Edible school garden

Planting and maintenance guide

GOVERNMENT OF WESTERN AUSTRALIA

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WasteSorted Schools

Using the guide

WasteSorted Schools, a program of the Waste Authority, provides teachers and other school representatives with professional development, curriculum materials and support to help schools plan, implement and maintain waste minimising projects such as recycling, composting and worm farming. Schools are encouraged to close the loop on organic recycling by worm farming and composting their fruit and vegetable scraps which are then used to enrich the garden soil to grow more food.

This guide has been developed in response to teachers wanting a user-friendly edible garden planting guide relevant to a school year in Perth. The information contained in the guide has been adapted from various sources to suit Perth conditions. The sources include *Eat Your Garden: Organic Gardening for home & Schools, Companion Planting in Australia, Small Space Organics, Organic Gardening in Australia, Organic Gardener, Warm Earth Organic Gardening, The New Organic Gardener* and *Vegetable Growing: a guide for home gardeners in Western Australia* (full reference list on page 16).

The guide is laid out by month and includes a section entitled 'Jobs in the Garden'. It is here that basic gardening tasks are suggested and where student activities and topics relevant to that particular time of the growing season can be found. Below this section you will find a list of fruits and vegetables that can be planted in that particular month. This list is by no means exhaustive and has been compiled based on plant characteristics such as how easy the plants are to grow, harvest and cook.

The guide also contains an introduction to permaculture and a garden glossary, maintenance and tips section.

This guide has been developed in response to teachers wanting a user-friendly edible garden planting guide relevant to a school year in Perth.

Jobs in the garden

- February is a hot month in Perth so remember that if you are planting an edible school garden, it's essential to provide shade particularly from the midday sun. Consider building shade structures for this purpose and/or growing deciduous vines on trellises and planting deciduous trees. The leaves shed in autumn allow the sun through in winter and can be added to the compost. Applying a generous layer of pea straw, lucerne or lupin mulch is essential to protect soil microbes from the sun and reduce the rate of evaporation. Healthy soil leads to robust and healthy plants and greater yield.

- If you planted a green manure crop in Term 4, now will be the time to cut and dig it into the soil. Cut the green manure crop when lush and ready to flower (about knee height) but don't let it go to seed. Armed with a pair of scissors, students achieve this task quickly. Cutting the green manure crop into tiny pieces is not necessary but the smaller the pieces, the faster they will be converted to humus by soil microbes.

  Cover with a layer of sheep, cow or horse manure or all of the above, scatter some rock dust and finish with a thick layer of mulch (lucerne or pea straw) and water in well. Keep damp and the area will be ready to plant out in about six weeks.

- Remove spoiled fruit and mouldy leaves from the garden. Wrap these in newspaper and dispose directly into the rubbish bin. Do not put diseased plant material into the compost as this will only spread the fungus throughout the rest of the garden. If you have chooks give them your spoiled fruit.

- Empty the compost bins onto garden beds, fork in, cover with a layer of mulch and water.

- If you have been growing pumpkin, squash or watermelon, put some mulch under the fruit to elevate it off the ground to avoid the fruit rotting.

PLANTING GUIDE – FEBRUARY		
FRUITS AND VEGETABLES		
Globe artichoke	Radish	Pak choy
Leek	Spring onion	Tomato
Zucchini	Lettuce	Cauliflower
Silverbeet	Celery	Snow peas
Kale	Parsnip	Sweet corn
Chilli	Beetroot	
HERBS		
Fennel	Basil	Curry leaves
Dill	Chives	Garlic cloves
Banana plants		

Fill your compost bin/tumbler with the appropriate organic materials. For full details, visit the WasteSorted Schools website www.wasteauthority.wa.gov.au/wss/teaching-resources/list/fact-sheets and download the compost fact sheet.

A piece of shade-cloth and some bamboo sticks provide a simple but effective sun shelter.

