



Department of Agriculture

# Gardennote

## Lawn care in the home garden

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This Gardennote is a continuation from Gardennote 17 'Common lawn problems' and outlines management techniques to maintain a healthy lawn. It also describes common lawn pests and diseases in home gardens in Western Australia.

In general, maintaining a healthy, vigorously-growing lawn is the best way to prevent pests and diseases. Lawns require optimum amounts of water and fertiliser, the right mowing regime, and an aerated, well-drained soil. Most common lawn problems can be avoided by optimising these practices to avoid stressed grass, which is much more susceptible to disease outbreaks than healthy grass.

### Grass varieties

Warm season varieties are the most commonly used grasses in Western Australian home gardens. They include types of couches, buffalo grass, paspalum species and kikuyu. These grasses grow best in temperatures between 27°C and 30°C; are heat and drought tolerant and they use minimal water. Many warm season varieties are less adapted to shade and may turn brown in winter.

### Irrigation, thatch and dry patch management

Unless irrigated via a bore, most home lawns are subject to water restrictions. Typically they are watered twice a week (using a standard reticulation system) for about 15 minutes (which in most cases means a water application of 10 mm to 15 mm or 10 L/m<sup>2</sup> to 15 L/m<sup>2</sup>). Make sure sprinklers are working and water distribution is even.

Water repellence may be noticed in Perth's soils as the season progresses. This becomes apparent through water ponding and water infiltrating into only the top layer of the soil profile. Water penetration can be greatly improved by applying soil wetting agents which are readily available commercially. Make sure you wet the soil before and after you apply the wetting agent.

Water repellence can also be caused by thatch – a layer of vegetative and dead material which accumulates as the lawn grows. Do not allow the thatch layer to become more than 13 mm thick.

Commercial operators use vertimowers to remove thatch layers in lawns. Vertimowers have blades set vertically to cut into the grass and soil. This type of lawn renovation should be done at one to four-yearly intervals, depending on the lawn quality you require.



Figure 1. Moderate (background) and thick (insert) thatch layer. The thatch layer should not be thicker than 13 mm.

A symptom of long term water repellence, and the most common lawn problem in Perth, is 'dry patch', which is often confused with a fungal or insect problem. Dry patch management is described in more detail in Gardennote 17, 'Common lawn problems'.

### Fertilising

Only apply fertiliser when symptoms of nutrient deficiency occur (for example, yellowing). On Perth sandy soils, an application of 25 g/m<sup>2</sup> of a complete fertiliser, containing 10 to 12% Nitrogen (N), 1 to 2% Phosphorus (P), and 6 to 10% Potassium (K) is recommended in autumn and spring, when grass grows rapidly. Most commercial fertilisers contain all the essential elements. Lawns may need less fertiliser if grass clippings are recycled after mowing (by removing the catcher). Buffalo grass requires less fertiliser than couch. As pollution of waterways due to phosphorus leaching from farms and gardens is an issue in Perth and in other parts of Western Australia, the use of a complete fertiliser without phosphorus is another option to home gardeners. Because phosphorus is slow-leaching, it may not need to be applied as frequently as N or K. Try alternating fertiliser with mixtures which do not contain P and do not fertilise in summer and winter. Spring and autumn are the preferred seasons. These actions help in being environmentally responsible.

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## Mowing

Different cutting heights are recommended for different grass varieties. A lawn will become thin, weak and prone to disease attack and weed invasion if it is consistently cut too short. As a rule, you should never cut your grass lower than 2.5 cm. Adjust your cutting according to the seasons: cut shorter during active growth and longer at the end of the season. Longer grass will use less water as more of the soil surface is shaded.

To maintain a lawn of reasonable quality, mow weekly in summer and reduce the frequency to monthly (or less) in winter.

In general, make sure that no more than 40 per cent of the leaf area is removed in one cut. Avoid cutting the lawn when it is wet.

Most people remove the clippings from the lawn. However, this depletes it of valuable nutrients. If you decide to leave the clippings on the lawn, make sure that they are spread evenly and thinly. Thick layers of clippings produce heat and/or may harbour diseases, which could harm the lawn beneath. Leaving the clippings on the lawn may also lead to a faster build-up of the thatch layer.

Mulching mowers are now commercially available. They shred the grass to a fine layer which breaks down faster. This is a more effective way of recycling the valuable nutrients.

## Insect pest problems

### Armyworms

Armyworm is one of the biggest insect pest problems in Western Australian garden lawns. They can move quickly across a lawn and completely destroy it in the summer months. An average lawn can be eaten out in two nights.

Adults are a dull brown or greyish, night-active moth up to 3.8 cm long. Larvae (caterpillars) are up to 5 cm long at maturity; they often curl up and lie still when disturbed. Armyworm larvae chew and cut leaves around the crown, and they attack all turf grass species. Damage begins in small, irregular spots and spreads to patches extending some metres in width. Armyworms prefer moist areas. They are active from early spring through autumn.



Figure 2. Armyworm (*Spodoptera* spp.)

To control armyworms, reduce thatch and eliminate soggy areas. Larvae have some natural enemies, such as parasitic wasps and flies. If there are more than five larvae per square metre present, you may need to treat. Beneficial nematodes or an application of *Bacillus thuringiensis* (Bt) may be effective against young caterpillars. Other safe products are available. For chemical control, apply a registered lawn insecticide at night.

### Cutworms

Cutworm adults are drab, heavy-bodied, night-flying moths. The fully grown caterpillars are fat and fleshy and about 35 mm long. They curl up head-to-tail when disturbed. The caterpillars attack grass at ground level causing the blades to sever. They are nocturnal and shelter in the soil.

