.
Just before serving, crumble the fetta into large pieces and toss through the beetroot. Sprinkle the walnuts on top and drizzle with a little olive oil. Garnish with coriander.

Erriba Salad Dressing

INGREDIENTS:

Freshly squeezed juice of 4 lemons
Olive oil (half the volume of lemon juice)
Dash of red wine vinegar
1 clove garlic, crushed
1 teaspoon Dijon mustard
Salt and pepper.

METHOD

Put all ingredients in a jar with lid and shake well. Will keep for several weeks in the fridge.

BIG Salad
and its many variations

SERVES 4
INGREDIENTS:

2 generous handfuls salad leaves, washed and torn (whatever takes your fancy: rocket, butter lettuce, romaine, iceberg, etc.)

1 tomato, diced

1 avocado, cut into large chunks

½ small cucumber, diced

½ carrot, coarsely grated

1 tablespoon sunflower seeds

½ teaspoon sesame seeds

2-3 tablespoons Erriba Salad Dressing (pg 55)

METHOD:

Place the salad leaves in a large bowl and mix in the remaining ingredients. Toss with the salad dressing.

Add 1 tablespoon finely sliced spring onion.

Include legumes, such as cooked chick peas or lentils, washed and drained.

Add 2 boiled eggs, cooked to medium (not totally hard-boiled) and cut in half or quartered. These are nice when the yolk is just slightly soft.

Sprinkle with sunflower and sesame seeds before serving.

Napoli Sauce

This is a basic recipe that lends itself to many variations. You can make it lighter by adding more fresh tomatoes, or heavier and richer by adding more tomato paste and oilve oil.

SERVES 4
INGREDIENTS:

2 tablespoons olive oil

2 cloves of garlic, crushed

4 tomatoes, chopped

1 cup tomato puree

1 tablespoon tomato paste

1 teaspoon raw sugar

Salt and pepper

Handful of chopped parsley and basil

Parmesan cheese

METHOD:

Heat oil in frying pan over low heat. Add garlic and sauté gently for a few minutes. Increase the heat to medium and add the tomato. Cook for 10 min, then add the tomato puree, tomato paste and sugar. Lower the heat and cook gently for 15-20 min, stirring occasionally. Add salt and pepper to taste. Add herbs 5 min before end of cooking. Add to fresh cooked pasta, sprinkle with parmesan cheese and serve.

Herbs

Grow your favourite herbs in a pot or garden bed and you will never have to throw away a half used bunch of soggy herbs again! The herbs you choose to grow really depends on the flavours you like and the foods you eat.

Popular perennial herbs include rosemary, sage, chives, mint, marjoram, oregano and thyme. While parsley lasts for around two years it usually self-seeds to keep you in constant supply. Rosemary, sage, chives and thyme require full sun, an occasional water in hot weather and liquid fertiliser at flowering. Marjoram, oregano and parsley also prefer full sun, but need regular watering and liquid fertiliser at planting and flowering. Mint can be invasive so grow it in a pot in full sun or part shade. They can be quite thirsty and benefit from an occasional application of liquid fertiliser.

Two of the most popular annual herbs are basil and coriander.

Basil

- Prefers a soil pH of 5.5 to 6.5. Add lots of compost before planting and avoid poultry manure.
- Plant in full sun, but provide shade on hot windy days.
- Keep the soil moist.
- Apply liquid fertiliser fortnightly.
- Companion plants include tomato, capsicum and chilli.

Coriander/Cilantro

- The leaves of the plant are called cilantro, the spicy seeds coriander.
- Can be sensitive to transplanting so take care when planting seedlings or grow from seed.
- Soil pH of 6.5 to 7.5 and add compost prior to planting.
- Plant in full sun.
- Keep the soil moist. Erratic watering will result in your plant running to seed.
- Apply liquid fertiliser every 3 weeks.
- Companion plants include carrot, lettuce and tomato.

Berries

Berries such as strawberries, blueberries and raspberries picked straight off the plant taste incredibly good. They are also packed with healthy antioxidants. Commercially grown berries are highly sprayed with pesticides which are easily absorbed through their thin fruit skins. Plus they tend to be expensive to buy. All very good reasons to grow your own!

Strawberries are one of the most popular berries to grow and with so many varieties available it is possible to grow them all year round. If you maintain your strawberry plant you can usually get around 4 years produce from each plant.