Jobs in the garden

- It may still be hot but friendlier gardening weather is on its way. Ensure garden beds are ready for their next crop by fertilising with rock dust. If your garden beds are sandy, add bentonite (clay). Be generous with your application (6–8kg per square metre for very sandy soils). Test an area to determine how much you need to apply. For a quick and easy test, wet a handful of your soil and squeeze. When you release the soil it will either fall apart or hold its shape. If it falls apart, you need to apply a generous amount of bentonite (incorporate well in to the soil to avoid caking on the surface when wet).
- Consider adding zeolite to your soil. The application of zeolite reduces leaching of soluble nutrients and helps fertilisers work more efficiently.
- Fertilise your citrus trees by distributing
  - half a bag of sheep, cow or aged chicken manure for one-year-old trees
  - one to two bags for more mature trees (mulch well and avoid contact with the tree trunk).

PLANTING GUIDE – MARCH		
FRUITS AND VEGETABLES		
Globe artichoke	Spring onion	Cauliflower
Broccoli	Bush beans	Radish
Kale	Garlic cloves	Spinach
Zucchini	Snow peas	Lettuce
Climbing beans	Strawberries	Beetroot
Celery	Beetroot	Chilli
Brussels sprouts	Pak choy	Tomato
Leek	Cabbage	Silverbeet
Parsnip	Carrots	Dwarf and climbing beans
HERBS		
Basil	Parsley	Dill
Fennel	Chives	

Student activity: Build a living 'cubby'

Kids love to build cubbies so why not encourage students to combine building with gardening. All you need is a number of long bamboo poles, some twine and some climbing bean seeds. Simply push the bamboo poles into the soil in a circular pattern, pull the tops together to form a teepee and bind with string or tape.

Plant several seeds at the base of each pole and once sprouted, remove the two weakest seedlings. The remaining seedlings will climb the poles and within 12 weeks a living teepee cubby will entertain your students, provide a quiet place to read a book and encourage some serious bean eating!

Jobs in the garden

- You may have noticed a number of white butterflies hanging around your leafy brassicas (broccoli, cabbage, cauliflower and kale). This pest, known as the cabbage white (appears in the warmer months), lays eggs on the underside of brassica leaves and the newly hatched caterpillars will feast on and devastate the plant. They are territorial and will generally avoid landing where they perceive another cabbage white butterfly to be. So, try and trick them out of your garden by:
  - cutting butterfly shapes from white plastic and attaching them to a stick with fishing line so they move about in the wind
  - incorporating white flowering plants (such as pansies) in between rows.

  Alternatively
  - interplant with celery as the strong scent of celery will repel cabbage white butterflies
  - purchase a bio insecticide (caterpillar killer) and apply as a spray (this product is harmless to other creatures)
  - hand-pick and squash.
- Replenish recently harvested garden beds with manure and compost. Enriching the soil after each harvest is necessary as the positive effect of compost and manure does not last much beyond the growing duration of a single crop.
- Strawberry plants benefit from acidic soil so mulch with brown pine needles or Casuarina needles or dig in sawdust prior to planting.
- Avoid watering your plants too late in the afternoon. Foliage that is damp overnight helps the spores of rust and mildew (fungal diseases) to flourish. Water plants early in the morning to ensure that water droplets evaporate before sunset.
- Remember to organise volunteers to water the garden over the holidays if you don't have automatic reticulation.

PLANTING GUIDE – APRIL		
FRUITS AND VEGETABLES		
Globe artichoke	Strawberries	Lettuce
Broccoli	Radish	Beetroot
Kale	Broad beans	Celery
Brussels sprouts	Pak choy	Spinach
Peas	Cabbage	Parsnip
Snow peas	Carrots	Strawberries
Leek	Cauliflower	Silverbeet
Garlic cloves	Spring onion	
HERBS		
Cumin	Chives	Coriander
Fennel	Parsley	Rocket
Basil	Dill	

Jobs in the garden

- Hooray, the heat has subsided and May heralds what is for many the new gardening year. With the mean maximum temperature in Perth 22.5 degrees Celsius, the garden is again a very pleasant place for students to be. The days are shorter, evaporation rates have slowed and it's time to plant some cool season crops.

