Mildura Rural City Council

Sustainable Gardening

IN THE MILDURA REGION

Mildura Rural City Council

Making this the most liveable, people-friendly community in Australia.

This booklet was produced by Mildura Rural City Council.

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SGA
sustainable gardening australia

Sustainable Gardening Australia is a non-profit organisation dedicated to helping Australians to garden in an environmentally sensitive manner. SGA provides free advice on gardening practices and clearly identifies low environmental impact products. Our mission is to change the way all Australians garden, to ensure they are working with the environment while engaging in their favourite hobby – gardening! Find out how sustainable your garden is by visiting SGA's website: **www.sgaonline.org.au** and follow the link on the home page to conduct your own sustainable garden audit. And while you are there, check out the free sustainable gardening information pages and garden forum.

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Introduction

Sustainability has long been a goal of the Mildura Rural City Council and we are working hard to reduce our ecological footprint on the Earth. In the Council Plan 2009–2013 it was resolved that *'our community will manage, develop and initiate a healthy sustainable environment and resources'*.

As we look to our future and achieve our goals, we cannot forget our history, culture and heritage. We are proud to acknowledge the original custodians of this land and their rich cultural heritage and spiritual connection to the land. Part of respecting our land's original custodians is to respect the land on which we live.

Sustainable gardening is one way we can do this. It is also a step towards reducing our ecological footprint.

Gardening is all about creating a beautiful environment. Sustainable gardening is about maximising those benefits to our natural environment and reducing some negative environmental impacts gardening can have.

Gardening can have a positive benefit to the health of our environment. When we:

- plant local plants we provide food and shelter for insects, birds and animals.
- conserve water in the garden we help maintain water levels in our catchment.
- reduce the use of chemicals in the garden we keep our runoff into rivers and wetlands chemical free.
- compost our household and organic garden waste we can reduce the amount of waste going into landfill and therefore reduce the amount of greenhouse gases produced.
- purchase renewable resources for the garden instead of non-renewable resources, we can help protect our old growth forests and river ecosystems.

It is easy to create beautiful gardens that suit our local climate and soil which have a low impact on our natural environment. Sustainable gardens can be introduced gradually by replacing an exotic plant when it dies with a native plant. Sustainable gardens are low maintenance, as they require less watering, lower application of fertilisers and herbicides and less mowing and pruning.

Sustainability also relates to social interaction. It is important that we create diverse and interesting gardens for family and friends to come together to work, play and socialise. It is also important to consider where the products we use in our gardens come from, and the impacts our purchasing decisions can have on other communities.

This booklet can assist you with creating a sustainable garden while also providing a positive benefit to our community's natural environment.

Garden Design

To design a sustainable garden you need to take time to work out how to create a space you feel comfortable with, enjoy and suits your local soil and climate.

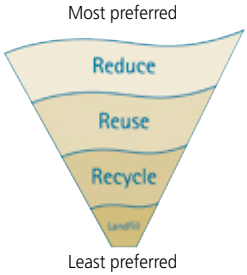
1. Undertake a site analysis of your property (sun, shade, slope, privacy – all the problems that need solving) which will tell you what your site will let you do.
2. List what you need in your garden (shed, washing line, kids swings and entertainment area) and what you want (veggie garden, shade area, pond and fruit trees).
3. Develop a scaled plan or mark out in the garden what will go where practically and where it looks best. For example, placing a new shed in a shady corner, vegetables where they get full sun and a pond where it can be seen from inside the house.
4. Make garden beds bigger and lawns smaller. If you mulch all the beds this will reduce your maintenance and enable you to create interesting areas within your garden.
5. If you want to reduce an existing lawn area to make bigger garden beds, you need to know what type of lawn you have. If you have a fine lawn grass such as Rye or Fescue you can mow the lawn low, cover with 8–10 sheets of newspaper (overlapping), add 10–15 cm of pea straw on top, wait 3–4 months and then plant directly into it. This must be done when the soil is moist and all the grass has died. If you have running grasses, such as Couch or Kikuyu, they will not be eliminated by newspaper and mulch. They are very tough grasses to remove and you can try one of three methods:
   - Cover the grass with a sheet of clear plastic for several weeks in hot weather so that the grass effectively cooks.
   - Mow the lawn area you wish to remove on the lowest mower setting and then dig out the remaining root systems.
   - Apply herbicide.
6. If your block is on a slope contour your garden to prevent water and mulch runoff.

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.

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 the amount going to landfill.



Add to your compost

- fruit and vegetable scraps
- coffee grounds and tea bags
- eggshells and animal fur
- onions and cut up citrus fruit
- pizza boxes and egg cartons
- vacuum cleaner dust
- pure cotton articles (cut up)
- grass clippings (3–4 cm layers)
- cut up prunings
- commercial blood and bone
- shredded newspaper
- small amounts of wood ash
- horse/chicken manure

Keep out of your compost

- fish and meat
- cat and dog droppings (consider a pet poo worm farm instead)
- big woody prunings
- weeds with seeds, prickles, runners and bulbous weeds eg *oxalis* spp
- bleached or glossy office paper
- pineapple tops
- avocado seeds

COMPOSTING TIPS

1. Your compost bin/heap should be located on soil, so that it drains well and worms and bacteria can enter the bin to decompose the waste.

2. a) All compost bins/heaps need a balance of materials that:
   - Are high in nitrogen (such as blood and bone, organic fertiliser, horse manure or chicken manure). Kitchen scraps and grass clippings also contain nitrogen.

- Contain carbon (such as dried leaves or shredded newspapers).
- Aim for a ratio of 30 parts carbon : 1 part nitrogen.

b) In addition, the compost bin/heap needs:

- Water – enough so that the contents are moist but not wet.
- Oxygen – added by regularly turning over the contents.
- Warmth – locate your compost bin/heap in a sunny place, but not with direct sunlight all day.

3. Place perforated irrigation piping in your compost bin to allow more oxygen to circulate inside the bin helping the compost to break down. Ensure that the compost lid can be secured on.

METHODS OF COMPOSTING

The "layering" method (slow and cool) - Suitable for small urban blocks

Add a mixture of materials in alternating 3–10 cm layers of vegetable and fruit scraps, grass clippings and leaves, add some shredded newspaper. Cover each layer with a thin layer of soil and a handful of fertiliser, such as blood and bone. Keep moist, but not too wet. The compost should be ready in three to six months. Breakdown will be quicker if the heap is turned occasionally.

The "all in together" method (hot and fast) - Suitable for larger blocks and rural areas

Store enough kitchen and garden waste to make a heap of about one cubic metre. Add to a bin or a tumbler, or form into a heap with some fertiliser, turning several times a week. The bin/heap will generate a great deal of heat, as the rate of breakdown is high and the compost should be ready in three to six weeks.

