

Wet Tropics region Grazing Land Management land type information

Plant Index

Common name	Species name	Page
Angleton grass*	<i>Dichanthium aristatum</i> cv. Floren	WT02, WT04
asbestos grass	<i>Pennisetum basedowii</i>	WT02
baker's oak	<i>Allocasuarina torulosa</i>	WT07
black speargrass	<i>Heteropogon contortus</i>	WT01, WT02, WT03, WT04, WT05, WT06, WT07, WT08
black tea tree	<i>Melaleuca bracteata</i>	WT02
blady grass	<i>Imperata cylindrica</i>	WT01
bloodwood	<i>Corymbia</i> spp.	WT05, WT06
blue gum	<i>Eucalyptus saligna</i>	WT01, WT03
bluegrass	<i>Bothriochloa</i> and <i>Dichanthium</i> spp.	WT01
buffel grass*	<i>Pennisetum ciliare</i> (formerly <i>Cenchrus ciliaris</i>)	WT04
butterfly pea*	<i>Clitoria ternatea</i>	WT02
canegrass	<i>Ophiuros exaltatus</i>	WT02
Caribbean stylo*	<i>Stylosanthes hamata</i> (cvv. Amiga, Verano)	WT03, WT05, WT06, WT08
comet grass	<i>Perotis rara</i>	WT02, WT04, WT05, WT06, WT08
cotton panic	<i>Digitaria brownii</i>	WT05, WT06, WT08
creeping bluegrass*	<i>Bothriochloa insculpta</i> cvv. Bisset, Hatch	WT01, WT02, WT04
cypress pine	<i>Callitris glaucophylla</i>	WT03, WT07
desert bluegrass	<i>Bothriochloa ewartiana</i>	WT02
fairy grass	<i>Sporobolus australasicus</i>	WT05, WT06, WT08
fire grass	<i>Schizachyrium fragile</i>	WT04, WT05, WT06, WT08
Flinders grass	<i>Iseilema</i> sp.	WT02
forest bluegrass	<i>Bothriochloa bladhii</i>	WT04, WT05, WT06
ghost gum	<i>Corymbia dallachiana</i>	WT02, WT04
giant speargrass	<i>Heteropogon triticeus</i>	WT03, WT04, WT05, WT08
golden beard grass	<i>Chrysopogon fallax</i>	WT02, WT03, WT05, WT06, WT07, WT08

grader grass*	<i>Themeda quadrivalvis</i>	WT01, WT02, WT04
grass tree	<i>Xanthorrhoea</i> sp.	WT07
green couch	<i>Cynodon dactylon</i>	WT02
green panic*	<i>Panicum maximum</i> var. <i>trichoglume</i>	WT01
grevilleas	<i>Grevillea</i> spp.	WT04, WT05, WT06
grey box	<i>Eucalyptus leptophleba</i>	WT03, WT08
gulf bluegrass	<i>Dichanthium fecundum</i>	WT04, WT05, WT08
gum-topped bloodwood	<i>Corymbia erythrophloia</i>	WT04
Indian couch*	<i>Bothriochloa pertusa</i>	WT02, WT04, WT05
kangaroo grass	<i>Themeda triandra</i>	WT01, WT02, WT03, WT04, WT05, WT06, WT07, WT08
kerosene grass	<i>Aristida</i> sp.; <i>A. holathera</i>	WT01
lantana*	<i>Lantana camara</i>	WT01, WT04
lemon-scented grass	<i>Cymbopogon bombycinus</i>	WT02, WT04, WT05, WT08
leucaena*	<i>Leucaena leucocephala</i>	WT04
lovegrasses	<i>Eragrostis</i> spp.	WT04, WT06, WT08
mimosa bush*	<i>Acacia farnesiana</i>	WT02
Moreton Bay ash	<i>Corymbia tessellaris</i>	WT01
narrow-leaved ironbark	<i>Eucalyptus crebra</i>	WT03, WT04, WT05, WT06, WT08
native millet	<i>Panicum decompositum</i>	WT02
noogoora burr*	<i>Xanthium occidentale</i>	WT02
northern wanderrie grass	<i>Eriachne obtusa</i>	WT02, WT06, WT08
pitted bluegrass	<i>Bothriochloa decipiens</i>	WT02, WT04
plume sorghum	<i>Sarga plumosum</i>	WT04, WT05, WT08
poplar gum	<i>Eucalyptus platyphylla</i>	WT08
<i>Praxelis</i> *	<i>Praxelis clematidea</i>	WT01, WT05
Queensland bluegrass	<i>Dichanthium sericeum</i>	WT04
quinine	<i>Petalostigma banksii</i> , <i>P. pubescens</i>	WT03, WT07