- To prepare the soil for winter crops you should aim to improve its water retention and nutrient-holding capacity. Basic tasks include soil conditioning with green manures and organic products (such as bentonite), composting and mulching. If using fresh animal manures to replenish the soil, allow to 'age' before using. Fresh manures are best added to the compost now, to be used on the garden up to six months later. Bagged manures are considered 'aged' and can generally be applied and planted in immediately (if thoroughly incorporated with the top few inches of soil). However, poultry manures applied this way will spell disaster for most seedlings and are also best composted before use.

PLANTING GUIDE – MAY		
FRUITS AND VEGETABLES		
Broccoli	Silverbeet	Cauliflower
Kale	Spring onion	Parsnip
Spinach	Onion	Lettuce
Radish	Snow peas	Potatoes
Peas	Pak choy	Celery
Broad beans	Cabbage	Strawberries
	Carrots	
HERBS		
Fennel	Chives	Coriander
Curry leaves	Parsley	Rocket
Basil	Fennel	

Student topic: pH testing of the soil

A pH test will indicate if your soil is alkaline, acidic or neutral and may explain why some or all of your fruit and vegetable plants have not been growing so well. Soil pH can affect bacterial action, fungal growth and the availability of nutrients. Most plants prefer a slightly acidic or neutral soil pH of 6.5–7. Purchase a pH soil test kit (CSIRO approved) from any good garden centre and follow the instructions to adjust the pH of your soil.

The addition of fertilisers such as manure to your garden is a waste of time and money if your soil pH indicates acidity or alkalinity. At these extremes, nutrients form insoluble compounds that are unavailable to plants.

Jobs in the garden

- Apply sulphate of potash to flowering and fruiting plants. The benefits of potash include increased water retention, decreased plant stress, improved resistance to diseases and pests such as weeds and insects, increased root development, wilt prevention, defence against extreme climate temperatures and increased efficiency of photosynthesis.
- Your first crop of carrots was planted back in March and will most likely need thinning out. This is a necessary sacrifice to obtain a robust and healthy crop. Simply pull out seedlings that are growing closely together (if big enough, they are a sweet and delicious treat) as this will leave the remaining carrots with enough room to mature properly.
- The potatoes you planted a few weeks back should now be visible. Take this opportunity to 'heap' them with the surrounding soil leaving approximately 10cm of the plant exposed. Tubers that are exposed to the sun will turn green and are poisonous to eat. Heaping the potatoes increases yield as about 80 per cent of new tubers develop above the original seed potato.
- Purchase asparagus crowns as opposed to seeds for an earlier harvest. Asparagus crowns, (available in Perth from seed suppliers in July and August), produce spears for harvesting in their second year as opposed to at least three to four years for seedlings. You do, however, pay more for asparagus crowns than seeds. Students will be amazed at the speed at which asparagus spears grow, which can be up to 10cm in one day. Asparagus is ready to harvest when spears are 10–15cm in length.

PLANTING GUIDE – JUNE/JULY		
FRUITS AND VEGETABLES		
Broccoli	Silverbeet	Parsnip
Kale	Spring onion	Beetroot
Spinach	Onion	Lettuce
Broad beans	Snow peas	Potatoes
Sugarsnap peas	Pak choy	Celery
Peas	Cabbage	Asparagus
Potatoes	Carrots	Artichoke (Jerusalem)
Garlic cloves	Cauliflower	Strawberries
HERBS		
Fennel	Parsley	Rocket
Curry leaves	Fenugreek	
Chives	Coriander	

Leafy greens such as lettuce are heavy feeders and require a weekly application of liquid fertiliser and daily watering in warm weather if you are to avoid bitter-tasting leaves.

Jobs in the garden

- It is good to keep in mind that different plants have slightly different nutritional requirements. Legumes (beans), for example, are nitrogen fixers so the garden bed you are planting them into will not need the addition of nitrogen-rich manures. Legumes will, however, benefit from the addition of sulphate of potash which gives strength to the plants that might otherwise be knocked about by gusty winter winds.

Student topic: Liquid fertilisers (garden brew)

Having had substantial rainfall (hopefully), now is a great time to make your own liquid fertiliser to replace the nutrients washed away from the soil and give your winter crops a boost. Consider running a science experiment where students work in groups/pairs to plant vegetable seedlings in pots. Students will water one pot with tap water and the other with liquid fertiliser. Record growth of the plants and compare which grows best. Liquid fertiliser instructions are below.