- Strawberries need to be planted in full sun or part shade.
- Prepare your soil a month or two in advance. They need a well-composted, slightly acidic soil of 6.0 to 6.5 pH. Avoid mushroom compost and poultry manure on strawberries.
- Mound up the soil to provide good drainage and space your plants about 20cm apart.
- Buy virus-free strawberry runners with healthy white roots. Remove any old roots and leaves from the crown. Plant in the top of your mound and fan out the roots over the mound before covering with soil. Ensure the crown is not buried.
- Mulch well, as good weed control around strawberries is vital. Pine needles mixed with straw will help maintain an acidic pH.
- Strawberries have a shallow root system and are prone to drying out quickly. Ensure the soil is always damp. Because you also want to avoid watering the leaves that are prone to moulds and fungus, dripline irrigation works best.
- Apply liquid fertiliser about 3 weeks after planting and again at flowering.
- If frost is predicted, cover your strawberries with a cloche (plastic cover).
- After harvest gently dig up your plant and remove old runners leaving only the strong, young runners. Cut back the leaves also. Replant, water and fertilise well. Continue to water and the leaves will grow back luxuriantly to feed the crown that forms next season's flowers and fruit.

For information on how to grow and maintain blueberries and raspberries visit:
www.abc.net.au/gardening

Growing fruit trees

What can be better than picking a crisp apple or sweet apricot fresh from the tree? Fruit trees also provide wonderful shade in your garden. If you plant a deciduous fruit tree close to your house you benefit from shade in summer and the winter sun coming through in the cooler months.

- All fruit trees require plenty of sun and good drainage.
- Most fruit trees prefer a neutral pH of 6.0 to 7.0.
- Prepare your soil in advance by adding lots of compost.
- Apply liquid fertiliser at bud burst and during fruiting.
- Avoid high nitrogen fertiliser e.g. poultry manure, as this produces soft sappy growth that attracts pests and disease.
- Water to the base of the tree.
- When choosing a fruit tree it is important to check whether it is self-fertile e.g. apricot, or requires another tree for pollination e.g. apple.
- Think about the space you have available and how big your tree will grow. If space is limited consider dwarf varieties or espaliering.
- Prune back your fruit trees by a good third over winter to promote vigorous growth in spring; summer prune before or after harvest to keep a tree compact.

Espalier trees

To espalier a fruit tree you prune your tree of any branches at the back and front of the tree. The remaining horizontal branches are attached to a wire or trellis so your tree grows 'flat', usually along a wall or fence. This method allows fruit trees to be grown in small spaces where they are not only productive, but very ornamental. Just about any deciduous or evergreen fruit tree can be espaliered. Check with your local nursery.

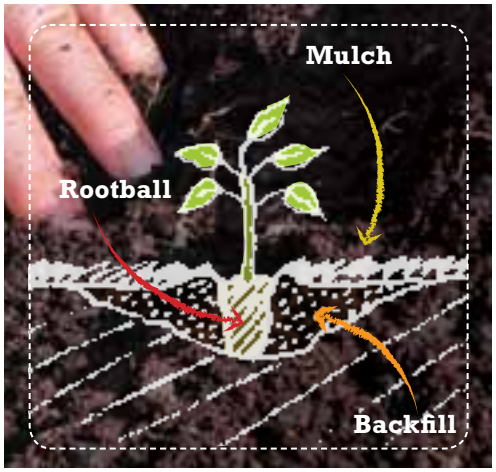
Nectarine tree

Deciduous fruit trees such as apple, apricot, cherry, fig, nectarine, peach, pear and plum are best planted in winter when they can be bought as bare-rooted stock. Stone fruit trees refers to fruit that has a large pip in the middle e.g. peach. Choose a tree with a balanced structure. Before planting trim off any damaged roots and reduce the tree canopy by a third. Prune out the central leader to create a vase shape that will allow for good air circulation and light penetration. Stone fruit require a 'winter wash' starting in late autumn. Visit: **www.sgaonline.org.au** and search 'winter wash'.

Evergreen fruit trees include lemon, lime, olive, orange, mandarin and grapefruit. They are usually purchased as potted plants and are best planted in spring when the soil has warmed up. Trim your tree to 3 or 4 main braches by cutting back vigorous shoots in late winter. Tip prune to maintain a compact shape.

Dwarf varieties are a compact species of tree grafted on to the rootstock of a more vigorous species. You can even buy 'fruit salad' trees that have multiple grafts e.g. 'Granny Smith' and 'Golden Delicious' on the one rootstock.

All fruit trees require plenty of sun and good drainage.