rat's tail grasses	<i>Sporobolus</i> spp.	WT01
red bloodwood see gum-topped bloodwood		
Rhodes grass*	<i>Chloris gayana</i>	WT01
river red gum	<i>Eucalyptus camaldulensis</i>	WT01
rubbervine*	<i>Cryptostegia grandiflora</i>	WT01, WT02, WT04
setaria*	<i>Setaria sphacelata</i>	WT01
Shrubby stylo*	<i>Stylosanthes scabra</i> cvv. Seca, Siran	WT03, WT05, WT06, WT08
silky browntop	<i>Eulalia aurea</i>	WT02, WT04, WT05, WT08
tea tree/s	<i>Melaleuca</i> spp.	WT01, WT07, WT08
two-coloured panic	<i>Panicum simile</i>	WT02
urochloa*	<i>Urochloa mosambicensis</i>	WT01
wattles	<i>Acacia</i> spp.	WT03, WT05, WT06, WT07, WT08
weedy rat's tail grasses*	<i>Sporobolus</i> spp. (e.g. <i>S. fertilis</i> , <i>S. jacquemontii</i>)	WT01
wiregrass/es	<i>Aristida</i> spp.	WT02, WT03, WT04, WT05, WT06, WT07, WT08

* Denotes non-native species.

Alluvial



Landform

Alluvial plains.

Woody vegetation

Blue gum, river red gum, Moreton Bay ash woodland with understorey of tea trees.

Expected pasture composition

** Denotes non-native "Expected Pasture Composition" species.*

Preferred

Bluegrass, black speargrass, kangaroo grass.

Intermediate

Non-preferred

Kerosene grass, blady grass, rat's tail grasses.

Annual grasses

Suitable sown pastures

Green panic, Rhodes grass, setaria, urochloa, creeping bluegrass.

Introduced weeds

Grader grass, lantana, weedy rat's tail grasses, rubbervine, *Praxelis*.

Soil

Non-basaltic alluvium, including grey clays, yellow earths and podzolics.

Description	Surface: Friable; Surface texture: loam; Subsoil texture: light clay.
Features	
Water availability	Medium
Fertility	Moderate to high; variable nitrogen (1–17 mg/kg); high phosphorus (45 mg/kg); high potassium (0.4 cmol _c /kg).
Salinity	Non-saline
Sodicity	Non-sodic
pH	Slightly acidic (pH 6.0).
Utilisation	30%
Enterprise	Breeding and growing.
Land use and management recommendations	<ul style="list-style-type: none"> • Suitable for grazing of native pastures. • Rotational wet seasons spelling to maintain perennial pasture composition. • Manage grazing pressure to ensure at least 50% ground cover at break of season. • Strategic burning (late dry hot burn) to manage woody weeds (e.g. rubbervine).
Land use limitations	<ul style="list-style-type: none"> • Infrequent erosive flooding. • Flood damage to fences. • Prone to weed invasion if overgrazed.
Conservation features and related management	<ul style="list-style-type: none"> • Subject to high grazing pressure. • Subject to weed infestation by lantana, rubbervine (<i>Cryptostegia grandiflora</i>) and grader grass (<i>Themeda quadrivalvis</i>).
Regional ecosystems	7.3.10a-g, 7.3.12-ac, 7.3.13, 7.3.14, 7.3.14a-b, 7.3.17, 7.3.19a-h, 7.3.19j, 7.3.20a-m, 7.3.21a-c, 7.3.23a-c, 7.3.26a-b, 7.3.32a-c, 7.3.35a-b, 7.3.36a-c, 7.3.37, 7.3.39a-b, 7.3.3a-c, 7.3.40, 7.3.42a-b, 7.3.43a-b, 7.3.44, 7.3.45a-f, 7.3.46, 7.3.47, 7.3.48a-b, 7.3.49a-c, 7.3.50a-b, 7.3.6, 7.3.6a-b, 7.3.7a-c, 7.3.9a-b.
Soil associations	SCAN, PAN, SHAN, GSAN, YEAN, BYAN, RAN, PSAN, GBAN (Grundy and Bryde 1989).

