Ingredients for harvesting joy:

• seeds • good healthy soil • warm loving sun
• a sprinkling of rain =

delicious home grown food in all colours of the rainbow

home Harvest

how to grow your own
delicious fresh food.

This booklet was produced by Banyule City Council, Nillumbik Shire Council, City of Whittlesea and Manningham City Council.

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Contents

Why Grow Your Own Produce?

The creation of local food systems is an important step in the development of more sustainable communities. Home produce gardens are an integral part of this process.

Rewarding Educational Healthy Fun

Home produce gardens provide individuals and families with food that

- can be grown successfully in the local soil and climatic conditions
- is seasonally appropriate and naturally ripened
- uses less water, energy and chemical inputs than crops grown in large scale monocultures
- reduces food miles and eliminates energy associated with packaging and transportation

Home produce gardening can also bring

- increased physical and mental well being
- improved diet and nutritional outcomes
- a greater connection with the local community through a common activity and purpose
- support for and from local businesses
- cost savings in a time of rising food prices

Because it's....

- fun
- healthy
- educational
- rewarding

And it's easy.....you just need

- a little knowledge
- a lot of enthusiasm
- some help along the way!!!

A Home Food Garden

It doesn't have to conform to any 'system' but you should aim to design and manage your garden sustainably.

- Choose natural and organic soil improvement regimes
- Create plant diversity to minimise pests and diseases
- Practice crop rotation and plant hygiene to prevent diseases
- Comply with local water regulations or capture rainfall onsite
- Prevent uncontrolled seed dispersal by wind, birds or animals
- Avoid water, chemicals or fertilisers from leaching off site
- Choose products that are sourced sustainably

Organic Garden Systems

Most home produce gardeners aim to grow healthy, nutritious food, without the use of artificial chemicals and fertilisers.

Generally home gardeners are not purists and will tolerate some inputs that would not be allowable in stringent 'certified' organic operations.

For truly organic gardening inputs look for legitimate certified organic symbols on gardening products.

BFA Biological Farmers of Australia

AUSTRALIAN CERTIFIED ORGANIC

OGA Certified Organic

NASAA CERTIFIED ORGANIC

Check the SGA GreenUp product guide for an extensive range of low environmental impact horticultural products.

Planning

1 Do a site analysis.

Identify the garden's:

- sunny and shady spots - these can differ in winter and summer (remember produce performs best in full sun)
- deciduous trees – yours and your neighbours
- sheltered areas and wind tunnels
- micro-climates (local isolated zone where the climate differs from the surrounding area) created by buildings and existing site vegetation
- site drainage and any water logging areas
- soil pH in different areas of your garden.

2 Think about the physical location and ease of access to the produce garden.

Should it:

- be close to the house for gathering vegetables, fruit and herbs when desired?
- include raised garden beds for older people or those with poor backs?
- have nearby storage areas for tools and equipment?
- be close to the compost heap or worm farm for managing waste and accessing the end compost?
- include tanks for storing rainwater?
- include a propagating area?

3 Be realistic about the limitations of your garden size.

Consider:

- mixing in produce plants with ornamental plantings
- using containers, pots and hanging baskets
- incorporating vertical plantings such as climbers and vines
- using food producing hedges or espaliered (formal pruning to increase horizontal growth) trees along walls or instead of fences.

a d

b

4 Decide if you want a particular 'style' of produce garden e.g.

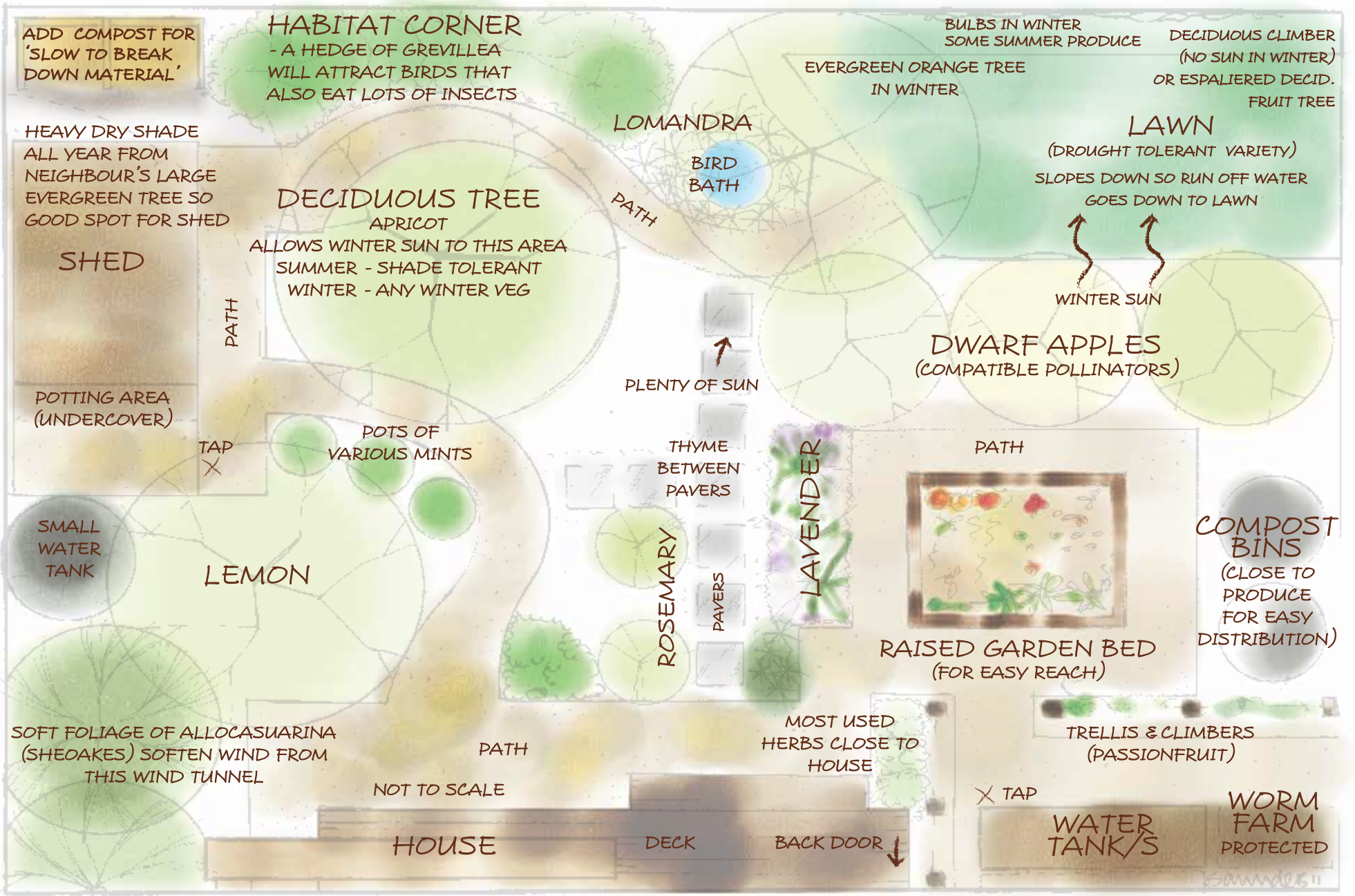
a. The formal kitchen garden
b. The practical vegie patch
c. The multi-level food forest
d. The variety of container gardens
e. Or your own unique style!

c e

Example of a garden plan

Start small... but plan BIG!

