



# Is your pasture past it?

The glove box guide  
to native pasture  
identification in  
North Queensland



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Tristan Golding  
and Don Cowan



Queensland  
Government



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pasture  
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# *Foreword*

Livestock production from native pastures is the backbone of the beef industry in northern Australia, and probably always will be. For far too long we, the producers, have given primary consideration to the condition of our livestock, with little attention being paid to pasture condition.

Introduced pasture species have an important role to play in our management of the rangelands but the key is still management of our native pastures. Identification and recognition of these native pasture species is the first key step with the next step being the understanding of their role in our ecosystem.

This book is an invaluable tool to the progressive pastoralist in our quest to better understand and manage our native pastures.

*John Bethel*

'Huonfels', Georgetown (May 1997)

# ***Acknowledgments***

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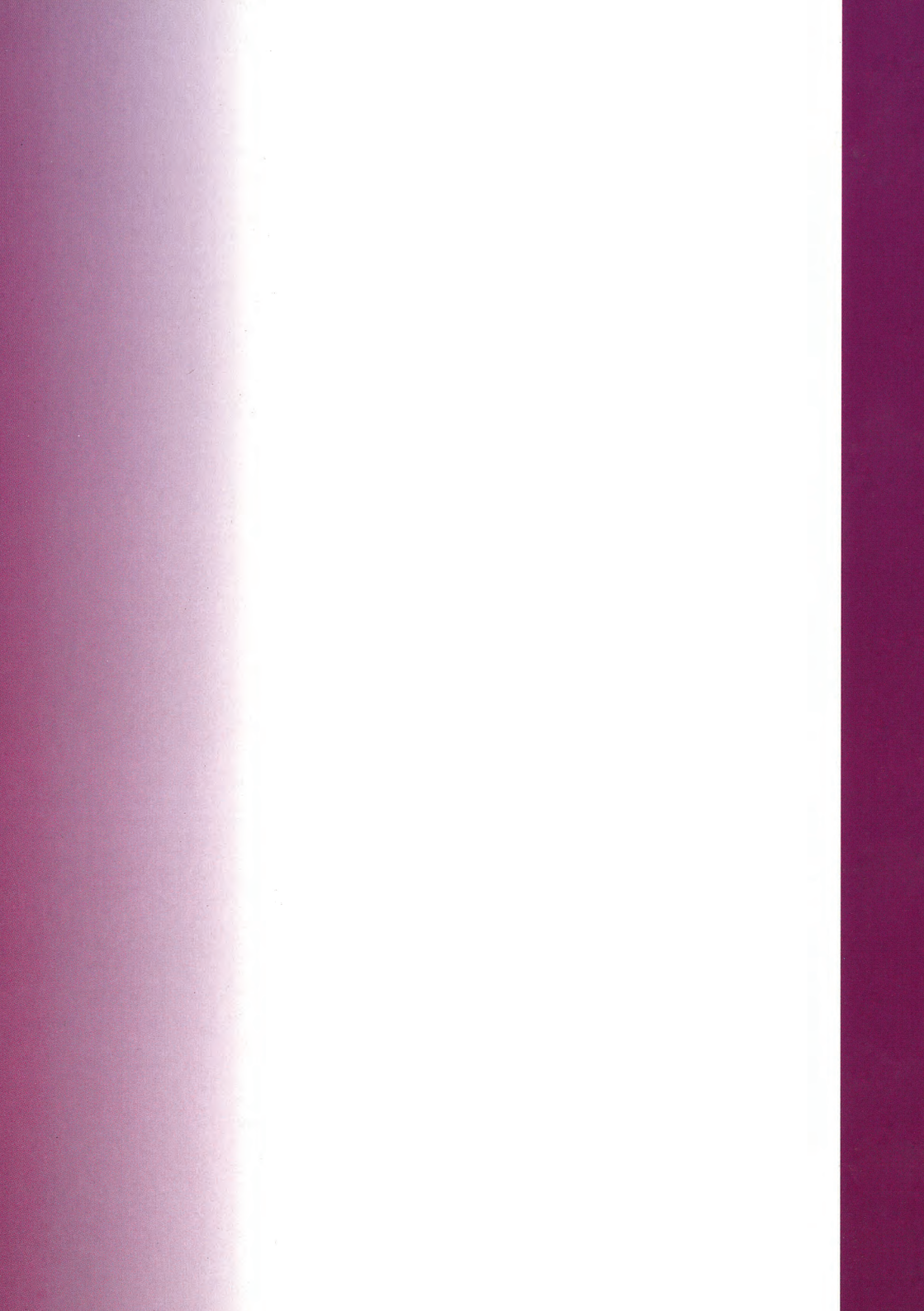
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# *Introduction*

The purpose of this manual is to assist people with pasture identification and grazing management. The manual includes key native pasture species, and some introduced species, which commonly occur in the Cape York Peninsula, Mareeba, Dalrymple, north-east Flinders and Bowen districts (refer to map on following page). This manual does not include every plant species which may occur on your property. It aims at increasing awareness of species which are present and what their presence may mean in terms of pasture condition. It is hoped that this increase in awareness will assist beef producers to manage for good pasture condition.