Black soils on basalt and granite



Landform

Undulating to gently undulating plains and rises formed on predominantly basalt.

Woody vegetation

Predominantly treeless plains. Occasionally ghost gum and black tea tree occur.

Expected pasture composition

** Denotes non-native "Expected Pasture Composition" species.*

Bare ground or little grass cover occurs on the hard rock rubble of lava flows.

Preferred

Angleton grass*, green couch, desert bluegrass, kangaroo grass, black speargrass.

Intermediate

Pitted bluegrass, silky browntop, canegrass, golden beard grass, lemon-scented grass, native millet.

Non-preferred

Wiregrasses, northern wanderrie grass.

Annual grasses

Comet grass, Flinders grass, two-coloured panic. Non-preferred species include asbestos grass.

Suitable sown pastures

Angleton grass, Indian couch, creeping bluegrass, butterfly pea.

Introduced weeds

Mimosa bush, rubbervine, Noogoora burr, grader grass.

Soil

Massive black and brown earths; sometimes cracking.

Description	Surface: Self-mulching; Surface texture: medium clay; Subsoil texture: medium to heavy clay.
Features	Slight gilgai development. High moisture holding capacity. Slow internal drainage. Carbonate concretions at depth.
Water availability	High
Fertility	High; moderate nitrogen (5 mg/kg); moderate phosphorus (11 mg/kg); high potassium (1.0 cmol/kg), occasionally zinc deficiency.
Salinity	Non-saline
Sodicity	Non-sodic
pH	Neutral (7.0) surface increasing alkalinity at depth.
Utilisation	30%
Enterprise	Breeding and growing.
Land use and management recommendations	<ul style="list-style-type: none"> • Suitable for grazing of native pastures. • Rotational wet seasons spelling to maintain perennial pasture composition. • Manage grazing pressure to ensure at least 50% ground cover at break of season. • Strategic burning (late dry hot burn) to manage woody weeds (e.g. rubbervine).
Land use limitations	<ul style="list-style-type: none"> • Internal drainage may be slow leaving soils prone to water logging. • Basalt soils have rocky profile throughout. • Narrow range of optimum moisture for tillage and traffic.
Conservation features and related management	<ul style="list-style-type: none"> • Subject to high grazing pressure. • Subject to weed infestation by rubbervine (<i>Cryptostegia grandiflora</i>) and grader grass (<i>Themeda quadrivalvis</i>).
Regional ecosystems	7.8.7b, 9.8.2a-b.
Soil associations	BELB, BCELB, BERG, BEAL, GCAL, BCAL, BCPL (Grundy and Bryde 1989).

Range soils



Landform

Dissected hilly country.

Woody vegetation

Blue gum, grey box, narrow-leaved ironbark woodland with understorey of cypress pine, wattles and quinine.

Expected pasture composition

** Denotes non-native "Expected Pasture Composition" species.*

Preferred

Black speargrass, kangaroo grass, giant speargrass, golden beard grass.

Intermediate

Non-preferred

Wiregrasses.

Annual grasses

Suitable sown pastures

Shrubby and Caribbean stylos.

Introduced weeds

Soil

Shallow soils.

Description

Surface: Variable gravel cover; sometimes hard-setting; **Surface texture:** variable; **Subsoil texture:** limited by underlying bedrock.

Features

Shallow, generally stony and rocky soils.