Be realistic and decide what you would like to achieve this year, next year and in the next five or 15 years. Identify your limitations with regard to time, space, water and money. Turn any problems into solutions – know what you've got and aim to work with it.



Building YOUR food garden

Whether you would like to:

- create a dedicated garden area for long term use
- modify your existing garden to include produce
- start small with containers and pots

... or a combination of all three!

Consider the depth of your beds

How deep the soil of your produce garden is will affect what you can grow. If the soil in your vegie garden is 30cm deep you can grow leafy produce, climbers, low growing bushes and dwarf fruit trees, but not root vegetables or large fruit trees. If your soil depth is in excess of 100cm you can grow all types of home produce.

Raised Garden Beds

How to create one in 10 steps:

1. Locate on a level spot that benefits from full sun, as most vegies like this best.
2. Consider pedestrian access and whether the spot can be used permanently. Once full, moving the garden bed will be difficult.
3. Mark out and form the walls, these should be at least 30cm high. You can use anything including old rocks, sleepers, bricks, blocks or pavers.
4. If using timbers check out **www.sgaonline.org.au** and search “sustainable timbers”.
5. If the garden bed has a base, ensure there are adequate drainage holes.
6. Build a no-dig garden by first lining with multiple layers of newspaper or cardboard before filling with compost/ soil mix.
7. Stack alternating layers of fine and coarse compostable materials. For example, start with a layer of pea straw, then with a layer of aged cow manure, a layer of compost, and repeat the layers finishing with a thick compost layer.
8. Planting can be done into the top compost layer. Make a small hole to fit the seedling in and plant. Water in well. The plant will eventually establish a strong root system in its nutritional base.
9. Mulch around your seedlings well with a straw-based mulch and dig this into the soil as it rots down, before topping the mulch up.
10. As the layers rot down, top up with more layers of aged manure and compost.





Existing Garden Bed

If you decide that you want to convert your existing garden bed/s into a vegie garden, the soil should be improved well before you start planting your vegies. Traditionally, this involves digging over the soil to about 100mm and incorporating a great deal of organic matter, like compost, at roughly a 3 soil: 1 compost mix. Just don't do it when the soil is too wet... you'll ruin the delicate structure of the soil, and end up with a compacted mess! Aged compost, worked lightly through the soil with a garden fork and rake, will do wonders. If working with a heavy, clay soil, dust gypsum over the surface of the soil (like icing sugar on a cake) before adding compost.

Containers

Planting a productive potted plot is no different to getting going in a garden – it's all about planning, position, potting mix, patience and productivity.

Position

This is all about the best position, not just for your plants, but for you as well. Almost all edible plants will do best in a full sun spot. Remember, this will vary considerably from winter to summer... but the beauty of planting in pots means you can move them as required. Place your pots somewhere convenient for you – the closer they are to the house, the more likely they are to be watered and eaten.

If you have limited space why not consider going up, rather than down? There are many plants that can be grown in hanging and wall pots, and this is often an excellent solution for light starved courtyards, or those spaces dominated by pets.

Planning

Containers look best when they're grouped together, with pots of all different shapes and sizes closely clustered. It has a greater visual impact, cuts down on watering and creates some mini biodiversity. Group plants that require similar levels of watering together, bearing in mind that plants in terracotta pots will dry out a bit faster than others.

Potting Mix

When planting productive pots, the growing medium is incredibly important, but the hot tip here is NOT to use garden soil in pots! Healthy garden soil contains a fantastic mix of microbes, bacteria, fungi and worms... which are great in the garden, but generally don't perform that well in containers. Garden soil in pots can drain poorly and tends to break down quickly. Use a certified organic potting mix. Good organic potting mixes will break down over time, so you will need to refresh the pots with new potting mix every so often. Mulch the tops of all pots with a straw-based mulch to slow down water loss and prevent weed infestation.

Soil

Soil is, without question, the most important element in your food garden. Without it, nothing will grow. So, first things first, get to know your soil!

Ideally, soil should have a mixture of mineral particles, air, water and a small (but important) portion of organic matter and living critters. Great vegie growing soil should have a mixture of large and small particles, be crumbly to touch, dark brown in colour and retain some moisture.

Invest in your soil. The first, and possibly most important purchase should be a soil pH testing kit. Readily available from good garden centres and hardware stores, pH test kits will let you know how "acidic" or "alkaline" your soil is. Nutrients essential to healthy plant growth are all available, at the correct amounts, within a pH range of 6.5 – 7.5. If the pH is too low (acid), it can be raised with Dolomite of Lime. If the pH is too high (alkaline), it can be lowered with sulphur.

In addition to this, some vegies and herbs have a fairly specific pH range in which they will do best, and it is always best to test the soil to know if you are on the right track. One pH test kit should last years... just don't forget to test regularly, and in different areas of the patch.

As with all living things, keeping soil healthy is an ongoing process, and this is especially important in productive gardens. As your incredible edibles grow, they remove nutrients from the soil, and these need to be replaced fairly regularly using composts and organic fertilisers.

Understand your soil history

If you are struggling to grow healthy plants you might consider having your soil tested at a government approved laboratory. Visit the website **www.nata.asn.au** for a list of approved laboratories.

Fertilisers

Australian soils are naturally low in nutrients. Vegetables and fruit usually require large amounts of soil nutrients for optimum growth. This is particularly true for annual crops. Existing soil nutrients can be made more available by regulating the soil pH. Additional nutrients can be made available by feeding the soil – not the plants.

Before the autumn and spring growing periods apply organic slow release pelletised fertiliser.

During the growing period most food producing plants will benefit from supplementary fertilisers applied fortnightly during the growing period. Choose an organic liquid fertiliser such as worm tea, seaweed solution or fish emulsions. You can also make your own compost teas from some homemade compost or dried animal manures. Avoid synthetic fertilisers, these often have synthetic nitrogen and heavy metals. The salt content can also burn young seedlings.

For information on plant nutrients check out **sgaonline.org.au** and search "Plant Nutrients".

Compost

Compost is what organic material turns into when it has been broken down. Composting your food scraps, grass and garden clippings (organics) can provide you with an excellent source of free garden food and soil improver. Compost can be made at home or is readily available commercially. Aged animal manures and vermicompost (worm castings) are rich in nutrients and are excellent for use in the home vegetable garden. Compost does not have to be dug into the soil. Unless the soil needs to be improved, the compost can be laid on top. Mulch layers will also break down over time to add nutrients to the soil.

Composting organics is one of the best things you can do in your garden – as well as creating great fertiliser, it reduces greenhouse gases, saves water and reduces your waste.

Add
to your compost

- Fruit and vegie scraps
- Coffee grounds
- Tea bags
- Herbs
- Leaves
- Egg shells - crushed
- Pizza containers
- Egg cartons
- Vacuum cleaner dust
- Animal fur
- Onion-outer skin
- Finely chopped citrus peel
- Grass clippings (thin layers 3-4cm)
- Chopped prunings
- Weeds
- Shredded newspapers

Keep out
of your compost

- Meat
- Cat and Dog droppings
- Large citrus peels
- Onion
- Bleached or glossy office paper

The City of Stonnington hold community workshops on Composting and Worm Farming. Visit **www.stonnington.vic.gov.au/**environmentalevents or contact Council on **8290 1333** to find out about any upcoming workshops.

