

## Lawns - Establishment and Maintenance

A. G. Cameron, Principal Agronomist Pasture Development, Darwin

### INTRODUCTION

After selecting a lawn species, the practical aspects of establishment and maintenance need to be considered.

### PLANNING

Careful planning can ensure a new lawn is successfully established. Draw a plan of the garden and calculate the amounts of seed (or runners) and fertilisers required. Consider how large the trees and shrubs will grow to avoid sowing or planting a lawn which will later need to be removed or be shaded. If planting vegetatively using runners, sprigs, plugs or cuttings, it will take time to establish the lawn. It is rare for a lawn to be planted in one day without a lot of planting material and a lot of help.



**Figure 1.** Broad leaf carpet grass in a shaded area

Avoid planting lawns between December and March unless precautions are taken against soil erosion and loss of seed from heavy storms.

### ESTABLISHMENT

#### From seed

Prepare a fine, level seedbed. Sow the seed evenly and get it to grow as quickly as possible. Higher seeding rates give quicker establishment. If sowing couch by seed, use hulled seed as it germinates and establishes faster.

Cultivate the seedbed by hand or mechanically. In new suburban areas, the soil has often been compacted by vehicle movement during building. Rotary hoeing is an efficient once-over operation. Allow weeds to germinate before cultivation and remove any remaining weeds after cultivation by hand or by spraying.

Divide the block into several sections and divide up your seed and fertiliser and do each section separately to ensure that you do not run out of seed or fertiliser. If applying by hand, mix seed and fertiliser and apply immediately in two different directions to ensure an even spread. A small spreader may be used if the ground is not too rough or soft. Seed can also be mixed with sand to give a larger volume to spread. Rake over with a garden rake, covering lightly. A light rolling can be useful to ensure good soil/seed contact.

**Table1.** Sowing rates for most common lawn grasses

Species	RATE	
	kg/ha	g/100 m <sup>2</sup>
Bahia grass ( <i>Paspalum notatum</i> )	20-40	200-400
Green couch ( <i>Cynodon dactylon</i> , hulled)	30-60	300-600
Queensland blue couch ( <i>Digitaria didactyla</i> )	10-40	100-400
Kikuyu ( <i>Pennisetum clandestinum</i> )	5-10	50-100
Broad leaf carpet grass ( <i>Axonopus compressus</i> )	20-60	200-600
Carpet grass ( <i>Axonopus affinis</i> )	20-60	200-600

### Vegetative planting of cuttings, runners or sprigs

Have a well-prepared seedbed, free of weeds. It need not be cultivated as finely as for seed, but some cultivation is recommended. Density of planting may be as high or low as you wish. A higher density planting gives quicker cover.

Planting densities for various species should be at the centres or spacings indicated below:

- Runners of Bahia grass at 20-30 cm.
- Runners or plugs of Queensland blue couch at 20-25 cm.
- Runners of broad leaf carpet grass at 20-30 cm.
- Runners or plugs of green couch (all types) at 15-20 cm.
- Runners or plugs of Manila grass (*Zoysia matrella*) at 15-20 cm.
- Runners or plugs of saltwater couch (*Paspalum vaginatum*) at 15-20 cm.
- Runners or plugs of Kikuyu grass at 15-20 cm.

Try to plant at a uniform depth to avoid the need for additional top dressing.

For the fine-leaved species, plugs are probably better than runners. A plug is a small turf piece of grass, roots and soil about 5 cm across, made by cutting up of purchased turf sod or from your own nursery area. Hydro-mulching is effective with green couch and Queensland blue couch. Runners or sod may be chopped into small pieces, mixed with soil or peat, and then spread on the surface, lightly covered and watered.

To establish your own nursery area, construct a raised bed, 10-15 cm deep using river sand. An area 2 m x 2 m will provide a large quantity of sod suitable for plugs.



**Figure 2.** Newly turfed blue couch lawn

### From turf

Establishment of a lawn from turf sod is ideal to obtain an instant lawn. It is expensive, being most useful for landscaping. Anyone interested in laying turf can consult textbooks available from public libraries or companies that supply turf.

## HERBICIDES

When seeding a lawn, weeds can be countered by using a high sowing rate and by ensuring all effort goes into rapid establishment of a vigorous lawn. Weed invasion may be a problem in the bare spaces between

newly planted grass. Herbicides are available to control such weeds. Get the weeds identified so that the correct herbicide can be used. For successful results it is essential to follow directions on the container.

## FERTILISERS

Sufficient fertiliser should be applied to provide adequate growth and to make lawns green and attractive without the need for excessive mowing. A fertiliser suitable for lawns is high in nitrogen (N) and potash (K), contains some sulphur (S), but is low in phosphorus (P). A basal fertiliser mix of NPKS in a 15:5:10:10 ratio is suitable. This can be supplied using a commercial compound fertiliser such as Crop King 88, Crop King 55, Tropigro 10:9:7, or a lawn topdressing mix. Trace element mixes can be purchased, but they are not generally required in town areas in the Northern Territory.