You will need

A sturdy 45 litre container with lid

60cm string

Hessian sack

Manure (cow, sheep, chicken or horse)

What to do

Fill hessian sack with manure and tie off with string.

Fill container with water and suspend sack in water and replace the lid.

Leave for 2-6 weeks until pungent odour has subsided.

To use in a watering can dilute the brew

For young plants, 25 per cent brew and 75 per cent water (weak tea colour).

For more mature plants, 50 per cent brew and 50 per cent water.

Note: Prevent the risk of burning leaves/roots by watering plants before applying

PLANTING GUIDE – AUGUST		
FRUITS AND VEGETABLES		
Broccoli	Spring onion	Asparagus
Spinach	Onion	Lettuce
Climbing beans	Snow peas	Celery
Radish	Artichoke (Jerusalem)	Dwarf beans / Broad beans
Rockmelon	Pak choy	Cucumber
Parsnip	Cabbage	Sweet corn
Zucchini	Carrots	Beetroot
Watermelon	Tomato	Strawberries
Garlic cloves	Potatoes	
Silverbeet	Pumpkin	
HERBS		
Fennel	Chives	Coriander
Curry leaves	Parsley	
Rocket	Fenugreek	

Jobs in the garden

- Spring is a fantastic time in the garden where everything is coming to life. Take this opportunity to plant more flowers amongst your fruit and vegetables to attract beneficial insects into your garden. Beneficial insects will make a meal of unwanted pests, do away with the need for nasty sprays, and give you the lion's share of fresh fruit and vegetables. You could also discourage unwanted pests from your garden by interplanting your vegetables with a variety of aromatic plants (one aromatic plant will not work on its own). Below is a list of plants that provide shelter, pollen and nectar for beneficial insects and a list of plants to discourage unwanted pests.

PLANTS TO ATTRACT BENEFICIAL INSECTS

Alyssum, borage, coriander, dill, bronze fennel, Italian and curly leaf parsley, Queen Anne's lace, golden rod, cosmos, passionfruit marigold, salvia 'hot lips', Mexican sage, African sky, lavender, pyrethrum daisy and feverfew (the flowers of feverfew and pyrethrum daisy encourage beneficial insects and deter unwanted pests).

PLANTS TO DISCOURAGE UNWANTED PESTS

Rosemary, wormwood, oregano, pyrethrum daisy, feverfew, basil, cotton lavender, santolina, tansy, chamomile, chilli and basil.

PLANTING GUIDE – SEPTEMBER		
FRUITS AND VEGETABLES		
Broccoli	Tomato	Radish
Dwarf beans	Spring onion	Watermelon
Climbing beans	Sweet potato	Sweet corn
Artichoke (Jerusalem)	Celery	Lettuce
Rockmelon	Pumpkin	Eggplant
Silverbeet	Pak choy	Capsicum
Snow peas	Cabbage	Cucumber
Potatoes	Carrots	Zucchini
Beetroot	Onion	Chilli
	Garlic cloves	
HERBS		
Fennel	Chives	Dill
Curry leaves	Parsley	Mint
Rocket	Basil	Banana plants

Student topic: Beneficial insects and unwanted pests

Record all these plants (or the ones you have chosen to include) in your gardening diary and research the beneficial insects they attract and the unwanted pests they repel. Be sure to research how big these plants grow and how they work to attract or repel specific insects.

Pollinators are attracted to your garden by various forms of Salvia.

Jobs in the garden

OCTOBER

- With approximately 10 growing weeks left in Term 4, use the Planting and Harvest Guide on page 11 to help you decide what to plant. Begin by first replenishing garden beds for their final crop of the year (refer to 'Jobs in the garden for March'). The addition of worm castings and compost will increase the nutrients available to growing plants and increase the water-holding capacity of the soil.

NOVEMBER/DECEMBER

- With about six weeks of the term left, there is little point in planting any seeds or seedlings unless a reliable reticulation system has been installed or there is somebody available to water the plants. This is, however, a great time to do some maintenance.