Water availability	Low
Fertility	Low
Salinity	Non-saline
Sodicity	Non-sodic
pH	Variable, slightly acid soils.
Utilisation	15%
Enterprise	Breeding
Land use and management recommendations	<ul style="list-style-type: none"> • Suitable for grazing of native pastures. • Rotational wet seasons spelling to maintain perennial pasture composition. • Manage grazing pressure to ensure at least 50% ground cover at break of season. • Strategic burning (late dry hot burn) to manage woody thickening (e.g. wattles).
Land use limitations	<ul style="list-style-type: none"> • Skeletal, shallow and rocky soils limit productivity.
Conservation features and related management	
Regional ecosystems	7.11.13, 7.11.14a-b, 7.11.14d, 7.11.19a, 7.11.21, 7.11.21a-b, 7.11.26a-f, 7.11.31a-d, 7.11.32a-i, 7.11.33a, 7.11.33c, 7.11.35a, 7.11.35c, 7.11.38a-c, 7.11.39a-c, 7.11.40a-i, 7.11.42a-b, 7.11.44, 7.11.45, 7.11.47, 7.11.49, 7.11.50b, 7.11.51, 7.11.51a-c, 7.11.5a-g, 7.11.6, 7.12.12a-c, 7.12.21a-b, 7.12.21d, 7.12.22a-b, 7.12.22d-e, 7.12.23a-f, 7.12.24a-c, 7.12.25a-b, 7.12.25d, 7.12.26a-e, 7.12.27a-b, 7.12.28a-b, 7.12.29a, 7.12.29c-d, 7.12.30a-b, 7.12.30d, 7.12.33a-b, 7.12.34, 7.12.37a-b, 7.12.37d-f, 7.12.37g-i, 7.12.4, 7.12.51a-b, 7.12.52, 7.12.54a-d, 7.12.54f-g, 7.12.56c, 7.12.57, 7.12.57a, 7.12.57c, 7.12.58, 7.12.58, 7.12.59, 7.12.5a-d, 7.12.5f-i, 7.12.60a-c, 7.12.61a-c, 7.12.62a-c, 7.12.65c, 7.12.65e-h, 7.12.65j-k, 7.12.66a-c, 7.12.66e, 9.11.4a, 9.12.20, 9.12.30a, 9.12.31b, 9.8.13.
Soil associations	PLMV, PLHV, SRHV, PLHG, PLHM, PLHS, PLDR, PMG, PHG, PHM, PHS, PSHB, REHG, RHG, SCHG, RHM, YEHM, NCHM, RHS, REHS, SCHS, BGHS (Grundy and Bryde 1989).

Red basalt



Landform	Irregular stony plains and low hills.
Woody vegetation	Narrow-leaved ironbark woodlands with gum-topped bloodwood, ghost gum and grevilleas in understorey.
Expected pasture composition	<i>* Denotes non-native "Expected Pasture Composition" species.</i>
Preferred	Black speargrass, kangaroo grass, forest bluegrass, Queensland bluegrass, giant speargrass.
Intermediate	Silky browntop, lemon-scented grass, gulf bluegrass, pitted bluegrass, plume sorghum, Indian couch*.
Non-preferred	Wiregrasses.
Annual grasses	Fire grass, comet grass, lovegrasses
Suitable sown pastures	Buffel grass, leucaena, Angleton grass, creeping bluegrass.
Introduced weeds	Rubbervine, lantana, grader grass.
Soil	Red brown clay loams (euchrozems, krasnozems).
Description	Surface: Usually stony; Surface texture: clay loam; Subsoil texture: clay loam to medium clay.
Features	Free draining and high fertility. Rocks throughout profile.

Water availability	Moderate to high.
Fertility	High; high nitrogen (14 mg/kg); high phosphorus (40 mg/kg); high potassium (0.6 cmol _c /kg).
Salinity	Non-saline
Sodicity	Non-sodic
pH	Neutral to slightly acid (6.8) throughout profile.
Utilisation	30%
Enterprise	Breeding and growing.
Land use and management recommendations	<ul style="list-style-type: none"> • Suitable for grazing of native pastures. • Rotational wet seasons spelling to maintain perennial pasture composition. • Manage grazing pressure to ensure at least 50% ground cover at break of season. • Strategic burning (late dry hot burn) to manage woody thickening (e.g. eucalypts). • Salt and sulphur supplements required in wet season.
Land use limitations	<ul style="list-style-type: none"> • Rocks throughout profile.
Conservation features and related management	<ul style="list-style-type: none"> • Subject to weed infestation by rubbervine (<i>Cryptostegia grandiflora</i>), lantana and grader grass (<i>Themeda quadrivalvis</i>).
Regional ecosystems	7.8.18a-b, 7.8.19, 7.8.7c, 9.8.2c.
Soil associations	SKUB, SKLB, SELB (Grundy and Bryde 1989).