Methods of composting

Compost Bins operate as a closed system restricting vermin access and therefore allowing kitchen scraps to be added. In addition, compost bins are compact and preferable if space is limited. Place your compost bin in a sunny position to assist breakdown, and on soil so that liquid drains well and worms can enter the bin to aid composting. Keep moist but not too wet. Use the layered technique (pg.17). The compost should be ready in three to six months.

A Compost Heap is an open system that requires more space and will attract vermin if kitchen scraps are added. A system of bays are constructed with the material forked from one to the other as it breaks down. The heap needs to be a minimum of one cubic metre in order to generate enough heat to breakdown efficiently. Garden cuttings, lawn clippings and manures are added to the heap in layers to assist decomposition. The heap should generate enough heat to obtain compost in three to six weeks.

Kitchen Fermentation Kits are specially designed bench kits that are a convenient way to compost kitchen waste. These kits are fermentation systems that break down waste to nutrient rich soil conditioner for your garden. The air tight system works when you sprinkle a handful of the manufacturer's rice husk and wheat bran that has been infused with micro-organisms over a layer of kitchen waste which then begins to breakdown. The fermented product then needs to be dug into soil.

Layering technique for your compost heap

Building a layered compost heap

1. Build your compost in thin layers (3–10cm).
2. Alternate high nitrogen (e.g. food scraps) and low nitrogen (e.g. dry leaves) layers.
3. Aim for a ratio of **3 buckets low nitrogen to 1 bucket high nitrogen.**
4. Use a diversity of materials.

This diagram is an example of the different layers. Alternating kitchen and garden waste layers with an occasional layer of manure works well.

LAYER OF FELT OR HESSIAN TO RETAIN HEAT AND MOISTURE

LOW NITROGEN ····· STRAW AND WATER

HIGH NITROGEN ····· KITCHEN WASTE

····· **WATER**

LOW NITROGEN ····· GARDEN WASTE

HIGH NITROGEN ····· MANURE

LOW NITROGEN ····· COARSE PRUNINGS

HIGH NITROGEN ····· GRASS CLIPPINGS/PAPER

LOW NITROGEN ····· STRAW OR DRY LEAVES

HIGH NITROGEN ····· SOFT PRUNINGS

LOW NITROGEN ····· COARSE PRUNINGS

LOOSELY FORKED SOIL BASE

Compost bins can be purchased from your local council.

Solving common compost problems

Why is my compost...

1. Left with half decomposed big lumps?

Adding smaller pieces to the bin/heap should ensure that it all decomposes evenly. Avoid avocado seeds, pineapple tops, twigs and other woody items unless they can be crushed or chopped before adding.

2. Smelly?

Either: Too much nitrogen containing matter and not enough carbon (i.e. add a layer of dry material such as dried chopped up leaves and newspaper).

Or: Make sure you aid decomposition by using a garden fork and turn over the bin/heap occasionally (maybe once a week) to introduce more air. This prevents anaerobic bacteria from taking over and producing the bad smells. In a compost bin you can add lengths of holey irrigation pipe to increase aeration.

3. Crawling with ants and slaters?

The heap is too dry. Add a sprinkling of water or less dry matter. Ants and slaters are not harmful; however they do indicate that your compost will not decompose fast enough.

4. Attracting flies?

If you see tiny flies (*Drosophila spp.*) every time you open the lid, rest assured that they are there because they enjoy the contents of your bin/heap, especially if you have been adding fruit peelings. Add a blanket cover to the contents of your bin/heap, such as hessian sacking or carpet felt underlay.

5. Visited by rats or mice?

Meat scraps and fish bones are best avoided since they do encourage vermin, especially over summer. Rats and mice enter the bin by digging underneath, so fasten a piece of fine mesh wire under the bin before commencing.

How do I know when my compost is ready to use?

It should look like rich, brown, moist soil and it should not smell offensive.

Worm Farming

Keeping worms in worm farms and feeding them fruit and vegetable scraps is an excellent way to reduce the amount of organic waste you place into your garbage bin. Worm farms can be purchased from hardware stores, and come with instructions and bedding material. There are specific composting worms that eat food scraps only and are different to the earthworms that you find in your garden. These can be purchased by the box at hardware stores. You should start with a minimum of 1000 worms. Composting worms are Tiger Worms, Red Wrigglers and Indian Blues. Worms produce rich, inexpensive garden fertiliser, called worm castings and worm tea, that is great for your garden. Worm farms are ideal for people mainly disposing of food scraps such as those living in flats or in houses with small backyards.

Food – when starting your worm farm, worms may take a few weeks to start eating and slowly build up their appetite. If you are adding more food than the worms can eat your worm farm may become smelly as the food is rotting. Be sure to monitor and adjust the amount of food you are giving your worms. If your worm farm is attracting rats and mice you are adding the wrong foods such as meat and bread.

Moisture – worms need to keep their skin cool and moist to breathe. Keep a few layers of moist newspaper, or a moist worm "blanket", available at hardware stores, over the top of your worms before placing a lid on your worm farm. Do not flood your worms and take care not to leave your worm farm uncovered if it rains. If your worm farm is too wet you may have huge numbers of small vinegar flies (a small amount are healthy). Likewise, if you find worms drowned in the worm tea at the bottom of your worm farm your system is too wet. Add some torn up newspaper to absorb the excess moisture.

Temperature – worms stop eating if they are cold and will die if they are too hot. They like a temperature between 18-24°C so it is important to keep your worms in a shady place out of direct sunlight in summer and warm in winter.

Using Your Castings and Worm Tea - castings can be mixed directly into the soil around your plants or before you add seedlings to the soil. Because worm castings will never burn plants you can use as much as you like. Worm tea is a strong nutrient boost for your plants and needs to be diluted 1:10 in water before you add to your plants.

Mulch

Mulching is essentially the application of a layer of organic material to the surface of the soil. There is a huge range of mulches available, but, for food gardens, a straw based mulch is the best. High in nutrients, straw based mulches (pea straw, lucerne and sugar cane mulches), when applied to a depth of about 7-10cm, will help keep soil moist, prevent weed infestation, minimise temperature fluctuations in the soil, and, as they break down, will improve both the structure and the nutrient content of the soil. Grass clippings are not a good mulch as they tend to mat together and form an impenetrable barrier, preventing water and air from reaching the plant's roots.

Top up your mulch every six months. Don't mulch right up to the stems of your plants as it can cause all manner of nasty fungal diseases to occur. Leave a gap of at least 4 cm around the stem and monitor often.

Watering

Australia is the driest inhabited continent on Earth, and, as such, we need to use water responsibly in the garden. It is important to check current water restrictions:
www.ourwater.vic.gov.au

Watering

Water is essential for growing healthy plants. How and when you apply that water is important with regard to achieving full production and reducing pest and disease problems.