  Ensure your worm farm(s) are in good working order. Worms do not appreciate the heat and will suffer if neglected during the hot summer period. Consider setting up a volunteer roster to ensure your worm farms are maintained. Some schools prefer to harvest their castings, send worms home to families with worm farms and then start fresh in the New Year. To harvest the castings from your fridge worm farm, add food to only one side. Worms will move toward the food source leaving the vacated side free to harvest. It is best to use the castings immediately by working them into the existing soil (exposure to sunlight will kill beneficial microbes). Consider planting a green manure crop in the last few weeks of school (if you have reticulation). The crop will be ready for slashing and incorporating into the soil in early February.

PLANTING GUIDE – OCTOBER		
FRUITS AND VEGETABLES		
Eggplant	Cabbage	Silverbeet
Spring onion	Capsicum	Potatoes
Lettuce	Chillies	Beetroot
Zucchini	Snow peas	Sweet corn
Radish	Climbing beans	Sweet potato
Celery	Cucumber	Strawberries
Dwarf beans	Tomato	Pumpkin
Onion	Rockmelon	Artichoke (Jerusalem)
	Watermelon	
HERBS		
Coriander	Rocket	Parsley
Basil	Chives	Banana plants

Planting and harvest guide

PLANT	WHAT TO PLANT	WHEN TO PLANT	TIME TO HARVEST
Artichoke(globe)	suckers	Feb-Apr	20-30 weeks
Asparagus	2 year crowns	July-Aug	20-24 weeks
Banana plants	plants	Sept-Mar	72 weeks approximately
Beans (dwarf)	seeds	Aug-Mar	8-10 weeks
Beans (climbing)	seeds	July-Apr	10-12 weeks
Beetroot	seeds	July-Apr	10-12 weeks
Broad beans	seeds	Apr-Aug	7-18 weeks
Broccoli	seedlings	All year	12-16 weeks
Cabbage	seedlings	All year	12-16 weeks
Capsicum	seeds or seedlings	Sept-Jan	12-16 weeks
Carrots	seeds	All year	10-16 weeks
Cauliflower	seedlings	Jan-June	16-24 weeks
Celery	seedlings	All year	20-22 weeks
Chilli	seeds or seedlings	Sept-Jan	12-16 weeks
Cumumber	seeds or seedlings	Aug-Jan	8-12 weeks
Eggplant	seedlings	Sept-Dec	10-12 weeks
Garlic	cloves	Feb-Apr & Jul-Sep	16-20 weeks
Leeks	seedlings	Jan-Apr	10-12 weeks
Lettuce	seeds or seedlings	All year	6-10 weeks
Melons	seeds	Aug-Dec	14-16 weeks
Onions	seeds or seedlings	May-Oct	24-32 weeks
Pak choy	seeds	Feb-Mar	6-8 weeks
Peas	seeds	Apr-Jul	12-16 weeks
Potatoes	tubers or 'seed potato'	May-Nov	16-20 weeks
Pumpkin	seeds	Aug-Dec	16-20 weeks
Radish	seeds	All year	4-6 weeks
Silverbeet	seeds or seedlings	All year	10-12 weeks
Snow peas	seeds	All year	6-8 weeks
Spinach	seeds or seedlings	Mar-Aug	10-12 weeks
Spring onions	seeds or seedlings	Mar-Dec	8-12 weeks
Sweetcorn	seeds	Aug-Feb	12-14 weeks
Sweet potato	runners	Sep-Jan	18-20 weeks
Tomato	seedlings	Aug-Feb	12-16 weeks
Zucchini	seeds	Aug-March	8-12 weeks

Permaculture in schools

Permaculture is a design system for creating sustainable human environments. On one level, permaculture deals with plants, animals, buildings and infrastructures (water, energy, communications). However, permaculture is not about these elements themselves, but rather about the relationships we can create between them by the way we place them in the landscape. ***(Mollison, 2013)***

Fig 1: Banana trees planted in a circular swale.

Fig 2: Soil protected from harmful UV rays with mulch. Sweet potatoes will eventually become the living mulch.

This section of the planting guide introduces you to the principles of permaculture through the creation of a banana circle. The concept is fun, simple, addresses a waste issue and gets students outside and into the garden.