For chemical control, apply registered lawn insecticide at late afternoon.



Figure 3. Cutworm

### African black beetle

The African black beetle is often falsely held responsible when dry patch is the real problem. The grubs of African black beetles feed from September to May and cut the grass from its roots. Lawn damaged this way can sometimes be rolled back like a carpet. African black beetle is considered a problem when 25 grubs per square metre are present. The adult beetles are less damaging. For more details see Gardenote 17, 'Common lawn problems'.



Figure 4. African black beetle

### Couch mites

Couch mites are a common insect pest of home lawns. They are usually found within the forks of grass blades or shoots. Affected plants produce several shoots from the infested growing point.

Couch mites favour dry sites. To avoid spreading this pest, mow the affected areas last and clean the lawnmower afterwards. For chemical control, use a registered lawn insecticide.

### Billbugs

Billbugs are an occasional pest on Kikuyu grass from spring to autumn. Billbug larvae tunnel into the inside of turf grass stems and crowns.



Figure 5. Example of a Billbug (Species shown here for demonstration purposes *Sphenophorus parvulus* is not in Australia) Photograph by Joseph Berger; www.forestryimages.org.

As the larvae grow, they leave the stolons and feed below the thatch on rhizomes and roots. The affected area appears brown, thin, and dead in small, irregular spots. Affected grass can be easily plucked out by hand. For chemical control, apply a registered lawn insecticide.

### Ants

Ants do not directly affect grasses. They build mounds and excavate underground tunnels, causing the turf to dry out and die. Ants are active in the warmer season in all grasses. Before controlling the ants, send a specimen to the Pest and Disease Information Service for identification and control recommendations (see details below).

### Earthworms

Earthworms are more of a nuisance than a pest. Worm casts are thrown up on lawn surfaces, forming small mounds, particularly when soil is waterlogged after heavy rain. These appear unsightly. Earthworms are not really damaging the lawn. Worms are beneficial organisms and worm casts are excellent fertilisers. Earthworms can be active all year on most grasses. If they seem a nuisance, aerate the soil with a garden fork. As a last resort, control them with a registered lawn chemical.

### Lawn disease problems

Most lawn diseases are encouraged by long periods of leaf wetness. These conditions occur after watering in the evening in summer or from periods of morning dew

in winter. Greenkeepers have found that leaf wetness can be effectively broken down using a 'dummy rake', that is, a 70 to 100 cm-long wooden board, which is dragged across the lawn. This method appears to have reduced the incidence of lawn diseases on golf courses. Morning dew can effectively be broken down with a reticulation system.

### Dollar spot

Dollar spot is the most common lawn disease in home lawns. Amongst the warm season grasses, it affects couch. Symptoms begin with the appearance of small straw-coloured circular spots about the size of a 20 cent piece, which eventually grow. Dollar spot is encouraged by long periods of leaf wetness, and any method to break this wetness will prevent against this disease. Dollar spot is also encouraged in low N situations, so keep the lawn well fertilised. For more details see Gardennote 17, Common lawn problems'.



Figure 6. Dollar spot

### Spring dead spot

Spring dead spot occurs in cool moist conditions, mainly among couches and couch hybrids. The symptoms of spring dead spot are stunted, bleached patches of dying turf, up to 1 metre in diameter. These patches tend to reappear and expand in the same spot for three to four years. To prevent spring dead spot, keep the lawn well watered and fertilised and do not cut it too low. Use varieties that are resistant to spring dead spot to over-seed an affected area. For chemical control, use a registered lawn fungicide.



Figure 7. Spring dead spot. Photograph copyright University of Carolina Cooperative Extension

## Fairy ring

Fairy ring affects most grass varieties. Symptoms of this disease vary depending on the species of fungus. A dark green band of turf may develop in a circle or semi-circle, or a ring of brown, dying grass may occur. Mushrooms may or may not be present. White, fungal mycelia may be observed under the thatch layer. To prevent fairy ring, apply adequate nitrogen to mask the symptoms. Improve water penetration, and aerate. De-thatch the lawn if the thatch layer is more than 1.2 cm thick. Fungicides are available but they have not been observed to reliably control fairy ring.



Figure 8. Fairy ring. Photograph Clemson University-USDA Cooperative Extension Slide Series

## Weed problems

### Bindii

Bindii, Onehunga or jo-jo is a common weed with prickly seeds. Plants first emerge with the early winter rains and seeds form between spring and summer.

They are hard to remove manually because the roots need to be removed totally to avoid regrowth. Chemical control with a registered selective herbicide is the most effective. Apply a registered herbicide once in June and again in August.



Figure 9. Bindii

## Grasses

Summer and winter grasses should be controlled with registered pre-emergence herbicides, which may to be applied on established lawns only before the weeds germinate (that is, May for winter weeds, and August/September for summer weeds).

### Other broad leaved weeds

Other broad leaved weeds such as capeweed, carrot weed, dandelion, oxalis etc. can be controlled (as for bindii) with a selective herbicide. Herbicides are available at hardware stores as general lawn-feeding and weeding chemicals. These chemicals can be applied with the garden hose. Beware that they may be damaging to buffalo grass and avoid spraying other ornamental plants as these may be killed. If ornamentals are sprayed unintentionally, wash them down thoroughly. Always follow label instructions carefully.

## Sending specimens

### General

When sending or delivering samples, the following information is required: Collector's name, location (where the suspect was found), full address details, telephone number and email address, description of the damage, and date collected.

Pest and Disease Information Service,  
3 Baron Hay Court,  
South Perth, WA 6151.

For details phone 9368 3666 or  
freecall 1800 084 881.

### Ants

Ant samples should be sprayed first and then stuck to clear sticky tape.