The "compost worm" method (moderately fast and cool)

Similar to the layering method, build the heap slowly, but add some compost worms (around 2,000) to the bin. Keep the heap well watered but not wet.

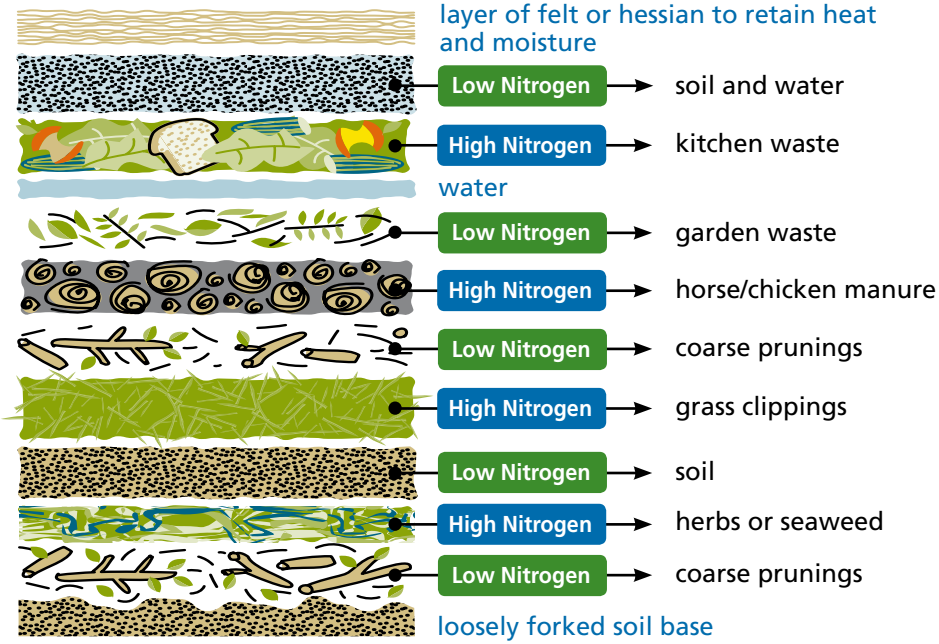
Turning isn't necessary as the worms will turn the heap for you. The compost should be ready in about 3 months.

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.

BUILDING A LAYERED COMPOST HEAP

The diagram below is an example of the different layers (each 3–10 cm). Alternating kitchen waste (high nitrogen) and garden waste (low nitrogen) layers with an occasional layer of manure works well. Remember to use a diverse range of materials.



Compost bins can be purchased from most garden and DIY stores. Check the Yellow Pages® for more details.

SOLVING COMMON COMPOST PROBLEMS

Why is my compost…

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. Always crush eggshells.

Smelly?

Too much nitrogen rich material has been added and not enough carbon. Add more dry materials such as dried chopped up leaves and newspaper.

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

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.

Attracting flies, blowflies or maggots?

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. If you want to keep flies away add a blanket cover to the contents of your bin/heap, such as hessian sacking or carpet felt underlay.

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/heap by digging underneath, so fasten a piece of fine mesh wire underneath before commencing.

WORM FARMING

Keeping compost worms in containers 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 garden centres and hardware stores and come with instructions, bedding material and a bag of worms. There are specific composting worms that eat food scraps only and are different to the earthworms that you find in your garden. 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 living in flats or houses with small backyards.

Further Information

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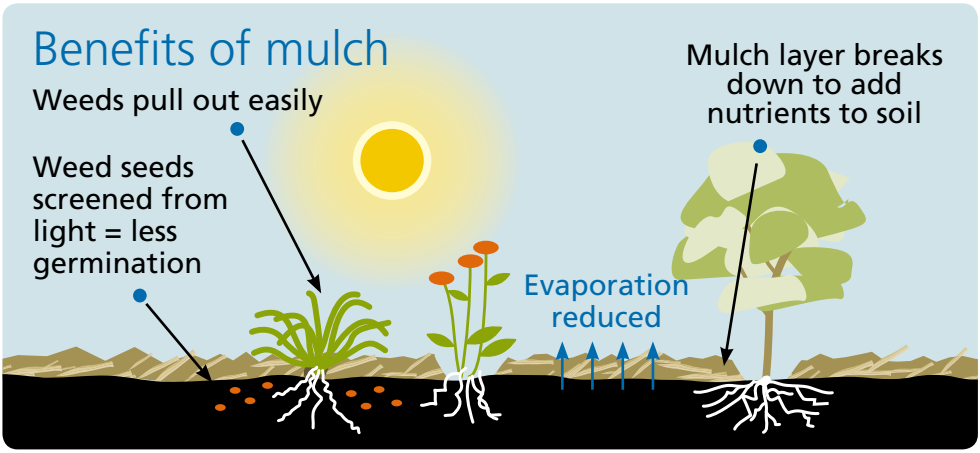
www.sustainability.vic.gov.au www.sgaonline.org.au

Caring For Your Soil

Healthy soil = healthy plants. Soil needs organic matter such as leaf litter, compost, manure and grass clippings. Worms break down organic matter to make food for plants, and aerate the soil so that plant roots can breathe. Organic matter needs to be replaced as plants absorb nutrients. Compost adds nutrients to the soil, improves water holding capacity and needs to be dug in. Mulch is placed on top of the soil to reduce water evaporation and control weed growth. If organic matter is mixed with mulch the material can 'cake' up and form an impermeable barrier that rain can't get through.



SOIL IMPROVEMENT TIPS

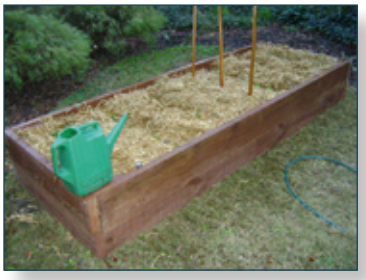
1. Soil should be damp before you add mulch. Generally spring is the best time to apply mulch, once winter rains have soaked in.
2. Mulches made from recycled organics are an excellent choice as they save water, are long-lasting and feed the soil when they break down.
3. Avoid small particle mulches ('fines') as they tend to clump together and repell water. Chunky mulch of varying size is ideal for the garden bed and straws that break down quickly are best for vegetable gardening.
4. Pea straw is a good option if you have not mulched the soil for a long time as it breaks down quickly, returning nutrients to the soil.

5. Soil improvement (such as pea straw on the soil surface) is generally only required for exotic plants, vegetables and fruit trees. Most local and native plants like a relatively infertile soil so they prefer a leaf mulch or recycled timber mulch on its own without soil improvement.
6. When buying new soil for your garden, buy a soil that is mixed with recycled organics or compost.
7. Don't cultivate your soil unless it is very compacted after building works. Digging destroys the soil structure, which thereby destroys air holes and drainage spaces.
8. When watering use a trigger hose with a spray setting so as not to compact the soil as the water hits. The concentrated pressure of the water stream can close up valuable air spaces.