Gardening at school or at home becomes more than just planting seedlings and harvesting the yield when permaculture is involved. It can create a food forest – a production system which mimics a natural forest system, encouraging students to explore the connections within living systems. Involvement with permaculture will allow students to discover the huge diversity of living soil and how it forms the foundation of our existence. They will begin to understand the importance of growing their own food to benefit their health as well as that of the environment. Through this, they will start to grasp the importance of 'food miles' – the fact that the food we consume daily may have travelled across the country or across the world to reach their table.

Connections are crucial to permaculture design. Structures, plants, trees, pathways, animal shelters, compost bays and worm farms should all be placed in a way that ensures they have multiple purposes and connect with other components in the system to the mutual benefit of all. By valuing and making use of all the resources that are available to us, nothing goes to waste. A banana circle is an excellent example of this.

A banana circle is essentially a circular swale that captures water in the landscape for passive infiltration. It has a central compost pit that feeds and waters the plants within the circle. The decomposition of organic matter within the pit (added to continuously) provides all the nutrients required for growth of the banana trees and other plants in the circle, and is also utilised by earthworms and other soil biota.

Bananas grow well in a circle, bearing bunches on the outside for easy picking. Beneath and between the banana trees, sweet potato runners can be planted. The sweet potatoes act as a living mulch, protecting the soil from ultra violet light and inhibiting weed invasion. As the central pit breaks down, pumpkin, melon and tomato seeds often spring forth adding to the diversity of the circle. Once the banana plants have reached about 2 metres high, climbing beans can be planted beneath the stalks, further increasing diversity.

Comfrey can also be planted on the periphery of the circle, to be cut and added to the central pit (as a compost activator). Ginger also grows well beneath and between the banana plants.

With good access to each plant, maintenance of the banana circle is easy and all pruned material can be thrown directly into the pit. The only thing to decide is which way to 'walk' the bananas. Bananas are a giant herb and produce only one crop. The original plant (the mother) is chopped down after fruiting and added to the mulch pit. The daughter, which will be the chosen successor, continues to grow and any suckers not in the direction of 'travel' are removed. The chosen, surviving sucker is the granddaughter and will take over when the mother is cut down. All being well, your banana plants should produce fruit nine months after planting.

How to create a banana circle:

1. Purchase 5–7 banana plants (the ideal time to obtain and plant bananas is spring and summer), 5–6 comfrey plants, and 5–6 sweet potato runners (cuttings from an existing plant are ideal).
2. Mark out a circle about 2 metres in diameter and dig the central pit between 0.5–1 metre deep and 1 metre wide, mounding the soil around the outside in a circular ridge.
3. Fill the central pit with organic matter such as twigs, leaves, kitchen scraps, manure, newspaper, and coffee grounds until the mound is about 0.75–1 metre high (above ground level).
4. Position all the plants in desired spots before planting.
5. Ensure the soil into which you will be planting the banana trees and other plants is rich in organic matter by adding compost and manures. If the soil is poor (too sandy), the banana plants may look healthy but won't produce fruit. The addition of bentonite is highly recommended if you are dealing with sandy soils (typical in Western Australia).

More information:

To see a good example of banana circles in practice, watch this video from a working permaculture farm.

References:

Mollison, Bill (2013) *Introduction to Permaculture*, Tagari Publications, Tasmania.

Garden glossary, maintenance and tips

Bentonite: Fine clay with exceptional nutrient and water-holding capacity. Be sure to dig the bentonite into the top 25cm of soil. If you simply scatter it over the garden bed, it will 'cake' on the surface and impede water infiltration.

Broad beans: These grow tall and are prone to damage by strong winds. Give them the best start by applying sulphate of potash to the soil before planting the seeds. Sulphate of potash improves a plant's ability to resist disease as well as giving strength and vigour to plants as they grow.

Carrots: Purchasing carrot seedlings is not a good idea as they are expensive (when compared to seeds) and do not transplant well. Stronger and healthier plants come from seeds planted in their permanent position. Purchasing any vegetable as a seed also reduces waste as there's no need for a plastic punnet. Carrot seeds require deep loose soil and should be planted close to the soil surface. Sow in succession for a continuous harvest.