Red soils



Landform	Gently undulating plains and rises.
Woody vegetation	Narrow-leaved ironbark woodland with associated bloodwood and understorey of grevilleas and wattles.
Expected pasture composition	<i>* Denotes non-native "Expected Pasture Composition" species.</i>
Preferred	Black speargrass, kangaroo grass, golden beard grass, forest bluegrass.
Intermediate	Cotton panic, silky browntop, lemon-scented grass, gulf bluegrass, plume sorghum, Indian couch*, giant speargrass.
Non-preferred	Wiregrasses.
Annual grasses	Fire grass, comet grass, fairy grass.
Suitable sown pastures	Shrubby and Caribbean stylos.
Introduced weeds	<i>Praxelis</i>
Soil	Grey to red surface grading to red clay soils at depth.
Description	Surface: Loose; Surface texture: sandy loam; Subsoil texture: medium clay.

Features	Ironstone nodules in subsoils.
Water availability	Low
Fertility	Variable. Low nitrogen (1 mg/kg); low phosphorus (4–8 mg/kg); low potassium (0.1 cmol _c /kg).
Salinity	Non-saline
Sodicity	Non-sodic
pH	Neutral (6.4) at surface; increasing acidity down the profile.
Utilisation	25%
Enterprise	Breeding and growing.
Land use and management recommendations	<ul style="list-style-type: none"> • Suitable for grazing of native pastures. • Rotational wet seasons spelling to maintain perennial pasture composition. • Manage grazing pressure to ensure at least 50% ground cover at break of season. • Strategic burning (late dry hot burn) to manage woody thickening (e.g. wattles). • Native pastures need to be burnt prior to over-sowing with stylos.
Land use limitations	<ul style="list-style-type: none"> • Timber thickening limits pasture productivity. • Phosphorus supplements are required in wet season.
Conservation features and related management	<ul style="list-style-type: none"> • Significant habitat for arboreal mammals and for animals using hollows.
Regional ecosystems	7.11.36, 7.11.37a-b, 7.11.41a-b, 7.12.53, 7.12.53a-b, 7.12.53e, 7.12.53g, 7.12.69a, 9.11.3b, 9.12.31a.
Soil associations	RPL, RRG (Grundy and Bryde 1989).

Sandy red earths



Landform	Upper slopes on level to gently undulating plains.
Woody vegetation	Bloodwood woodland with associated narrow-leaved ironbark and understorey of grevilleas and wattles.
Expected pasture composition	<i>* Denotes non-native "Expected Pasture Composition" species.</i>
Preferred	Black speargrass, kangaroo grass, golden beard grass, forest bluegrass.
Intermediate	Cotton panic, lovegrasses, northern wanderrie.
Non-preferred	Wiregrasses.
Annual grasses	Fire grass, comet grass, fairy grass.
Suitable sown pastures	Shrubby and Caribbean stylos.
Introduced weeds	
Soil	Free draining, grey to red surface grading to red clay soils.
Description	Surface: Loose; Surface texture: sandy loam; Subsoil texture: medium clay.

Features	Free draining. Ironstone nodules in subsoils.
Water availability	Low
Fertility	Low. Low nitrogen (1 mg/kg); low phosphorus (2–4 mg/kg); low potassium (0.1 cmol _c /kg).
Salinity	Non-saline
Sodicity	Non-sodic
pH	Neutral (6.4) at surface; increasing acidity down the profile.
Utilisation	20%
Enterprise	Breeding herds.
Land use and management recommendations	<ul style="list-style-type: none"> • Suitable for grazing of native pastures. • Rotational wet seasons spelling to maintain perennial pasture composition. • Manage grazing pressure to ensure at least 50% ground cover at break of season. • Strategic burning (late dry hot burn) to manage woody thickening (e.g. wattles). • Native pastures need to be burnt prior to over-sowing with stylos.
Land use limitations	<ul style="list-style-type: none"> • Timber thickening limits pasture productivity. • Low fertility limits possibilities for sown grasses. • Phosphorus supplements are required in wet season.
Conservation features and related management	<ul style="list-style-type: none"> • Significant habitat for arboreal mammals and for animals using hollows.
Regional ecosystems	7.11.16a-c, 7.11.18a-h, 9.11.7a-b.
Soil associations	RERT, RERG, REPT, REPR, KPR (Grundy and Bryde 1989).