Fertiliser should be applied in different directions to avoid stripes or patches in the lawn. Do not apply in the heat of the day, and irrigate after application to avoid burning the lawn.

A mixed fertiliser at 5 kg/200 m<sup>2</sup> is sufficient for most lawn species at sowing. Similar amounts of fertiliser should be applied to established lawns at three monthly intervals. Avoid application of too much fertiliser between December and mid March as it is rapidly leached by heavy rain and promotes rapid growth which requires frequent mowing. A well cared for lawn would need double this amount of fertiliser.

Use superphosphate sparingly on lawns as it raises soil calcium and phosphorus levels, leading to better growth of legume lawn weeds.

## IRRIGATION

The maximum water requirements for lawns in some areas are detailed in Table 2. This amount of water should be applied in one or two thorough waterings per week. This will not be necessary for most of the wet season in the Top End.

**Table 2.** Maximum water requirements for lawns

Monthly water requirement for active lawn growth (mm/week rain or irrigation)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Darwin	30	29	27	32	33	32	33	35	39	41	38	33
Katherine	36	27	31	35	34	31	34	40	48	55	50	45
Tennant Creek	56	53	54	51	40	31	33	40	48	56	61	57

A well fertilised vigorous lawn, watered thoroughly and not mown too frequently can look satisfactory on about one half of the water amount indicated. To do this, only water when necessary and allow it to dry out before rewatering.

Avoid watering during the heat of the day or in windy conditions unless absolutely necessary (new lawn). On hot windy days, estimates of water loss range from 10% to 80%. One hour of watering per week in one application at night is generally sufficient for most lawns. This needs to be increased up to two one hour applications in the hot dry periods in October and November.

Your water meter can be used to measure the amount of water applied by your sprinklers. To do this, read the meter and then run the sprinklers for a period of one hour, read the meter again, then calculate: amount of water used/area watered = volume of water/unit area. You must not use any other taps during the test period.

For most soils application rates of 10-20 mm per hour are satisfactory to ensure good infiltration of water.

Correct watering practice should result in good infiltration of the applied water, wetting the soil to a depth of 15 cm. This leads to deep, well-rooted, vigorous lawns able to withstand short dry spells and most pests and diseases. Over-watering results in excessive leaching of fertiliser, ill thrift, and poor root systems and in some cases, development of fungal or algal problems.

For establishing lawns, it may be necessary to water as frequently as 10 minutes per hour during the day for seven to 21 days in the dry season. Lawns sown with runners, sprigs, hydro-mulched or turf should need frequent watering only for a few days, decreasing gradually to twice per week within two weeks and then to weekly after six weeks.

## MOWING

A lawn should be mown regularly. The common rotary lawn mower with rear catcher does a good job for most types of lawns, but for better quality lawns consider the use of a reel-type (cylinder) mower.

**Table 3.** Mowing heights and frequencies for common lawn grasses

Species	Height cm	Mowing frequency (weeks)	
		October/March	April/September
Bahia grass	4-6	1	2-4
Queensland blue couch	1-2	1-2	1-2
Green couch	1-2	1-2	1-2
Manila grass	1-2	2-4	4-6
Kikuyu grass	2-4	1	2-3
Carpet grasses	2-4	1	2-3

## THATCH

Thatch is a tightly intermingled layer of dead and living stems and roots that can develop between the zone of green vegetation and the soil surface. Thatch provides an ideal microenvironment and medium for the development of diseases, insect problems, localised dry spots, decreased heat, and cold and drought hardiness.

A vertical mower is the best way to remove thatch. On home lawns, it can be removed by low mowing, then vigorous raking to remove the old organic material.

## PESTS AND DISEASES

The most commonly occurring pests on lawns in the NT are army and cut worm species. Attack occurs commonly in March/April and October/November. Severe outbreaks may need to be sprayed.

Diseases are not common in most lawn areas in the NT. Dollar spot caused by *Rhizoctinia* is occasionally seen.

Please visit us at our website:

**[www.nt.gov.au/dpifm](http://www.nt.gov.au/dpifm)**

---

Department of Primary Industry, Fisheries and Mines

© Northern Territory Government, 2006

ISSN 0157-8243

Serial No. 488

Agdex No. 286/10

**Disclaimer:** While all care has been taken to ensure that information contained in this Agnote is true and correct at the time of publication, the Northern Territory of Australia gives no warranty or assurance, and makes no representation as to the accuracy of any information or advice contained in this publication, or that it is suitable for your intended use. No serious, business or investment decisions should be made in reliance on this information without obtaining independent/or professional advice in relation to your particular situation.