No Dig Gardens

HOW TO BUILD A NO DIG GARDEN ON EXISTING LAWN OR ONTO SOIL

No dig gardens or raised beds consist of layering organic materials on top of the soil to create a nutrient rich environment for your plants. They are easy to set up and require little on-going maintenance. They can be built as a garden bed or in any container to any shape or size, save on water and fertiliser and potentially recycle kitchen (organic) and garden (green) waste.



1. Mark out and form the walls, these should be at least 30 cm high. You can use anything including old rocks, sleepers, bricks, blocks or pavers.
2. Line the base with a 3–5 mm thickness of newspaper to suppress weeds; and wet thoroughly.
3. Stack alternating layers of fine and coarse compostable materials. For example, start with a layer of pea straw, then with a layer of cow manure, a layer of compost, and repeat the layers finishing with a thick compost layer.
4. Planting can be done into the top compost layer. Trowel a small hole to fit the seedling and plant. Water well. The plants will eventually establish a strong root system.
5. As the seedlings grow and the layers break down, top up with more layers of manure and compost.
6. Mulch around your seedling well with pea straw and add more soil as it breaks down, before topping the mulch up.

HOW TO BUILD A NO DIG GARDEN ON A SEALED SURFACE

1. Mark out the size of the beds and construct the sides. If using bricks, sleepers or other rectangular shaped materials, make sure you leave some gaps for drainage. The walls should be at least 30 cm high.
2. Place a 7–10 mm layer of coarse screenings or scoria at the base for drainage.
3. Then stack alternating layers of fine and coarse compostable materials eg start with a layer of pea straw, then a thin layer of cow manure, a layer of compost, and repeat the layering until finishing with a thick compost layer.
4. Plant the garden bed and top up the layers as they break down.

Produce Gardening

Growing fruit and vegetables commercially uses a large amount of energy and chemicals for heating, cooling, spraying weeds and pests, and transporting produce.

Fruit and vegetables begin to lose their vitamins as soon as they're picked. After five days, some have lost between 40 and 50% of their vitamins (this also includes commercial fruit and veggies). Growing your own vegetables, herbs and fruit is so easy, and even easier if you have improved your soil. They're healthier, convenient and children love to watch them grow.

TOP 10 TIPS

1. Grow fruit and vegetables separately from native plants as they generally prefer different growing conditions.
2. You can grow many vegetables in no-dig beds or in big pots.
3. Don't use CCA treated pine sleepers in vegetable gardens as the chemicals used to treat the timber can leach into the soil. Look for ACQ, Kid Safe or EcoWood pine sleepers as safer alternatives.
4. Use recycled plastic sleepers to make raised garden beds. These will not rot and reduce landfill by recycling and reusing plastic products.
5. Rotate the position of vegetables in your garden every year to stop diseases from spreading.
6. Use natural alternatives such as pyrethrum and garlic sprays to control pests.
7. Regularly check for pests and diseases and consider companion plants to prevent and manage issues in the vegetable patch.
8. Use renewable mulch such as mulches made from recycled organics, pea straw or plantation sourced mulch. Recycled organic mulches are good to buy, as not only are they great products, but you are recycling a product that would normally go to landfill.
9. You will need to apply regular water to your vegetable garden, so consider installing a rainwater tank.
10. Some vegetables grow exceptionally slow during the seedling stage of development. You can take advantage of this by using space between rows for quick-growing crops. For example, propagate beetroot seed in middle of April and position young lettuce plants between the rows.

VEGETABLE & HERB PLANTING GUIDE

Summer vegetables and herbs are generally planted in spring, while winter vegetables are planted in autumn. The following is a planting guide for some of the most popular vegetables and herbs.

Summer: basil, beans, capsicum, carrots, cauliflower, chilli, chives, cucumber, eggplants, lettuce, parsley, potato, pumpkin, spinach, strawberry, sweet corn, tomato and zucchini.

Winter: asian greens, beetroot, broad beans,broccoli, cabbage, carrots, cauliflower, celery, coriander, garlic, leek, lettuce, onions, peas, rhubarb, rocket and spinach.

Be Water Sensitive In Your Garden

Australia is one of the driest continents on earth and each year our fresh water storages are depleted due to reduced annual rainfalls and increased water consumption. By improving the soil and using alternative water sources for the garden (such as rain water collected in tanks, storm water directed into the garden, grey water), installing efficient irrigation systems and good garden designs, significant water savings can be made.

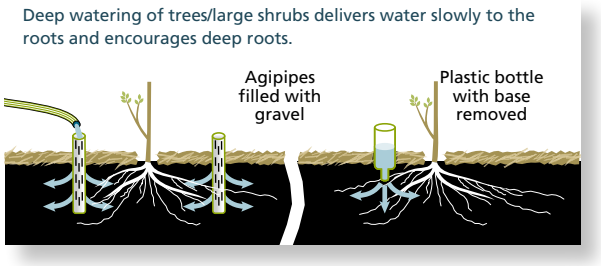
1. Keep lawn areas to a minimum – lawns consume 90% of water used in Australian gardens.
2. Lawns can be replaced with porous paving, ground cover plants, gardens or outdoor structures such as playgrounds and gazebos.
3. If you retain your lawn consider watering with greywater.
4. Incorporate a rainwater tank into your garden to collect water from your roof for watering gardens, washing cars, fighting bush fires or toilet flushing. Rainwater tanks now come in a wide range of designs and colours to suit diverse needs.
5. Choose plants that have low water requirements once established – in most cases this will be indigenous plants.
6. Place plants that require more water (e.g. ferns) in cooler more shaded areas of the garden.

7. Group plants together according to their water requirements to make irrigation more efficient.
8. Use mulch (75–100mm recommended depth) or indigenous ground covers to reduce water evaporation from garden beds.
9. Use porous paving to allow for water infiltration into your garden, not stormwater run off.
10. Where irrigation is required use drip lines or subsurface ‘weeper’ hoses, not micro-sprays which waste up to 70% of the water through drift and evaporation. Keep your system well maintained to avoid leaks.
11. Take account of all water restrictions in place and how or when your garden may be watered.

GREY WATER

Grey water is water from the bath, shower and laundry and can be a great source of water for your garden. Grey water from your laundry washing machine and bathroom can be recycled onto your garden, but it is important to choose appropriate products and be aware of potential health risks associated with grey water use. For further information on grey water contact Mildura Rural City Council's Environmental Health department or the EPA website.

DRIP IRRIGATION



The installation of a drip irrigation system provides an efficient, low cost method for watering a garden. Over the long term, drip systems should be managed to ensure the root development of plants is not affected by over-watering. Drip emitters should be periodically moved around the plant root zone. The individual water requirements of plants should be assessed and appropriate levels of water applied.