1. Put the water where it's needed – the roots!

Plants take up water through their roots, so direct the water there. Water on the leaves of plants can encourage fungi and mildew. The easiest way to do this in a vegie patch is through a subsurface irrigation system, where dripline or porous hose delivers water directly to the thirsty root zone of plants. Make a shallow trench (about 2cm), lay your dripline, check it's working, cover lightly with dirt, and then mulch. Adding a timer will take the guesswork out of watering.

2. Group plants according to their water needs

Different plants have different water needs. So, save yourself time, effort, and money (replacing dead plants) by grouping your plants according to thirstiness.

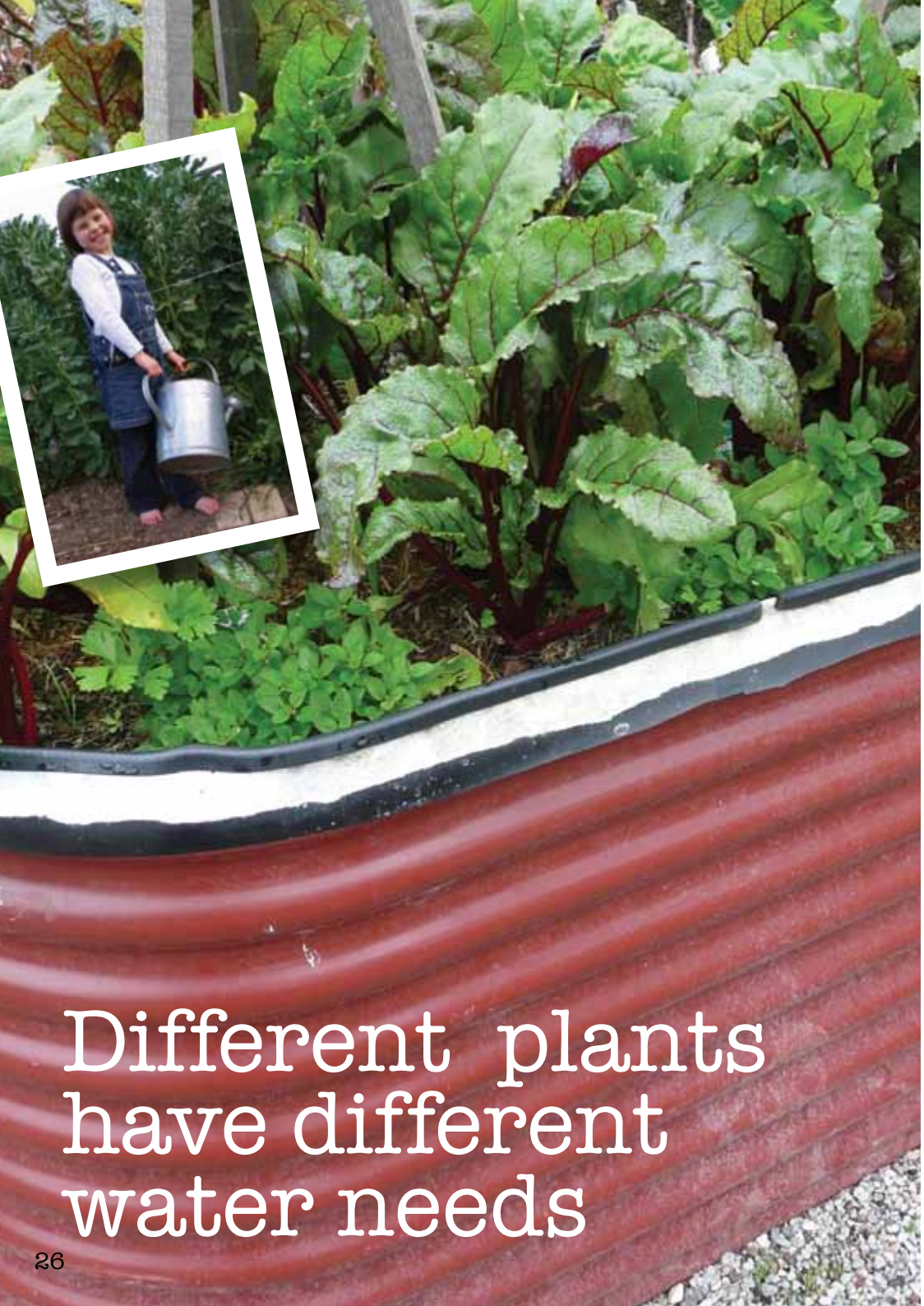
3. Think about alternate sources of water

Consider the installation of a rainwater tank, even if it is a small one just for the vegie patch. This will allow for the more frequent watering regimes needed to grow seasonal vegetables or to ensure trees set fruit. Water fed by gravity from a rainwater tank is perfect for dripline irrigation systems. A pump may be required where the site has an incline. Be aware of potential contaminants coming from your roof surface and consider installing a 'first-flush' device. SGA online has fact sheets on choosing the size and type of rainwater tank and irrigation systems for your garden. Visit **www.ourwater.vic.gov.au** for information on water rebates and offers.

The earlier in the day you water your plants, the happier they will be

4. Water in the morning

The earlier in the day you water your plants, the happier they will be. A morning drink allows the plants to take up water before the heat of the day, keeps the soil cooler, and avoids wet soil as the day time temperature cools. Watering in the evening or overhead watering allows for fungal diseases to take hold, particularly in warmer periods.



Different plants have different water needs

Watering

5. Test the soil before you water!

Don't just water for the sake of watering. Test the soil with your finger before watering– if your finger has soil stuck to it, the soil is damp and probably doesn't need a drink. If it's dry, water it! This is especially important in cooler months, where overwatering can lead to root rot, fungus, mildews and very cold soil.

6. Greywater and vegie gardens don't mix!

Untreated greywater (that is, household water directed from the laundry and bathroom to the garden) should never be used on vegie gardens where food is grown for household consumption.
It can contain all manner of bugs, detergents, fats and oils. It can be used around fruit trees and shrubs as long as it is applied sub-surface by drippers. It should be alternated with fresh water to prevent a build up of toxins in the soil. Phosphorous free and low sodium detergents should be used if using greywater in the garden. Class A treated greywater is considered safe to use in the garden.

For more details visit **www.epa.vic.gov.au**

7. Pots

If using pots to grow produce be aware that they will dry out quickly, especially in summer. To reduce the impact of evaporation, try to avoid dark coloured pots; consider glazed pots; include a saucer; consider double layering the pot (a smaller pot within a larger pot), installing dripper irrigation system with a timer (great for when you go away for the weekend) or adding a simple two litre drink bottle dripper.

8. Water Storage Crystals

As these crystals are petro-chemically based they are not appropriate for an organic garden. It's much better to store water in your soil with a rich compost. For more details visit **www.sgaonline.org.au** and search "water storing crystals".

9. Mulch

To prevent surface water evaporation throughout the year, produce gardens should be mulched with a straw mulch. However mulching can increase the incidence of insect pests like weevils and earwigs, so set up insect traps to deter them.

Planting

Fruit Trees

If your long term plan includes permanent vegetation, then plant these first.

- Deciduous fruit trees such as pears, apples, peaches, plums etc, are best planted in winter when they can be purchased bare rooted.
- Evergreen fruit trees such as lemons, oranges, cumquats etc., should be planted in spring when the soil has warmed up.
- All fruit trees require plenty of sun and good drainage.
- Select dwarf varieties if you have a small space.
- Be aware that some fruit trees require cross pollination i.e. two apple trees! Ask at your local garden centre before you purchase a tree/s.