Cover seeds with a plank of wood until they germinate. Carrot seeds are small and being close to the soil surface they dry quickly and are no longer viable. The plank of wood keeps the soil around the seeds moist.

Companion planting: Groups of plants that benefit one another. Some of these benefits include nitrogen fixation and the attraction of beneficial insects into the garden.

Compost: Unless preserved in some way, everything that once lived will begin to decompose when it has died. The microorganisms responsible for decomposing this dead material are active when environmental conditions such as air, water and warmth are favourable. Composting is essentially an artificial acceleration of this process. For further details on composting, view the composting fact sheet on our website (www.wastesortedschools.wa.gov.au) or use the references provided on page 16.

Crop rotation: Different crops make different demands on the soil each season. Crop rotation helps to reduce the damage by the insects that attack only a few kinds of plants. Root diseases such as nematodes can also be controlled through crop rotation as the fungi responsible for the damage tends to die in the absence of the host plant.

Celery: Who wants celery that is tough with stringy stems? Yuck! To avoid this happening and to encourage sweet and tender stalks, you will need to blanch the stems. You do this by cutting the bottom off a milk carton and sliding it over the plant to cover the stems, or alternatively, wrap a sheet or two of newspaper around the stems and secure. Both these methods have a downside in that they encourage snails and slugs to hide inside so be sure to check regularly and remove.

Green manure crops: Green manure crops (grains and legumes) are grown to improve soils. They are cut down before they go to seed (about knee height) and then left to break down by a suite of soil microorganisms. Benefits of a green manure crop include soil microbe enhancement, natural soil fumigation, disease control and the creation of organic bulk and humus.

Harvest celebration: Harvesting your own fruit and vegetables is incredibly rewarding and should be a time of celebration. This is a great opportunity to engage the community by asking parents and grandparents for their favourite recipe using fresh garden produce. Students could also research recipes using cookbooks or surf the net for recipes to celebrate the fresh seasonal produce gathered from the school garden.

Permaculture: A design system for ecological and sustainable living, intergrating plants, animals, buildings, peoples and community. (Permaculture Research Institute)

Rock dust: Provides natural trace elements such as potassium (K), calcium (C), phosphorus (P), and magnesium (Mg), all of which do not occur naturally in Western Australia's mineral poor soils and all of which are necessary for optimum growth of fruit and vegetables. Soil microbes are responsible for breaking down and making available the minerals of rock dusts so you can add rock dust to your compost before applying it to the soil. If applying directly to your garden beds, do so once in autumn and again in spring.

Seed potatoes: Purchase certified seed potatoes to avoid disease and virus build up in the soil. Seed potatoes with several 'eyes' can be cut into pieces so long as each piece has an eye. Allow cut sections to dry for several days before planting with the eye facing skyward.

Snails and slugs: In an effort to rid your garden of snails and slugs, try leaving half an upturned citrus in the garden bed. Snails and slugs attracted to this can then be squashed or removed from the garden. Alternatively, set a beer trap. To do this, partially bury a dish/container in the garden so it is flush with the soil level and pour in about 1cm of beer and a pinch of dried yeast. Snails and slugs attracted to this yeast feast will crawl in and eventually die. Change the beer mix every 2 days. If these methods don't appeal to you, collect the snails in a bucket when they are on the move (early morning/evening or when raining). To kill humanely, put them in a plastic bag and place them in the freezer where they will slowly fall asleep before dying. You can then add them to your compost.

Sweet corn: Pollination is critical for sweet corn. Planting sweet corn out in blocks makes pollination easier. Sweet corn takes up a reasonable amount of space in your garden. To optimize your growing space, plant squash and beans as companions (the American Indians have been doing this for generations). The squash rambles at ground level while climbing beans (planted when the sweet corn has reached full height) climb the stem of the corn plant as the cob is maturing.

Zeolite: A natural volcanic mineral with an extraordinary ability to hold and exchange nutrients required by plants. The application of zeolite reduces leaching of soluble nutrients and helps fertilisers work more efficiently.

Resources

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