A rainwater tank is a good way to reduce the amount of mains (drinking) water used on your garden. Collecting rainwater from a roof surface will provide water for the garden that is not subject to the same restrictions as mains water.

The ideal tank size will depend on what the water will be used for, the size of your roof, local rainfall patterns and space required to site the tank.

For example, 200 square meters (roof area) x 200 mm (annual rainfall) is calculated as 200 X 200 = 40,000 litres of storage per year.

Also consider whether a pump will be needed to move water around your garden, as there will be less water pressure coming from a rainwater tank. A licensed plumber is needed to alter downpipes and gutters, install pumps and fixtures and connect the tank overflow to the stormwater drainage system. Seek clarification of regulations from the Plumbing Industry Commission if unsure (www.pic.vic.gov.au).

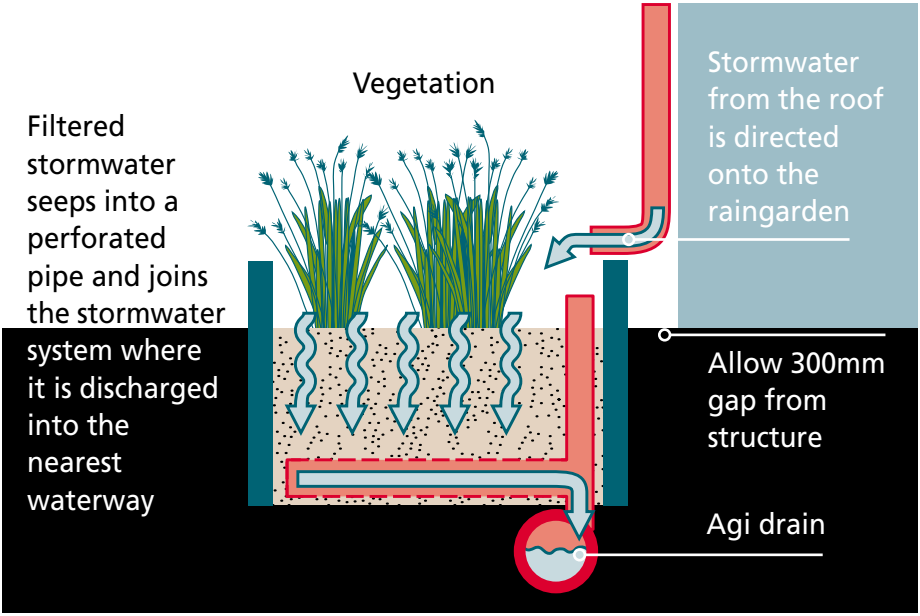
Installing a rainwater tank does not require a building permit but residents are advised to check the latest requirements with Council.

Rain Gardens

A rain garden is a shallow depression in the ground, natural or man made, that is designed to hold rain that would otherwise turn into stormwater runoff.

Rain gardens are a great way to utilise water. These are areas in your garden using drought tolerant plants with storage underneath the root area that can sustain your plants longer after rain. It can be any size but it must have special filter material such as stones, small pebbles and sand over a bio film material base (available from most gardening and DIY stores) that can concentrate the water storage around the base of your plants.

Rain gardens should be located in a relatively flat place where it will receive runoff. You want to make sure runoff flows towards your rain garden site. However, rain gardens are NOT a solution to wet areas with standing water. The garden must have good drainage so that water can soak in within 24 hours after rain. Your rain garden should be at least 30cm (300mm) away from the house, receive full or partial sunlight and not be constructed over a septic system.



Low Water Use Naturestrips (LWUNS)

The Mildura Rural City Council has recognised the importance of creating landscapes that use water resources efficiently and enhance the surrounding environment.

Council has successfully created low water use landscapes across a range of locations, including urban parks, garden features and medians. The LWUNS Program is to convert existing irrigated lawn nature strips to low water use landscapes. With a low annual rainfall and an increasing cost of water, some residents are seeking low water use options for their urban naturestrips. As a result, Council has extended their program to assist residents to convert existing grassed over naturestrips to low water use landscapes.

GRASSES

Traditional grasses are the common treatment used on urban naturestrips and require high levels of water especially during summer. However, if you do prefer a traditional lawn there are drought tolerant ones available. Summer growing grasses such as Buffalo, Kikuyu and Couch offer the most basic low water use option for grassed naturestrip areas.

These grasses can be easily established by runners. Watering of grass naturestrips should be programmed in accordance with climatic conditions, natural rainfall and current water restrictions. Infrequent deep waterings are usually more effective than frequent short waterings.

Photos: (right) Local low water use naturestrip, (inset top) Spotted Emu-bush *(Eremophila maculata)*, (inset below) Netbush *(Calothamnus quadrifidus)*.

Photos: MRCC

LWUNS PREPARATION

Any existing grass should be killed with a suitable herbicide and removed. Heavily compacted soils should be cultivated to assist with plant establishment and development.

If mulch is to be used, some topsoil should be removed to allow for the retention of the mulch on the naturestrip. Once the mulch is placed it should ideally be level with the top of the kerb and footpath. An alternative method is to remove a tapered wedge of soil around the perimeter of the naturestrip.

Residents establishing traditional grass or grass alternatives on their naturestrip do not need to contact Council prior to undertaking any works.

Residents planning to establish low water use massed or mixed plantings should contact Council prior to undertaking any works.

It is important to follow water restriction rules. Information on current water restrictions can be provided by Lower Murray Water. This is an opportunity for everyone to water in a fair and equitable way.

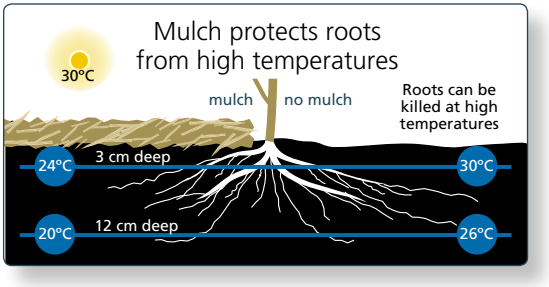
It is the responsibility of the resident to prepare the naturestrip, spread the mulch, and undertake planting and maintenance once established. Council provides mulch, plants and technical advice free of charge.

Mulches

Covering your garden and naturestrip with a mulch material is a low maintenance option that can significantly reduce water and maintenance costs.

Mulches include:

- Organic shredded mulch.
- Graded pine or plantation mulch.
- Grape seeds or stems.



Mulching with no associated planting is very low maintenance, as it requires no watering or mowing. Mulching incorporated with plantings significantly improves plant water retention, reduces wind erosion, slows water run off, reduces water loss through evaporation and provides an aesthetic ground cover material.

Plant Selection

All of the following plants are classified as sustainable / hardy, however check with the local nursery or Mildura Rural City Council if you have any problems propagating or maintaining the plants.

