

FERTILISE WISE

Home lawns and gardens are a major source of nutrients entering wetlands and the Swan and Canning Rivers. Excess fertiliser used in your garden will eventually find its way into wetlands and the rivers via the stormwater drainage system or through the soil into groundwater. Excessive nutrients in wetland and river systems lead to algal blooms. These can result in the death of animals and plants which live in the waterways and the possible closure of waterway systems for recreational activity.

This guide aims to provide easy to understand application rates and recommended fertiliser types for those living on Western Coastal Plain Soils. Using this information, you will save time and money and help to keep our rivers healthy.

Excessive fertiliser use can cause toxic algal blooms



For more information, please contact:
Phosphorus Awareness Project Coordinator
South East Regional Centre for Urban Landcare
Phone: 9458 5664
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For their Waterwise Guides,
please refer to the Water Corporation's website:
www.watercorporation.com.au/water-saving

For native plants for your soil type,
please refer to the Wildflower Society's website:
members.ozemail.com.au/~wildflowers
or contact your local garden centre.

The publication 'Grow With Us – A Resource Kit For Growing Our Wonderful Western Australian Wildflowers In Your Garden' is available from the Wildflower Society - phone: 9383 7979

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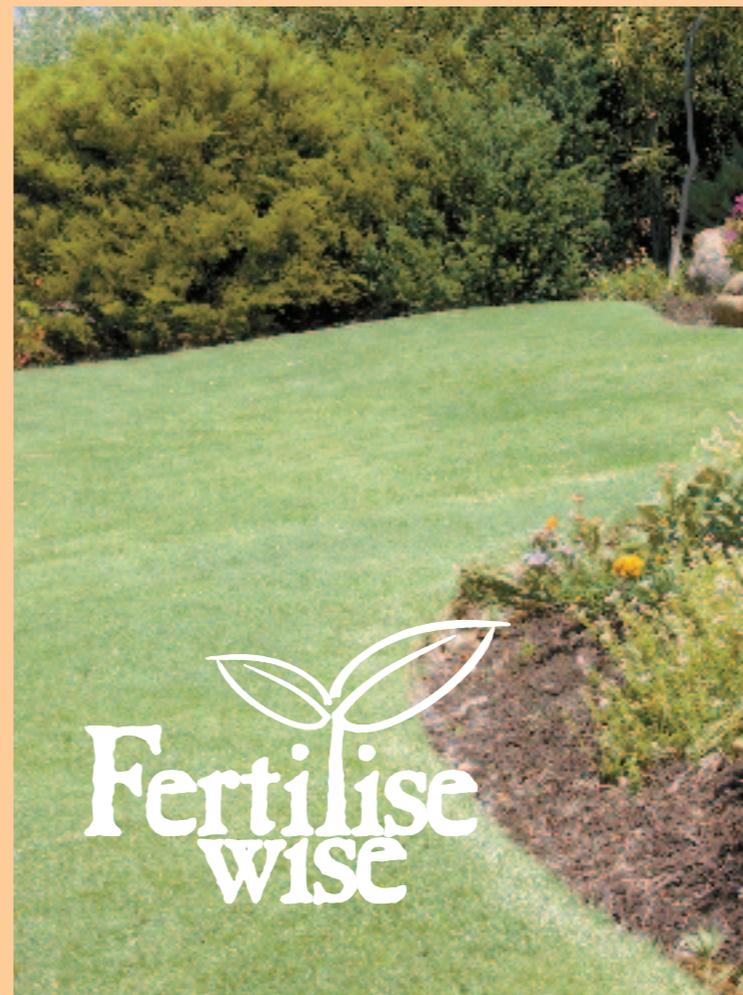
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HELP KEEP
OUR RIVERS HEALTHY



GROWING A BETTER LAWN AND GARDEN IF YOU LIVE IN AN AREA CONTAINING WESTERN COASTAL PLAIN SOILS



Stretching from Joondalup in the north to Leda in the south, Western Coastal Plain Soils are largely yellow, orange or brown sand, usually with a grey surface, over limestone at depth. They tend to be neutral in the surface soils.

Bore water in these areas tends to be alkaline.

The phosphorus retention rate is moderate.

Nutrient loss occurs through the soil into groundwater and via stormwater drains.



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IS A LAWN NECESSARY?

Lawn is the most intensive part of any garden. It requires a large investment of time, energy and resources to maintain a lawn to a high level. Many alternatives to lawn are easier to maintain and do not result in nutrients entering our waterways. They include native grasses and groundcovers, many of which require none or only small amounts of fertiliser and water.

Species suitable as a lawn

- Dichondra (*Dichondra repens*) – grows best in shady, damp areas. No mowing required.
- Weeping Rice Grass (*Microlaena stipoides*) – hardy and drought tolerant, active in winter though remains green all year. Best in damp, semi-shaded areas.
- Marine Couch (*Sporobolus virginicus*) – salt tolerant, active in summer. Best in damp areas.
- Lippia (*Phyla nodiflora*) – hardy and drought tolerant. Flowers attract bees. Mow if required.
- For a year round, green, native lawn, a combination of winter and summer active species may be required.

Non-lawn alternatives

- Paving – extend garden beds (possibly add a few local native plants) and pave the rest of the area.
- Gravel – extend garden beds (possibly add a few local native plants) and put gravel over the rest of the area.