Planting

Planting technique

Potted plants:

- Choose young, well shaped plants that have not outgrown their pot size.

Bare rooted plants:

- Trim bare rooted trees by about a third, removing any weak, damaged or overlapping growth.
- Check for damaged or diseased roots and trim back.

All plants:

- Allow the plant to soak in a bucket of water for about two hours prior to planting. A mild seaweed solution or compost tea can also be added.
- Dig a hole in prepared soil the depth of the plant pot and twice the width. Use a stick to check the depth. The hole should have rough edges.
- Fill the hole with water and allow to drain naturally.
- Place the plant in the hole and backfill taking care not to plant above the existing rootball level.
- Water well. Do not 'heel in' (stomp around the roots) as watering will remove air pockets.
- Mulch but ensure the mulch is pulled back from the trunk of the plant to prevent collar rot.

Preventing Problems

- For every tree and shrub you plant consider the insect or bird life needed to support it. E.g. flowering fruit trees need pollinating insects so provide some habitat and food plants for them.
- Do not overfeed your trees with high nitrogen fertilisers. This produces soft sappy growth that easily succumbs to pests and diseases.
- Do not apply water to the tree canopy as this can encourage fungal diseases. Apply water via driplines.
- Treat deciduous stone fruit trees with a winter wash to break any disease cycle. For more information on winter wash visit **www.sgaonline.org.au** and search "Winter Wash".

...plenty of sun and good drainage.

◀ Espaliered plum tree

Annuals and Perennials

Perennials are plants that grow in your garden over a number of years such as rosemary. Annuals are plants that grow for one season and need to be replaced the following year unless they self seed e.g. tomatoes. Both can easily be planted between trees and shrubs if you do not want to further disturb the soil. However be aware of the need to provide additional nutrients and water because of the increased competition between plants. For other seasonal produce that requires soil cultivation e.g. root vegetables, a dedicated vegetable area should be considered. This avoids any damage to the root zones of more permanent plants.

Seeds or Seedlings?

SEEDS:

- Are much better value than seedlings.
- You can collect and store your own seeds at the end of each growing season.
- Certified organic and untreated seeds are now relatively easy to obtain.
- Unusual or heritage varieties are often only available by seed.
- Some seeds can be grown directly in the soil but others need to be grown first in seed trays and transplanted.
- Hot weather can prevent germination of autumn seeds or give a poor germination rate.
- Some seeds have naturally low viability and germination rates. Check the packet for details.
- Thinning out of seedlings can be time consuming.

SEEDLINGS:

- Easier and less time consuming than growing from seed.
- Gives you a 'kick start' into the season. May save up to 6 weeks of growing time.
- Allows you to grow only what you need thus minimising wastage.
- Can be difficult to obtain organic vegetable seedlings or unusual varieties.
- Plants may suffer from transplant shock if not properly removed from punnets.

Crop Rotation

When growing annual vegetables it is essential to practice crop rotation. Different plants take up different nutrients and these should be allowed to replenish naturally. Pests and diseases are often associated with particular plants. Crop rotation stops them persisting across seasons. It's not just individual plants but plants from that family that must be rotated e.g. potatoes, eggplants and tomatoes are all in the same plant family.

Example of Crop Rotation in a Garden Bed

Example of crop rotation in a four bed garden

	Season 1	Season 2	Season 3	Season 4
Bed 1	Legume	Heavy Feeder	Light Feeder	Green Manure
Bed 2	Heavy Feeder	Light Feeder	Green Manure	Legume
Bed 3	Light Feeder	Green Manure	Legume	Heavy Feeder
Bed 4	Green Manure	Legume	Heavy Feeder	Light Feeder

Crop Rotation

Heavy Feeders
include potatoes, tomatoes, cauliflower, broccoli, cabbage, sweet corn, lettuce, cucumbers, zucchini, spinach, lettuce and Asian greens.

Light Feeders
include onions, leeks, garlic, beetroot, carrots, parsnips and silverbeet.

Legumes
include peas, snow peas, broad beans, runner beans, snake beans and okra.

Green Manure Crops

This is a practice where soil is improved or regenerated by growing plants that fix nitrogen to their roots e.g. legumes, before or between crop rotations. Most plants (and many mulches) draw nitrogen from the soil. Legumes put nitrogen back into the soil as they are growing.

Nitrogen is essential for strong, healthy plant growth. Popular green manure plants include clover, lucerne, peas and beans. Plants should be cut down as they start to flower. The spent plants can be laid as mulch on top of the soil or added to the compost heap. Packets of green manure seeds are readily available from your local garden centre.

Companion Planting

Companion planting recognises that, even in a highly managed environment such as a vegetable garden, it is essential that we have a large range of different plants and animals. Planting flowers and aromatic plants in a garden attracts beneficial insects, birds and fauna encouraging fertilisation and allowing you to control pests and diseases naturally. Some plants also seem to perform better, or worse, depending on what plants they are growing near.

Many of the claims made about companion plants are anecdotal, but others have a strong scientific basis.

Beneficial Plants:

- Mustard seed sown between plantings – inhibits root knot (nematodes).

Repellent Plants:

- Aromatic plants (e.g. basil and coriander) repels pest insects but plant large swathes.

Attractant Plants:

- Lavender, alyssum and other flowering plants attract bees and other pollinators.
- Umbelliferous flowering plants (e.g.carrots and parsley) attract butterflies.

For an extensive list of companion plants visit:

www.sgaonline.org.au and search "companion planting".

Annual Planting Guide for Seedlings

Globe Artichoke

- Remember if planting from seed you need to plant 6 weeks earlier than seedlings, or according to the suppliers instructions.
- For monthly maintenance instructions visit: **www.sgaonline.org.au** and search "this month in your patch".

PLANT	J	F	M	A	M	J	J	A	S	O	N	D
Asian Greens*			●	●	●	●	●	●	●			
Asparagus				●	●	●	●	●	●			
Basil*	●	●							●	●	●	●
Beans* (summer)	●	●								●	●	●
Beetroot	●	●							●	●	●	●
Broad Beans			●	●	●	●	●	●	●			
Broccoli				●	●	●	●	●				
Cabbage			●	●	●	●	●	●				
Capsicum									●	●	●	
Carrots*	●	●	●	●					●	●	●	●
Cauliflower			●	●			●	●	●			
Celery		●	●	●			●	●	●			
Chilli									●	●	●	
Coriander		●	●	●	●	●	●	●	●	●	●	
Cucumber	●								●	●	●	●
Eggplant									●	●	●	●
Endive	●	●	●	●	●	●	●	●	●	●	●	●
Globe Artichoke			●	●	●	●	●	●	●	●		
Leeks	●	●								●	●	●
Lettuce	●	●	●					●	●	●	●	●
Onions			●	●			●	●	●	●		
Parsley	●	●	●	●	●	●	●	●	●	●	●	●
Parsnip*	●	●	●						●	●	●	●
Peas*					●	●	●	●	●	●		
Potatoes	●	●							●	●	●	●
Pumpkin	●								●	●	●	●
Radish*	●	●	●	●	●	●	●	●	●	●	●	●
Rocket	●	●	●	●	●	●	●	●	●	●	●	●
Silver beet	●	●	●	●	●	●	●	●	●	●	●	●
Spinach				●	●	●	●	●	●			
Spring onions	●	●	●	●	●	●	●	●	●	●	●	●
Sweet corn	●									●	●	●
Thyme	●	●	●	●	●			●	●	●	●	●
Tomatoes	●	●	●						●	●	●	●
Zucchini	●									●	●	●

*Best grown from seed

Home Grown Favourites

(Autumn)

Plant as seedlings or seed which you have propagated into seedlings by Autumn.