PLANTING TIPS

1. The ideal time to plant is autumn, followed by early spring. Avoid planting in summer.
2. Introduce native and indigenous vegetation to your garden as they are suited to the local soil and climate. They provide shade, leaves for mulch and habitat for wildlife.
3. Native, indigenous and exotics can be used together to create successful sustainable gardens. Group plants according to their water, sun and nutrient needs.
4. Mulch or compost prunings and lawn clippings.
5. Reduce your lawn area.
6. Avoid using plants that are known environmental weeds and consider removing and replacing potential garden escapees.

THE PLANTS SELECTED HAVE SPECIFIC REQUIREMENTS

The plants selected have specific growing requirements such as:

- Full sun
- Part shade
- Shade
- Drought tolerant
- Needs seasonal water
- Frost tolerant
- Salt tolerant

Some of these plants are chacterised by their origin:

- I Indigenous - Local plant
- N Native - Australian plant
- E Exotic - Non-Australian plant

Some of these plants are chacterised by their growing habit:

- HHH Suitable as hedge
- Height
- Width

Some of these plants provide habitat for:

- Birds
- Butterflies
- Lizards

Indigenous (Locally Native) Plants

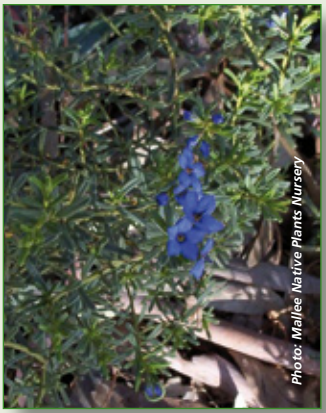
Spreading Flax-Lily
(Dianella revoluta) I
Requirements:
↕ 80 cm ↔ 50 cm
Features: Hardy, easily maintained plant. Ideal for growing close to trees. Requires a well-drained soil.

Spotted Emu-Bush
(Eremophila maculata) I
Requirements:
↕ 1.5 m ↔ 1–3 m
Features: Flowers in spring. Tolerates a range of soil types. Great container specimen.

Common Emu-Bush
(Eremophila glabra) I
Requirements:
↕ Prostrate to 1.5 m ↔ 1–3 m
Features: An incredibly drought tolerant Emu-bush. Flowers from spring to autumn.
Foliage is poisonous to stock.

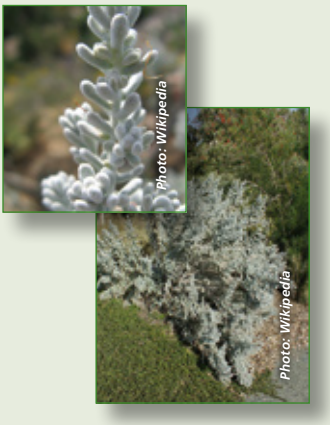
Narrow-leaved Red Mallee
(Eucalyptus leptophylla) I
Requirements:
↕ 3–8 m ↔ 4–8 m
Features: Cream to white flowering Mallee–form of Eucalypt. Tolerates extended periods of dry soil once established. An excellent screening plant.

Mallee Blue Flower, Rough Halgania
(Halgania cyanea) I
Requirements:
↕ 40 cm ↔ 40 cm
Features: Striking blue flowers borne on dull green foliage. Requires a well-drained soil. Gorgeous in an open spot.

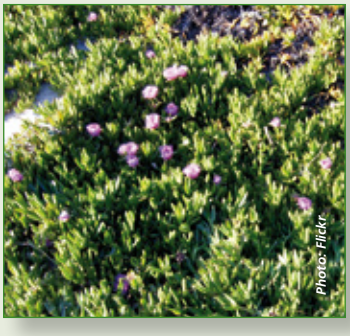


Muntries
(Kunzea pomifera) I
Requirements:
↕ Prostrate to 50 cm ↔ 1.5 m
Features: Woody prostrate shrub. Useful for soil stabilisation.
Fluffy white flowers borne in late spring, followed by delicious edible berries.

Pearl Bluebush
(Maireana sedifolia) I
Requirements:
↕ 60 cm–1.5 m ↔ 60 cm–2 m
Features: Spreading compact shrub. Spectacular silver foliage. Tolerates hot, dry spots and a range of soil types. Foliage great in cut flower arrangements.

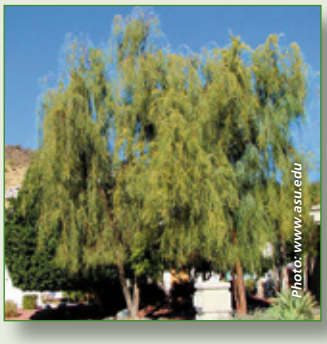


Sarcozona
(Sarcozona praecox) I
Requirements:
↕ Prostrate to 20 cm ↔ 1.5 m
Features: Succulent creeping groundcover. Fleshy green foliage and pink to purple flowers.



Porcupine Grass
(Triodia irritans) I
Requirements:
↕ 50 cm ↔ 5 m+
Features: Hummock forming tussock grass. Forms a large "ring" when mature. Refuge in habitat gardens.

River Cooba, Eumong
(Acacia stenophylla) I
Requirements:
↕ Variable, 5–8 m ↔ 5–8 m
Features: Fast growing tree, common along inland watercourses. Tolerant of a wide range of soil types. May benefit from seasonal inundation. Yellow "puff ball" flowers in autumn to winter.



Rosemary Dampiera
(Dampiera rosmarinifolia) I
Requirements:
↕ prostrate 30 cm ↔ 1 m
Features: Low growing, spreading groundcover. Vibrant blue to deep purple flowers are borne in spring to early summer. Excellent container specimen, or low garden border.

Creeping Boobialla (Fine Leaf Form)
(Myoporum parvifolium) I
Requirements:
↕ Prostrate to 20 cm ↔ 1 m
Features: Dense mat-forming groundcover. White star flowers in summer. Prefers well drained soils. Will tolerate drought conditions.

Twin Leaf Emu-Bush
(Eremophila oppositifolia) I
Requirements:
↕ Prostrate to 1.5 m ↔ 1–3 m
Features: Flowers produced from winter to summer. Tolerant of a range of soil types. Attracts birds. Great container specimen.

Silver Emu-Bush
(Eremophila scoparia) I
Requirements:
↕ 2.5 m ↔ 2 m
Features: Attractive broom-like shrub. Silver grey leaves with pale to deep lilac flowers. Wind tolerant. Prefers well drained soils.

Eremophila
"Summertime Blues"
(Eremophila divaricata x E. polyclada) I
Requirements:
↕ 1.5 m ↔ 1.5 m
Features: Summer flowering Emu-bush hybrid. Requires minimal irrigation once established. Blue flowers attract birds.