White sandy soil



Landform

Low slopes.

Woody vegetation

Tea tree woodland with wattle, cypress pine, baker's oak, grass tree and quinine in understorey.

Expected pasture composition

** Denotes non-native "Expected Pasture Composition" species.*

Preferred

Black speargrass, kangaroo grass, golden beard grass.

Intermediate

Wiregrasses.

Non-preferred

Annual grasses

Suitable sown pastures

Introduced weeds

Soil

Sands.

Description	Surface: Loose; Surface texture: sand; Subsoil texture: sand.
Features	Structureless, impeded internal drainage.
Water availability	Very low.
Fertility	Very low.
Salinity	Non-saline
Sodicity	Non-sodic
pH	Slightly acid (pH) soils.
Utilisation	15%
Enterprise	Breeding
Land use and management recommendations	<ul style="list-style-type: none"> • Suitable for grazing of native pastures. • Rotational wet seasons spelling to maintain perennial pasture composition. • Manage grazing pressure to ensure at least 50% ground cover at break of season. • Strategic burning (late dry hot burn) to manage woody thickening (e.g. wattles).
Land use limitations	<ul style="list-style-type: none"> • Impeded drainage causes bogging. • Low fertility. • Woodland thickening.
Conservation features and related management	
Regional ecosystems	7.11.34, 7.11.34a-d, 7.3.8a-d.
Soil associations	YEPT, YERG, YERM, YEPR (Grundy and Bryde 1989).

Yellow earths



Landform	Mid to lower slopes of level to gently undulating plains.
Woody vegetation	Grey box, poplar gum and narrow-leaved ironbark woodland with understorey of tea trees and wattles.
Expected pasture composition	<i>* Denotes non-native "Expected Pasture Composition" species.</i>
Preferred	Black speargrass, kangaroo grass, plume sorghum, golden beard grass.
Intermediate	Cotton panic, silky browntop, lemon-scented grass, gulf bluegrass, giant speargrass, northern wanderie grass.
Non-preferred	Wiregrasses.
Annual grasses	Fire grass, comet grass, fairy grass, lovegrasses.
Suitable sown pastures	Shrubby and Caribbean stylos.
Introduced weeds	
Soil	Texture contrast soils (solodics).
Description	Surface: Loose or hard-setting; Surface texture: sandy loam; Subsoil texture: medium to heavy clay.
Features	Impeded drainage leading to bogginess when wet. Mottling of soil at depth. Dispersive subsoils.
Water availability	Low to moderate.

Fertility	Variable, generally low. Low nitrogen (0.08%); low phosphorus (4–6 mg/kg); low potassium (0.17 cmol _c /kg).
Salinity	Non-saline
Sodicity	Generally low.
pH	Slightly acidic (6.1) at surface; increasing to medium acidity down the profile.
Utilisation	20%
Enterprise	Breeding
Land use and management recommendations	<ul style="list-style-type: none"> • Suitable for grazing of native pastures. • Rotational wet seasons spelling to maintain perennial pasture composition. • Manage grazing pressure to ensure at least 50% ground cover at break of season. • Strategic burning (late dry hot burn) to manage woody thickening (e.g. wattles). • Native pastures need to be burnt prior to over-sowing with stylos.
Land use limitations	<ul style="list-style-type: none"> • Timber thickening limits pasture productivity. • Low fertility limits possibilities for sown grasses. • Phosphorus supplements are required in wet season. • Limit mechanical disturbance (nothing more severe than crocodile seeder) due to the fragile nature of the duplex soils.
Conservation features and related management	<ul style="list-style-type: none"> • Old growth stands of this regional ecosystem are particularly significant for arboreal mammals.
Regional ecosystems	7.11.1g, 7.11.20, 7.12.56a-b, 7.3.16a, 7.3.16c, 7.3.16d.
Soil associations	YERT, BYPT, BYAN, YEAN (Grundy and Bryde 1989).