Winter Lettuces - Mignonette and Mesclun

- Need a warm, sunny, position. Choose cold hardy varieties. Seeds will not germinate over 30°C. Growth will slow in cold temperatures.
- Heavy Feeder – likes a rich, moist, well drained soil, pH of 6 to 7.
- Can be ready to start picking in 6-8 weeks. Pick only leaves as needed for a continual harvest or repeat sow.
- Lettuces can become bitter if water stressed so apply ample water and regular liquid fertiliser during growing period.
- Can also be grown in pots, but do not allow to dry out.
- Companion plant: Celery.

Peas – Snow Peas, Sugar Snap, Shelling etc.

- Like plenty of sun, a fertile, well drained soil and a pH of 6.5 to 7.5. Add a little garden lime to the soil at planting.
- Prefer temperatures below 20°C for germination and growth.
- Can be ready to start picking in 10-16 weeks. Snow peas bear earlier than shelling peas. Repeat sow every 4-6 weeks for an extended season.
- Climbing varieties are more productive than the bush varieties, but will need an upright support.
- Companion plant: Carrots.

Spinach - English and European

- Likes a fertile, well drained soil and a pH of 6 to 7. Plants dislike excessive root disturbance at all stages.
- Prefers temperatures below 20°C for germination and growth. Warm temperatures will give poor results.
- Apply liquid fertiliser and ample water throughout the growing season.
- Ready to pick at 8 weeks. Pick leaves as needed for a continual harvest. If removing spinach heads, leave stems to re-sprout.
- Will run to seed in warm weather.
- Companion plant: Strawberry.

Beetroot and Silverbeet

- Like a moist, well drained soil with a pH of 6.5 to 7. Add a little garden lime to the soil at planting. Avoid using high nitrogen fertilisers.
- Seeds benefit from soaking in warm water for a couple of hours prior to planting. Beetroot seedlings must be thinned as needed to allow for good root development.
- Beetroot and/or Silverbeet should be ready to pick in 4-6 weeks.
- Beetroot will be tough if water stressed or over mature. Apply ample water during the growing period and harvest at 10cm root width.
- Companion plant: Onions.

Carrots and Parsnips

- Light feeders – too many nutrients will produce excessive top growth at the expense of the roots.
- Like a deep, loose friable soil with a pH of 6.0 to 7.0. Build up beds in clay soil areas.
- Root crops can be slow to germinate, so keep weeds down to prevent competition with young seedlings as they emerge. Carrot seed should be sown late in the season.
- Thin out young plants to allow for the development of larger root size.
- Companion plant: Peas.

Cabbage, Cauliflower, Broccoli, Kale and Brussel Sprouts

- Heavy Feeders – like a rich, well drained soil with a soil pH of 6.5 to 7.5.
- Prepare beds well with aged compost and add dolomite lime for calcium.
- Mound the soil around plants to support leggy growth.
- Apply ample water during the growing season and feed weekly with a liquid fertiliser.
- Brassicas will run to seed and heads fail to form if weather is too warm at harvest time.
- Heads can be harvested at between 10 and 14 weeks
- Companion plant: Dill.

Asian Greens – Chinese Cabbage, Bok Choi and Pak Choi

- Generally faster growing than European varieties.
- Heavy feeders so plant after legumes.
- Like plenty of sun and a well drained soil with a pH of 6.0 to 7.0.
- They are shallow rooted so need ample water and frequent feed of liquid fertilisers.
- Outer leaves can be picked as needed for continuous harvesting but do not defoliate.
- Companion plant: Lettuce.

Home Grown Favourites

(Spring)

Plant as seedlings or seed which you have propagated into seedlings by Spring.

Tomatoes

- Need a warm, sunny, position but never in the same spot as the previous season.
- Large varieties are heavy feeders but small cherry tomatoes are less fussy.
- Calcium deficiency can be prevented by adding dolomite lime or gypsum to the soil prior to planting.
- Prefers a soil pH of 6.0 to 6.8.
- If using seedlings plant up to the first set of leaves to encourage root development. Support large plants with stakes.
- Pinch out top growth to encourage more lateral growth.
- Apply liquid fertiliser and ample water.
- Companion plant: Basil.

Capsicum and Eggplant

- Cultivation is similar to tomatoes but need good airflow.
- Calcium and magnesium deficiency can be prevented by adding dolomite lime to the soil prior to planting.
- Prefers a soil pH of 5.8 to 6.8.
- Apply liquid fertiliser and ample water throughout growing season.
- Shade on days of extreme heat.
- Pick capsicum at desired stage of ripeness.
- Individual eggplants should produce 8 - 10 fruit.
- Companion plant: Beans.

Cucumber

- Heavy Feeder - likes a rich moisture retentive soil.
- Prefers a soil pH of 6.0 to 7.0.
- Seed can be sown directly into warm soil. Important to choose a variety to suit your climate.
- Quick to grow and ready to harvest in 6-8 weeks.
- Can be grown up a trellis or in pots.
- Pinch out the top growth to encourage laterals.
- Each plant produces 8 to 10 fruit.
- Companion plant: Corn.

Pumpkin

- Often appears as a 'volunteer' crop when using home made compost.
- Heavy Feeder – likes a rich, well drained soil. Can become rampant.
- Prefers a soil pH of 5.5 to 7.0.
- Can be grown on mounded beds or on a trellis.
- Apply ample water during the growing season.
- Has both male and female flowers so pollination by bees or by hand is necessary.
- Harvest when top stalk dries and hardens.
- Companion plant: Eggplant.

Leafy Vegetables e.g. Lettuce, Rocket and Mesclun
(as per Autumn planting)

Beans

- Replaces nitrogen in the soil after a heavy feeder crop. Add some blood and bone to the soil before planting.
- Like plenty of sun and a well drained soil.
- Prefers a soil pH of 6.5 to 7.5.
- Can be ready to start picking in 10 weeks. Sow repeatedly every 4-6 weeks for an extended season.
- Climbing varieties are more productive than the bush varieties but will need a trellis support.
- Companion plant: Broccoli.

Root Vegetables – Carrots, Parsnips and Beetroot
(as per Autumn planting)

Sweet Corn

- Heavy feeder so plant after legumes.
- Likes plenty of sun, water and a well drained soil.
- Prefers a soil pH of 6.0 to 7.0.
- Has male flowers and female flowers that are wind pollinated.
- Grows to about one metre in height.
- Beans are traditionally grown with corn as the beans provide nitrogen and the corn provides support.
- Companion plant: Beans.

For a complete planting guide visit:

www.gardenate.com

For a month by month guide visit:

www.SGAonline.org.au and search 'This Month In Your Patch'.