Non-Invasive Sustainable Native & Exotic Plants

Native Rosemary
(Westringia fruticosa) N
Requirements: HHH
↕ 2 m ↔ 2 m
Features: very hardy, fast growing small shrub. Rosemary style foliage with white to pale mauve flowers borne almost continuously. Excellent when hedged.

Laurustinus
(Viburnum tinus) E
Requirements: HHH
↕ 3 m ↔ 2 m
Features: Very hardy rounded evergreen shrub with tight clusters of white flowers in winter. Excellent in traditional gardens or as a hedge. Mild salt tolerance.

Bush Rose Varieties
***(Rosa* sp.)** E
Requirements:
↕ 2.5 m ↔ 2 m
Features: Bush Roses (incl: hybrid tea and floribunda varieties) develop into tidy, somewhat drought tolerant shrubs with long and repeat flowering seasons. Must-haves in cottage styles gardens. Prefer rich, free-draining soils.

Flowering Quince
(Chaenomeles japonica & C. speciosa) E
Requirements: HHH
↕ 1–2 m ↔ 1.5–2.5 m
Features: Small to medium deciduous shrubs with neat, attractive growing habits. Spectacular flowers from winter to early spring. High drought and frost tolerance. Unusual spiky hedge alternative.

Purple Bougainvillea
(Bougainvillea "Magnifica Traillii") E
Requirements:
↕ 12 m ↔ 12 m
Features: Fast growing, hardy climber that can became enormous over time. Ensure adequate support structures. Deep purple flowers are spectacular. A tough, adaptable, attractive climber.

Rosemary
(Rosemary officinalis) E
Requirements: HHH
↕ 1 m ↔ 1 m
Features: Very hardy, fast growing culinary plant. Attractive blue flowers. Excellent as a hedge.

Zonal Geranium
(Pelargonium x hortorum) E
Requirements:
↕ 30–60 cm ↔ 30–60 cm
Drought Tolerant
Features: Tough ground cover/ bedding plants with a huge variety of flower colours. Attractive foliage is often deep green with purple banding. Great in containers.


Photo: Mrmac09, Flickr

Day Lily
***(Hemerocallis* sp.)** E
Requirements:
↕ 80 cm ↔ 25 cm
Features: Excellent border or specimen plants. Spectacular flowers of various colours over summer. Require deep summer watering. Protect from frost.


Photo: Wikimedia Commons

Chinese Star Jasmine
(Trachelospermum jasminoides) E
Requirements:
↕ 6 m ↔ 6 m
Features: Evergreen twining climber or ground cover. Glossy green foliage and masses of small, white, star-shaped fragrant flowers in summer. Can be slow growing. Variegated leaf forms available.


Photo: oregonline

Red Hot Pokers
(Kniphofia uvaria) E
Requirements:
↕ 1.5 m ↔ 1.5 m
Features: Hardy, clumping perennial lily. Grown for spectacular red to yellow "poker" style flower spikes from summer until late autumn.

Spanish Dagger
(Yucca gloriosa) E
Requirements:
↕ 2.4 m ↔ 2.4 m
Features: Evergreen shrub with large, deep-green sword-like leaves. Cream to pink-tinged flowers on tall erect spikes throughout summer and autumn. Excellent feature plant in a waterwise garden.

Notes:

Lawn Options for Mildura

Kikuyu Grass
(Pennisetum clandestinum) E

Mild Mild

Warm Season Grass

Features: Incredibly vigourous, creeping, mat forming grass. Widely utilised in high traffic areas. Will require weekly mowing in summer. Highly invasive of surrounding areas, and has ability to smother other plants. Better choices exist for residential areas. Often listed as a noxious weed.

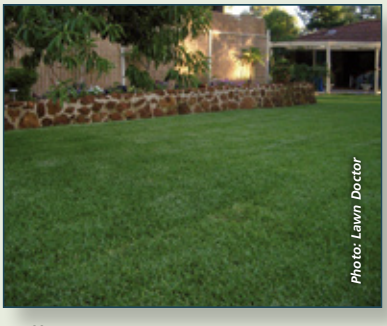
Kikuyu lawn

Buffalo Grass
(Stenotaphrum secundatum) E

Mild Moderte

Warm Season Grass

Features: Coarse leaf grass with above ground runners (stolons). Hard wearing, sun and shade tolerant and lower water use than many other grasses (esp: kikuyu and couch). May brown off over winter. Many excellent varieties available. Cannot be grown from seed.



Buffalo lawn

Couch Grass
(Cynodon dactylon) E

Mild

Warm Season Grass

Features: Tough, cheap and popular grass with excellent wearing abilities. Can be highly invasive of neighbouring areas. Will not tolerate shade. Requires significant summer irrigation.

Couch lawn

Invasive Plants And Control Methods

The following plants are problem weeds in the Mildura area. If you have them in your garden, remove them.

WEED CONTROL TECHNIQUES

Hand Pull: hand removal of plant, most suitable for small plants and seedlings.

Spray: apply herbicide to the surface of the foliage.

If using chemicals to control weeds remember:

- Use chemical control only if non-chemical control is unsuitable.
- Do not spray in high temperatures or if rain is forecast within 24 hours.
- Spray when plants are actively growing.
- Some chemicals require a Chemical Users Permit.
- Always read the label on the product and follow the directions for application rates, safety procedures and handling.

Further Information

Blood, Kate (2001), *Environmental Weeds: A Field Guide for SE Australia,* Bloomings Books, Victoria.

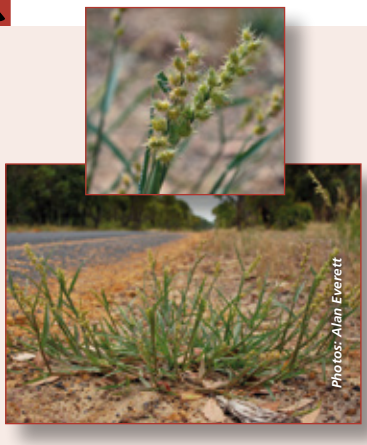
Costermans, L.F (1933) *Native trees and shrubs of South-eastern Australia,* Lansdowne Publishing Pty Ltd, Sydney.