ESTABLISHING A LAWN

- Add compost or soil improver to increase water and nutrient retention and to minimise non-wetting problems. Use two litres per square metre.
- The best times to plant lawn from runners are during early autumn (March-April) or early spring (August-September) when conditions are mild to warm and there is less chance of losing fertiliser through heavy rains.
- Roll-on turf is an easier and quicker way of establishing a lawn. Roll-on also requires less fertiliser and can be planted at any time of the year.
- Plant buffalo rather than couch to reduce nutrient requirements.
- Extra phosphorus is required as a one-off application

before planting lawn. Use 30 grams of Superphosphate per square metre (g/m^2) (See Table 1).

- Use a complete lawn fertiliser with a Nitrogen to Phosphorus to Potassium (N:P:K) ratio of 10:3:6. Use a MAXIMUM of 25 g/m^2 (See Table 1).
- For better lawn growth look for a complete fertiliser that also contains trace elements such as copper (Cu), molybdenum (Mo) and Zinc (Zn).
- Apply small amounts of water frequently until deep roots are established. For the first two weeks apply 4mm of water three times per day.

Table 1: Nutrient analysis of fertilisers and their application rates. To check the nutrient analysis of a fertiliser, look for the percentages on the fertiliser bag.

Fertiliser Type	Fertiliser Analysis			Maximum Application Rate (g/m^2)
	Nitrogen (N)	Phosphorus (P)	Potassium (K)	
Superphosphate	0%	9%	0%	30
Complete Establishment with Phosphorus	10 - 12%	3 - 5%	6 - 10%	25
Complete Maintenance with Phosphorus	10 - 12%	1 - 2%	6 - 10%	25
Complete Maintenance without Phosphorus	10 - 16%	0%	6 - 10%	25
Maintenance with Nitrogen	Greater than 20%	0%	0%	12

LAWN MAINTENANCE

- Different grass species have different fertiliser requirements to achieve a pale green lawn with an even growth rate.
- Buffalo requires less fertiliser compared to couch.
- Fertiliser should only be applied when symptoms of nutrient deficiency occur (eg. yellowing).
- Use and apply a complete maintenance lawn fertiliser (with or without phosphorus) at a MAXIMUM rate of 25 g/m^2 (See Table 1).
- If the fertiliser you are using contains greater than 20% Nitrogen, then apply a MAXIMUM of 12 g/m^2 (See Table 1).
- If fertiliser is required, apply in spring and/or early autumn (September, October, November, March and April) when grass grows rapidly.
- DO NOT fertilise in summer or winter.

Summer fertilising encourages over use of water. Fertiliser applied during winter will be washed into stormwater drains.

- Other nutrients such as sulphur (S), magnesium (Mg), calcium (Ca) and the trace elements copper (Cu), iron (Fe), manganese (Mn), zinc (Zn), molybdenum (Mo) and boron (B) may also be required for good growth.
- Fertiliser based on manures may contain excessive levels of phosphorus and eventually lead to losses through the soil into groundwater.

LAWN PROBLEMS SOLVED

- To reduce thatch build up that promotes diseases and non-wetting, use fertilisers sensibly and mow regularly with a close-cut during autumn.
- During winter, non-wetting soil often develops especially beneath trees. This can be detected during spring at first watering when the water will run off sloping lawns and will not penetrate easily. To overcome this, apply wetting agent according to the manufacturers' instructions before the first spring fertiliser application.
- Areas of lawn with dead spots may respond to extra potassium (in sulphate or potash) applied with a wetting agent from a watering can.
- Extra potassium in autumn will toughen lawns for winter.
- Trace element deficiencies (especially iron and manganese) are common especially if bore water is used. To address this, apply foliar sprays with scheme water.

GARDEN MAINTENANCE

- Soils affected by alkaline bore water may present problems with trace element deficiencies (iron, manganese, zinc, boron) in a range of species including citrus, roses and acid loving plants such as camellias.

WATERING GUIDE

- Frequency of watering is based on your house number.
- Two days a week have been allocated to water your garden.
- To find out your sprinkler days, take the last digit of your house number and apply it to the table below.
- Water for a maximum of 15 minutes to avoid leaching of

nutrients from the soil.

- During the wetter months, you will not need to water your garden.

LAST DIGIT OF HOUSE NUMBER	YOUR TWO SPRINKLER DAYS	
1	Wednesday	Saturday
2	Thursday	Sunday
3	Friday	Monday
4	Saturday	Tuesday
5	Sunday	Wednesday
6	Monday	Thursday
7	Tuesday	Friday
8	Wednesday	Saturday
9	Thursday	Sunday
0	Friday	Monday

SIX ENVIRONMENT-FRIENDLY GARDENING TIPS

1. Grow low fertiliser and low water use plants such as local native plants.
2. Minimise the use of deciduous trees as falling leaves can enter stormwater drains and contribute to nutrient problems in waterways.
3. Group plants with similar water/fertiliser/shade requirements.
4. Plant deep rooted perennials rather than annuals.
5. Mulch garden beds to reduce watering (and thus minimise the amount of nutrients seeping through soil and into groundwater).
6. Take care using animal manures. Generally, these have nutrient ratios (N:P:K) of 3:1:1 and are relatively high in phosphorus.