Pests and Diseases

Sometimes, even in the best of gardens – THINGS GO WRONG! Don't panic....help is at hand! The most important thing is to accurately identify the problem.

- You can find an extensive list of fact sheets on common garden problems including many Pests and Diseases. Get a copy of the SGA booklet 'Pests & the Rest' from the SGA website.
- If a chemical solution is needed, SGA garden centres are trained to recommend low-impact chemicals. These are marked on the shelf with an SGA label, or check the SGA website: **www.sgaonline.org.au** and search 'GreenUP Product Guide'.
- If you need further confirmation, take a sample of the damage to your local nursery and seek their help.
- In any garden centre, read the label and information on the product. Looking for an organic certification on the product will also assist you in making your choice.

Integrated Pest Management (IPM)

IPM is a technique that tries to minimise pests and diseases naturally and without the use of harmful chemicals.

- Healthy plants can protect themselves, provided they have a healthy soil, are mulched, not exposed to synthetic fertilisers and are regularly watered.
- Check the micro-climate. Many fungal diseases occur when there is too much shade, poor ventilation due to plants being too close together or more vigorous plants out compete weaker plants.
- Set tolerance levels unless pest problems are at an unacceptable level. Accept that some losses and blemishes are normal in a chemical free garden.
- Practice a range of techniques – plant companion plants, net fruit trees, manually remove weeds and encourage biodiversity in the garden.
- Consider purchasing some beneficial insects commercially. Visit: **www.goodbugs.org.au**
- Home remedies are often very effective. E.g. Milk spray can be used to combat powdery mildew; beer traps for slugs/snails; or linseed oil for earwigs.
- Check your vegie patch regularly for pests. When watering is a good time to look for the very hungry caterpillar and friends!

Chickens

Chickens can be an excellent addition to the backyard garden. Not only are they popular with children but they provide an excellent source of eggs and fertiliser. There are a few things to consider before setting up your hen house.....

Council regulations

You need to research your local council regulations regarding the keeping of chickens. Council regulations differ on issues such as whether or not roosters are allowed and how far from the property boundary the chook house needs to be. It's also a good idea to talk to your neighbours about any concerns they may have.

Housing

Chickens are not particularly demanding, but there are a couple of accommodation necessities that need to be considered and constructed prior to the arrival of your girls! Firstly, chooks need to have a house with a comfortable perch that gives them somewhere to roost at night and a place to shelter. Ideally, the chook house should allow about 0.5m^2 of floor space per hen, as well as 23cm of perch for each bird. While you are designing your coop, remember to incorporate some nest boxes at a rate of one box for every three hens.

Your chook house will need to be attached to a "run", an area where your new arrivals can scratch, feed and roam. A decent rule of thumb is to give the chooks about 1m^2 space each, but this can be smaller if you plan to let them wander about in the garden from time to time. The run should have dirt for a dirt bath, and a permanently shaded area.

A fox and cat proof run is essential for the security of your chickens. Make sure your wire is buried at least 10 -15cm under the ground and flared outwards.

Test Run

Why not try before you buy? Conduct a web search of 'rent a chook, melbourne' and you can find out more details.

Chickens in the garden

Left to "free-range" (i.e. chooks left to their own devices through the garden), your hens can wreak havoc, especially when there are young seedlings in the patch. Chooks love nothing more than to scratch in some fresh mulch while they hunt for worms, and show little regard for your precious plants. That said, they are fantastic at the end of a growing season in the vegie patch, because they will turn the whole lot over, while pulling out the remains and adding fertiliser as they go.

More established vegie patches can benefit from poultry patrol, particularly if you are having insect issues and weed worries, and unless the plants are sensitive (e.g. lettuce and spinach) the chooks will give them a miss. Sensitive plants can be fenced off with some temporary fencing, to prevent attack from roaming hens.

For more details on keeping chickens and council regulations visit:

www.sgaonline.org.au

www.nillumbik.vic.gov.au

www.manningham.vic.gov.au

www.whittlesea.vic.gov.au

www.banyule.vic.gov.au

Get Connected!

Gardening is one of the most popular hobbies in Australia, and many people are wanting to adopt sustainable gardening practices. A great way to do this is to connect with your local gardening community. You can do this by joining a group or supporting local food swaps and farmers markets. You can also consider coordinating with you neighbours e.g. if you want to grow apples you need two apple trees to cross-pollinate. Bees have no problem crossing the back fence if you don't have enough space to grow two trees.

Community Groups

Sharing Abundance

Sharing Abundance is a viable, local food system involving mutual exchange of fresh produce and labour in a fun, sociable way. Local co-ordinators organise groups of people to harvest excess backyard produce and maintain fruit trees. Produce is shared between those involved 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 be involved.
www.sharingabundance.org

Community Groups

SGA Neighbourhood Gardening PODs

A POD is a group of people who come together on a regular basis to share knowledge, experience and muscles about sustainable growing of produce.

To start a POD or join an existing one visit: **www.sgaonline.org.au** and search 'PODS'.

Transition Towns

is a grassroots network of communities working to engage the community in planning for a sustainable future.
Contact Transition Banyule
www.transitionbanyule.org.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.landshareaustralia.com.au/about/

Local Food Connect

is passionate about all things food (from seed to feed) with a focus on the North Eastern communities of Melbourne. Their aim is to bring food back to its rightful place at the centre of family and community life. Through supporting the development of community-centred local food activities and enterprises such as food swaps, community gardens, Community Supported Agriculture (CSA), food co-ops, home gardening, composting and school gardens. For further information find Local Food Connect on Facebook and visit **www.localfoodconnect.org.au**

Permaculture

Permaculture is a practical design concept applicable from the balcony to the farm, from the city to the wilderness. It enables people to establish productive environments providing for food, energy, shelter, material and non material needs, as well as the social and economic infrastructure that supports them. For further information visit: **www.permaculturemelbourne.org.au/**

... come together and swap excess home grown produce, ideas, knowledge and skills...

Exchanging Produce

...producers and consumers...

There are a lot of exciting initiatives happening in your local area. For example:

Food Swaps

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

For a list of food swaps in your area visit: **www.localfoodconnect.org.au**

Seed Swaps

Gardeners often end up with a surplus of vegie seeds they have harvested from their last crop or have bought a packet of heritage seeds that contain hundreds of seeds they will not have an opportunity to plant. Seed swaps provide an opportunity to swap seeds with other gardeners.

Farmer's 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. To find a farmer's market in your local area visit: **www.inseasonmarkets.com.au** **www.rfm.net.au** or **www.vicfarmersmarkets.org.au**

If you do not have space to grow your own produce or you would like to be part of a collective, a community garden may be for you. Community gardens vary in structure but typically the land is leased from local government and managed by a committee of management. Individuals rent a plot within the garden and can access it anytime to plant out crops of their choosing.

For further information, the Australian City Farms and Community Gardens Network website has fact sheets on various topics and would be the best place to start **www.communitygarden.org.au**

You can also check out Cultivating Community **www.cultivatingcommunity.org.au**

To find a local community garden visit **www.localfoodconnect.org.au**

...be part of a collective community garden...

Community Gardens

...grow your own...