Cunningham, G., Mulham, W.E., Milthorpe, P.L. and Leigh, J.H. (1981) *Plants of Western New South Wales*. Soil Conservation Service of NSW. NSW Government Printing Office.

www.sgaonline.org.au
www.weeds.org.au
www.dpi.vic.gov.au/weeds
www.mildura.vic.gov.au

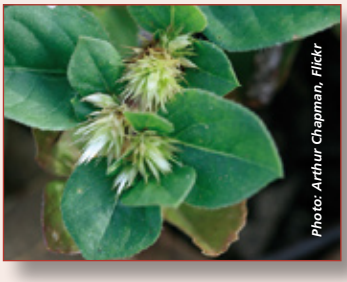
Lightwood *(Acacia implexa)*

Gentle Annie
(Cenchrus longispinus)
Declared Noxious Weed
Regionally Controlled (Mallee CMA)
↕ 80 cm ↔ 30 cm
Features: Spreading summer growing annual grass. Bears flower heads with multiple sharp spined burrs. Often found on disturbed sandy soils.
Control:



Caltrop
(Tribulus terrestris)
Declared Noxious Weed.
Restricted (Mallee CMA)
↕ Prostrate ↔ 2 m
Features: Prostrate annual forming dense, fine foliaged mats. Bears yellow flowers giving way to "goatshead" shaped burrs.
Control:

Khaki Weed
(Alternanthera pungens)
Declared Noxious Weed.
Restricted (Mallee CMA)
↕ Prostrate ↔ 2 m
Features: prostrate spreading plant with trailing red-purple stems covered with short hairs. Leaves are green with red-purple veins and round to oval. Burrs are khaki coloured and prickly.
Control:



Habitat Gardening

Attracting native animals to your garden can add extra colour and interest. It can assist pest control by attracting insect predators and contribute to keeping native animal populations viable by providing a pathway for them to move between bushland areas.

BIRDS

Birds are beautiful creatures that are a joy to watch in any garden. In addition, because many birds feed on plant pests such as aphids and scale they help control pests without using chemicals. To attract birds to your garden consider the following tips.

Adult male Superb Fairy-wren *(Malurus cyaneus)*

Shelter: Birds need shelter from predators such as cats, foxes and predatory birds. By providing prickly and dense plants at various levels in your garden, and particularly near water sources, you can help protect your feathered visitors.

Yellow Rosella *(Platycerus flaveolus)*

Water: A reliable water source will attract birds to your garden. If you install a birdbath place it near dense or prickly plants to provide birds with protection.

Food: Feeding stations are not recommended as a way of attracting birds. Use native plants as an alternative to avoid creating dependency, which can impact on their long term survival in the wild.

BUTTERFLIES

Butterflies are a welcome addition to any garden, and with a few simple design principles are easily attracted, adding movement and colour to your garden.

Nectar traps: Colourful, massed flower beds draw butterflies in and keep them happily moving through the garden. They are attracted to a large range of colours, but particularly like blue, yellow and red. Bold clusters of flowers are more effective than single plants dotted through a garden.

Australian Painted Lady *(Vanessa kershawii)* on Limonium *(Limonium perezii)*

Flowers: The shape of the flower is important too, as simple, flat flowers are easier for butterflies to extract nectar. Double flowers with multiple petals are too difficult for butterflies to feed from. Native Daisies *(Helichrysum* sp.*)*, Pelargonium *(Pelargonium australe)*, Bluebells *(Wahlenbergia* sp.*)*, Saltbush *(Atriplex* sp.*)* and Pea Flowers *(Eutaxia* sp.*)* are more suitable.

Position: Butterflies use the early morning sun to warm themselves and retreat to cooler, shadier places during the heat of the day. Providing a sheltered position that combines warmth and protection is ideal. Consider adding flat rocks for butterflies to bask and to court each other. Mud puddles or a dish of damp sand can provide them with water and salts.

Pale Everlasting Daisy *(Helichrysum rutidolepis)*

Host plants: Popular plants include Bursaria *(Bursaria spinosa)*, Sedges *(Gahnia* sp.*)* and Mat Rush *(Lomandra longifolia)*, and grass such as Kangaroo Grass *(Themeda triandra)*, Wallaby Grass *(Austrodanthonia* spp.*)* and Common Tussock Grass *(Poa labillardieri)*.

LIZARDS

Most lizards found in our gardens are little grass skinks that feed on insects and larvae. You may be fortunate enough to encounter a large lizard such as a Lace Monitor (*Varanus various)* or a shingleback (*Tiliqua rugosa*), but these beautiful creatures are not as common as they used to be.

Shingleback Lizard *(Tiliqua rugosa)*

To create a lizard habitat in your garden provide the following:

1. Tussock grasses, logs and rocks for hiding spots.
2. A protected sunny spot on a rock, log or brick path.
3. Natural leaf mulch to support the insects and larvae on which they feed.

MAMMALS

As the human population grows urban development has replaced natural habitat. Our unique native animals have either adapted or suffered a dramatic decline due to loss of habitat, traditional food, disruption of breeding cycles or become victims of road kill. While you may be incredibly lucky to encounter a Short-beaked Echidna (*Tachyglossus aculeatus*), Fat Tail Dunnart (*Sminthopsis murina*) or a Mitchell's Hopping Mouse (*Notomys mitchelli*) in your garden, you are more likely to have possums and bats as regular visitors.

Short-beaked Echidna *(Tachyglossus aculeatus)*

Possums: Common Brushtail (*Trichosurus vulpecular*) populations have adapted magnificently to the urban environment. With an abundance of highly nutritious food and great nesting sites in the roofs of buildings, their populations are higher in the urban areas than in the bush.

If possums are becoming a problem you may try the techniques recommended by the Department of Sustainability and Environment (DSE):

- Build a floppy fence around the garden
- Use collars to protect fruit trees

If, on the other hand you would like to attract possums to your garden, particularly species such as the more vulnerable Western Pygmy Possum (*Cercartetus concinnus*), you could plant Silver Banksia (*Banksia marginata*), Bottlebrush (*Callistemon injune*), Gold Dust Wattle (*Acacia acinacea*) and Eucalyptus 'Silver Princess' (*Eucalyptus caesia*). Install appropriate nesting boxes to provide a safe, warm haven. It is important not to feed wildlife as human food can be dangerous and cause serious dietary imbalance.

Common Brushtail Possum *(Trichosurus vulpecular)*

Bats: There are many beautiful little insectivorous bats in the Mildura area. Microbats with great names such as the White-striped Freetail Bat (*Tadarina australis*), Chocolate Wattled Bat (*Chalinolobus morio*) and Gould's Wattled Bat (*Chalinolobus gouldii*) are about the size of a mouse and eat enormous quantities of insects each night. They hunt near the ground catching insects or snatching them off the ground or leaves. Insectivorous bats can often be seen at night swooping around street lights catching insects. They roost in tree hollows with narrow openings, tree stumps, under eaves and in roofs.

OTHER WILDLIFE FRIENDLY PRACTICES

1. If possible maintain dead trees (if they present no safety risk) as they provide hollows for nesting. Incorporate nest boxes if you don't have suitable hollows.
2. Where possible avoid using snail bait as some lizards will eat the poisoned snails.