Planting

- Soak your tree in a bucket of water and mild liquid fertiliser for a few hours before planting.
- Dig a hole that's wider than it is deep and add some compost.
- Make a small mound of soil in the base of the hole and spread the roots evenly.
- Gently back fill the hole and water well to remove air pockets.
- Mulch, but not right up to the trunk, as this can lead to collar rot.

Orange tree

Community Connection

Growing food to share with your family, friends and neighbours is good for the soul! Joining a community garden enables you to make new friends and share knowledge, ideas, seed and excess produce.

Additional Support

Australian City Farms and Community Gardens Network

The Australian Community Gardens Network is an informal, community-based organisation linking people interested in community gardening across Australia.

www.communitygarden.org.au

Cultivating Community

Cultivating Community is about people, communities, gardening, farming, the environment and food. They work with diverse communities to create fair, secure and resilient food systems.

www.cultivatingcommunity.org.au

Earthcarers

Earthcarers meet at the Chelsea Heights Community Centre and bring people together to share environmental concerns and empower Kingston residents to live more sustainably. Group activities include simply sharing ideas, workshops and seminars and visiting places demonstrating innovative sustainable living practices.

www.chelseaheightscommunitycentre.com.au/earthcarers.html

Farmers' Markets

This is a place where farmers sell their produce directly to consumers, they serve not just as a place for farmers to get the best price and consumers to get the best products, but as venues for producers and consumers of food to come together, forge relationships and exchange information.

Kingston Farmers' Market

8am – 12.30pm on the first Saturday each Month (except January)
Sir William Fry Reserve, Nepean Hwy & Bay St, Highett, Victoria. Melways 77G11

www.vicfarmersmarkets.org.au
www.rfm.net.au
www.inseasonmarkets.com.au

Food & Seed Swaps

They provide an opportunity to come together and swap excess home grown produce, ideas, knowledge, seeds and skills. No money changes hands at local food swaps; the only currency is what you have produced (and possibly over-produced) at home.

www.myhomeharvest.com.au

Landshare

Landshare or sharing backyard models are also increasing in popularity, linking individuals/ groups with unused land to individuals/ groups who would like to grow fresh produce.

www.landcareonline.com.au
Search 'Landshare'

Local Harvest

Local Harvest is a community project with a view to providing a resource to make it easy to find local and more sustainable food sources. The project includes a national directory for finding food co-ops, swap meets, community gardens, farmers' markets, 'pick your own' farms, farm-gate products, organic retailers and more. Local Harvest also promotes and explores do-it-yourself alternatives for food production.

www.localharvest.org.au

Permaculture

Permaculture is a practical design concept applicable from the balcony to the farm. It enables people to establish productive environments for food, energy, shelter, material and nonmaterial needs, as well as the social and economic infrastructure that supports them. **www.permaculturemelbourne.org.au**

Ripe Near Me

Find local and home grown food, share swap or sell what you grow. Ripe Near Me is your marketplace and map for local produce.
www.ripenear.me

Sharing Abundance

This is a local food system involving the mutual exchange of fresh produce and labour in a fun, social way. Local coordinators organise groups of people to harvest excess backyard produce and prune fruit trees. The harvest is then shared by the tree owner, the harvesters and those in need such as local schools and hospitals.

If you have a fruit tree in your backyard, or want to get out and about with your neighbours, it's easy to get involved and learn a lot along the way.
www.sharingabundance.org

Veggie Swap

Is an online harvest exchange platform for home and community gardens.
www.veggieswap.com

Kingston Community Gardens

There are 6 community gardens located in Kingston:

Clarinda Community Gardens and Artspace

Address: 164 Elder Street South, Clarinda 3169
Melways: 78J8

Earthcarers – Chelsea Heights Community Centre

Address: 160 Thames Promenade, Chelsea Heights 3172
Melways: 93F11

Melaleuca Community Garden

Address: 31 Melaleuca Drive, Clarinda
Melways: 78K3

Mentone Primary School

Address: 6 Childers Rd, Mentone 3194
Melways: 87A6

Mentone Garden Club

Address: 9 Venice Street, Mentone 3194
Melways: 86K7

The Salvation Army Kingston Gardens

Community Church
Address: Unit 13, 12-16 Garden Bld, Dingley Village 3172
Melways: 88B5

Contact Council for contact details and information about these community gardens as well as other exciting gardening initiatives on **1300 653 356.**

Kingston Community Gardens Map

City of
KINGSTON

Kingston City Council
PO Box 1000, Mentone,
Victoria 3194
Phone: 1300 653 356 | Fax: (03) 9581 4500
Email: info@kingston.vic.gov.au
www.kingston.vic.gov.au