Roasted Vegetable Frittata

INGREDIENTS:

Potato
peeled and sliced

Pumpkin
peeled and sliced

Carrot
peeled and sliced

Parsnip
peeled and sliced

Beetroot
peeled and sliced

4 or more cloves of garlic
(don't bother peeling)

Splash of Extra Virgin Olive Oil

A bunch of English spinach or Asian greens
washed and sliced up

Asparagus
if available

Rosemary
fresh

Feta cheese
about 150g

5 free range Eggs
beaten until thick

METHOD:

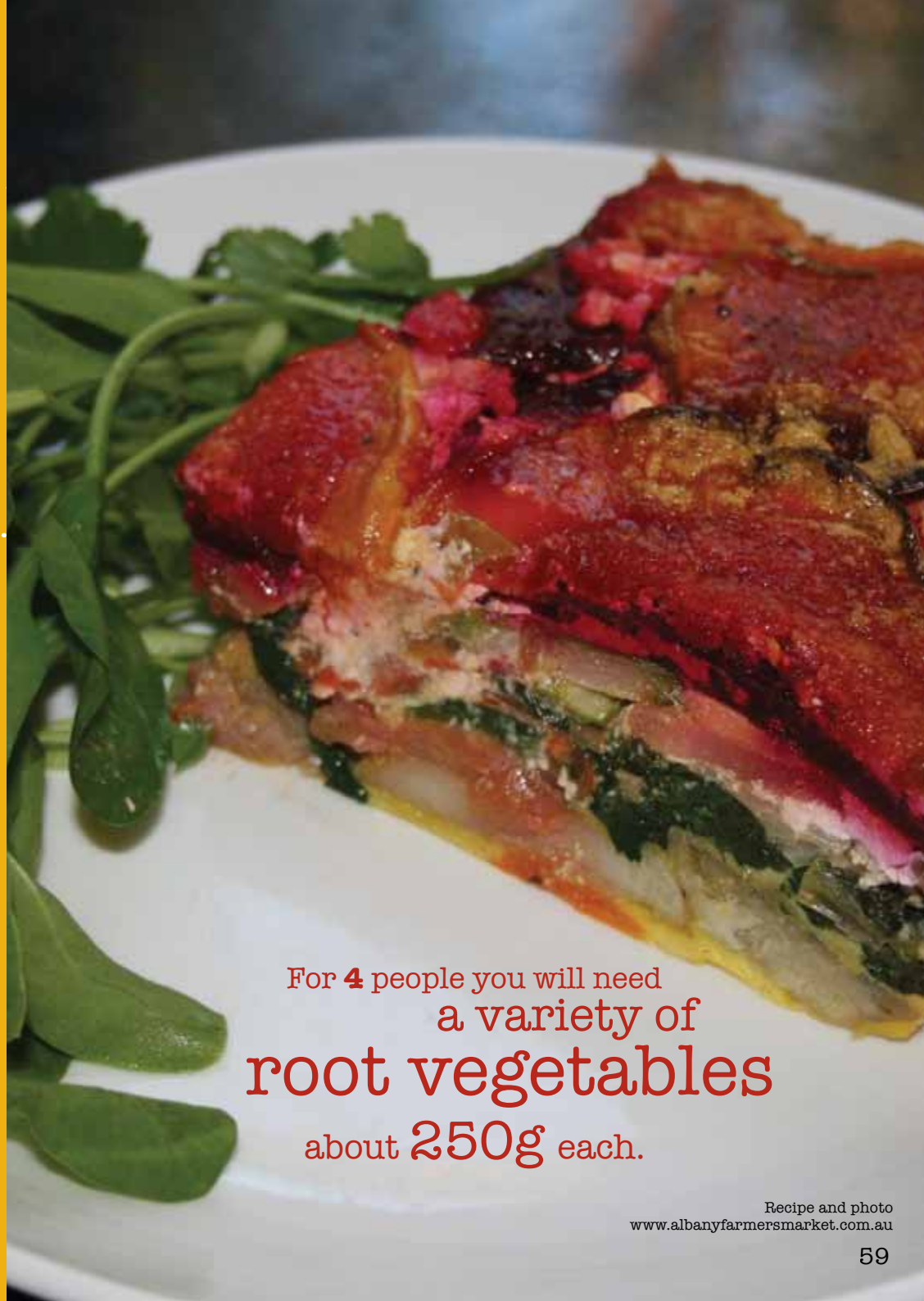
Pre-heat oven to 200˚C or 180˚C for a fan oven.

Toss all the prepared root vegetables and garlic with the oil and the finely chopped rosemary in a baking pan and place in pre-heated oven for about 30 minutes. To stop the beetroot "bleeding" it's colour bake it in a separate pan. They can all crisp, but don't over do it. (If you prefer, the vegetables can just be diced, which will give a different finished look to the frittata when cut).

While the vegetables are in the oven, steam or microwave the green vegetables. Drain the leaf vegetables and squeeze surplus water out of them. Grind black pepper through them.

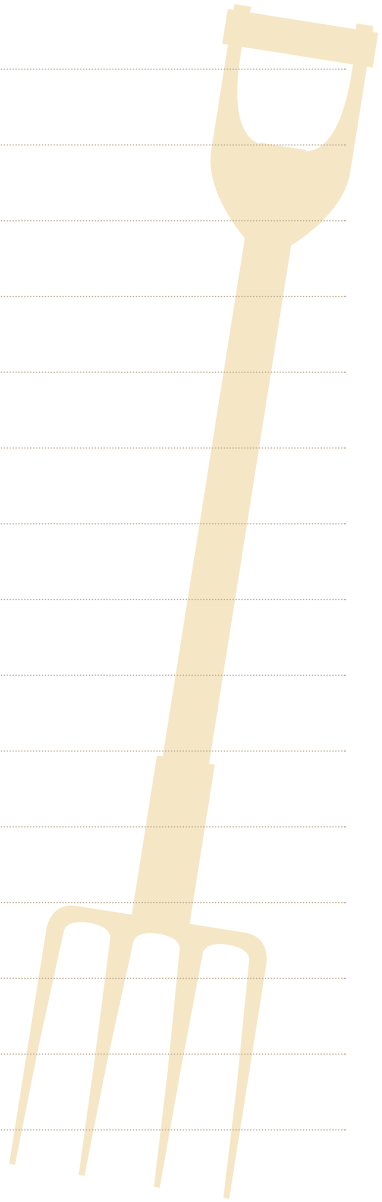
When the roast vegetables are ready layer them in a lined dish. I squeeze the garlic paste out of the cloves and scatter through the vegetables.
I use a 20 cms square cake tin! For effect, layer them with contrasting different coloured vegetables - sprinkling the crumbled feta with the green leaf vegetables. Keep back the top layer then gently pour most of the egg mixture over the vegetables and gently press down to fill any air gaps. Top with the remaining layer and pour the remaining egg mixture over.

Should be set and golden topped after about 35 minutes in the oven!



Recipe and photo
www.albanyfarmersmarket.com.au

notes



Contacts

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Email: enquiries@banyule.vic.gov.au
Website: www.banyule.vic.gov.au

Nillumbik Shire Council

Address: Civic Drive,
Greensborough, Vic 3088
Postal Address: PO Box 476,
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Email: nillumbik@nillumbik.vic.gov.au
Website: www.nillumbik.vic.gov.au

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