3. Reducing the use of pesticides in the garden will provide insectivores (animals that eat insects) with a safe food source.
4. Securing cats and dogs especially at night, so they don't prey on native animals. Work with your neighbours to make sure they also secure their cats and dogs.
5. Keep the telephone number of a wildlife rescue service handy and save it into your mobile phone. RACV will connect you to the nearest relevant wildlife rescue service wherever you are in Victoria. Phone RACV on 131 111.
6. You don't need to (and shouldn't) provide shop brought/food scraps for wildlife. You can have a close encounter using nest boxes and water sources.

FURTHER INFORMATION

Visit www.dse.vic.gov.au for fact sheets on '*Swooping Birds*', '*Living with Possums*' and '*Possum Repellents*'

Help for Wildlife
www.pearcedale.com/helpforwildlife/ Ph: 0417 380 687

Wildlife Victoria
www.wildlifevictoria.org.au Ph: 0500 540 000

Flora for Fauna
www.floraforfauna.com.au

Indigenous Flora and Fauna Association
http://home.vicnet.net.au/~iffa/

Birds in Backyards
www.birdsinbackyards.net/

Chemical Usage

Chemicals and fertilisers can be transferred from our home gardens to the natural environment. Chemical sprays can drift in the wind and powders can wash into waterways. Strong chemicals can kill native insects, plants and animals, while the application of too much fertiliser can lead to extra nutrients in our waterways, contributing to blue-green algae outbreaks that can harm animals and sometimes people.

A pond suffering from algae due to a high nutrient load from stormwater runoff.

CHEMICAL TIPS

1. Many insects in the garden (such as ladybirds) are good guys that will eat pests such as aphids. If you overuse chemicals in your garden you may also kill beneficial insects and make your pest problem harder to control. Multi-sprays in particular will kill any insect they touch.
2. Remove pests by hand or use natural alternatives such as pyrethrum and garlic spray to control pests. Use natural controls with care and in controlled doses.
3. Too much fertiliser makes plants produce a lot of leafy growth. This often becomes a target for pests and excessive growth can also increase your green waste.
4. Organic fertilisers such as compost, manures, seaweed and fish emulsion break down more slowly than synthetic (chemical) fertilisers and generally match the rate at which plants need the nutrients. Synthetic fertilisers break down quickly and can burn plant roots.
5. Organic fertilisers improve soil structure while synthetic fertilisers do not. Synthetic fertilisers also tend to move easily from the soil after heavy rain or watering posing a risk to waterways.
6. When a plant looks sick the worst thing you can do is feed it. Instead contact your nursery for advice.
7. Sterilise your secateurs between pruning plants to prevent the spread of disease.
8. It is very rare that a pesticide or natural product will only target one bug/disease and can often affect other organisims.

SGA Low Environmental Damage Chemicals

Sustainable Gardening Australia (SGA) in conjunction with the University of Melbourne (Burnley) has rated all horticultural chemicals into three categories: low, medium and high environmental damage. SGA and the Mildura Rural City Council advocate non-chemical prevention such as monitoring for early outbreaks, good air circulation between plants and alternative home remedies, such as garlic sprays. If you must use chemicals please consider the products listed below which have minimum environmental impacts or ask your local garden centre for any new product.

INSECTICIDES

Beat-A-Bug Happy Rose Spray
Beat-A-Bug Insect Spray
Confidor Hose On Lawn Grub Killer
Confidor Insecticide Aerosol
Confidor Insecticide RTU Spray
Garden King White Oil Aerosol
Hortico Derris Vegetable Dust
Manutec Dusting Sulphur
Multicrop Pyrethrum + Eucalyptus
Multicrop Pyrethrum Plus Garlic
NG Wasp And Nest Killer
Nurseryman's All Season Pest Oil
Pest Oil RTU
Pyrethrum Time Release Spray
Sharpshooter Pyrethrin RTU
Success Naturalyte Insecticide
TacGel Formula3 Insect Trap
Tropico Organic Bug Gun Spray
Yates Dipel Bio-Insecticide
Yates Green Earth Insect Spray
Yates Pest Oil
Yates Rose Blackspot And Insect Killer
Yates Scale Gun
Yates Slay-Afe Insecticide
Yates Surrender RTU
Yates Whits Oil Aerosol
Yates Whits Oil Concentrate

REPELLENTS

Beat-A-Bug Goodbye Snail
Beat-A-Bug Poss-Off Spray
D-Ter
Multicrop Keep Off Spray
Multicrop Keep-Off Granules
Multicrop Scat Animal Repellent
Multicrop Skedaddle Granules
Possum Shot Gel
Quassia Chips
Skunk Shot Gel Animals Repellent
Slug It
Stay Off Animal Repellent

HERBICIDES

Brunnings Lawn Food Moss Kill

Fungicides

Baycor Garden Fungicides
Chemspray Copper Oxychloride
SharpShooter Lime Sulphur
SharpShooter
Rid A Rot Fungicide

ALGICIDES

Oase Crystal clear
Stephen Bros Barley Algae Control

MOLLUSCICIDES (SNAIL KILLERS)

Amgrow Enviroguard Bait
Multicrop Snail killer Pellet

Further Information

Mildura Rural City Council:

Phone: 5018 8100

Mildura Regional Waste Management Group:

Phone: 5018 8403

Gardening groups within the Mallee:

Chaffey Rose Club
Contact: Dianne Dalla Santa
Phone: 5024 1141

Victorian Iris Society
Contact: Dianna Dalla Santa
Phone: 5024 1141

Sunraysia Garden Club Inc
Contact: Paulette Giles
Phone: 5021 4174

Australian Inland Botanical Gardens
Educational Officer: Wendy Hallinan
Phone: 5023 3612

Greening the Line
Contact: Jocelyn Lindner
Phone: 5095 6285
Email: lindnertutye2@bigpond.com
Fax: 5095 6280

Australian Plant Society (Mildura)
Contact: Secretary
Phone: 5023 2551

Places of special interest in Mildura:

Etiwanda Wetlands

Bob Corbould Wetlands

Walpeup Dryland Memorial Gardens

Kings Billabong Wildlife Reserve

Australian Inland Botanical Gardens

For information on the location of these places of interest or additional locations please contact the

Mildura Rural City Council
Visitor Information Centre
Phone: 5018 8380

For further information on sustainable living refer to the Mildura Sustainable Living Guide at:
www.sustainablemildura.com.au

Mildura Rural City Council

Making this the most liveable, people-friendly community in Australia.

SERVICE CENTRES

Madden Avenue Service Centre
108–116 Madden Avenue, Mildura
Ph: (03) 5018 8100
Fax: (03) 5021 1899

Deakin Avenue Service Centre
76–84 Deakin Avenue, Mildura
Ph: (03) 5018 8100
Fax: (03) 5021 1899

Ouyen Service Centre
79 Oke Street, Ouyen
Ph: (03) 5091 3600 For Ouyen callers
Ph: (03) 5018 8600 For all other callers
Fax: (03) 5092 1017

www.mildura.vic.gov.au