The colour photographs in this manual are intended to be the main means of identification. The plant descriptions are intended to inform the reader of the growth behaviour of each species, and what its presence in the pasture indicates. This is in terms of improving or declining pasture condition.

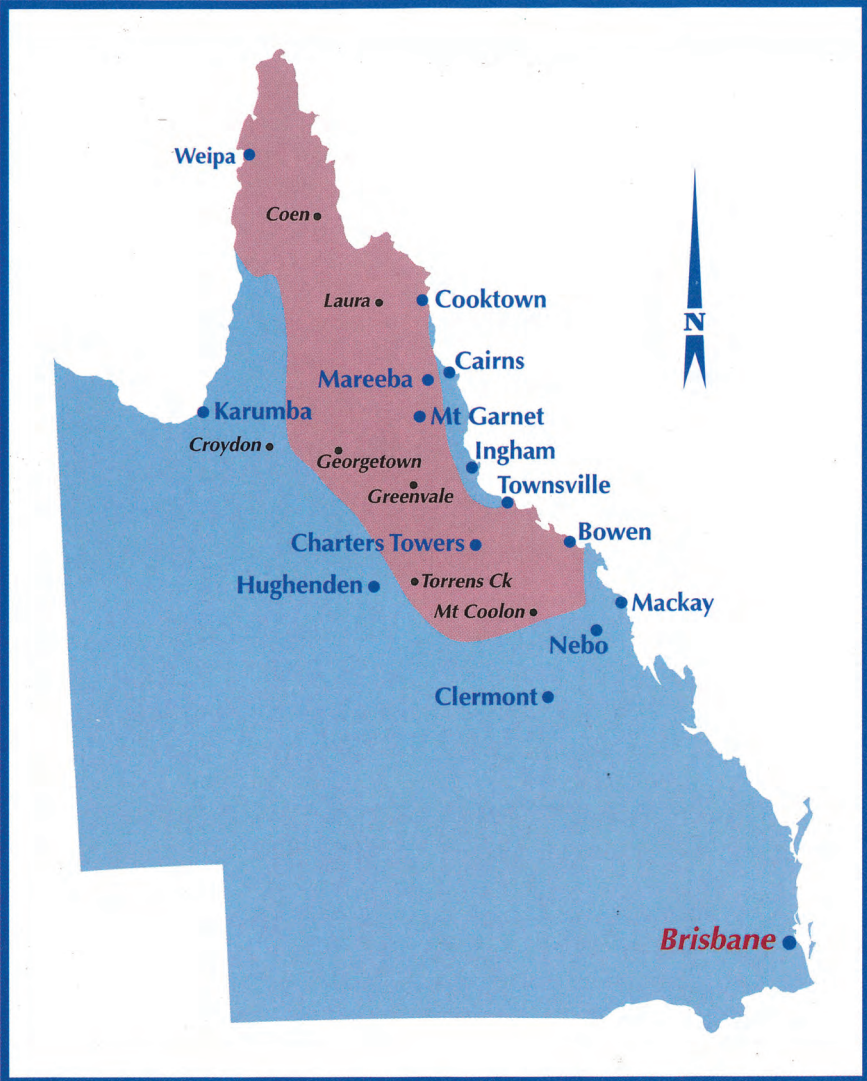
A **3P** concept has been used to describe whether the plant is *Perennial*, *Palatable* and/or *Productive*. A 3P plant (perennial, palatable and productive) is highly desirable for beef production. The increaser/decreaser concept is used to describe the way a plant is likely to behave with increased grazing. All terms are explained in the section on important terms and concepts, which begins on page 1-5.

**This manual will aid producers in adjusting grazing management to maintain productive, perennial pastures.**

The relative proportions of grasses in a pasture can indicate the way in which that pasture has been managed in the past. An abundance of 3P grasses indicates the ability of the pasture to grow useful forage for cattle. A dominance of less desirable species indicates a history of overgrazing. Pastures with less desirable species provide poor ground cover, which will lead to excessive run-off and erosion.

Moderate stocking pressure is the key to retaining 3P grasses in a pasture. In general, this means either utilising up to thirty per cent of pasture growth, or utilising up to fifty per cent of pasture growth in combination with regular wet season spelling.

These are general rules of thumb and their application will vary according to land type and land condition.



**Figure 1:** A graphical representation of the area covered by this manual.

## ***Locality map***

This manual does not include all grass species present in the area shown on the map opposite. Only the **key** indicator species significant to the grazing industry are included.

## ***Plant growth and animal nutrition***

The crude protein, phosphorus content and digestibility of a particular plant species will vary according to the soil type, soil fertility and growth stage.

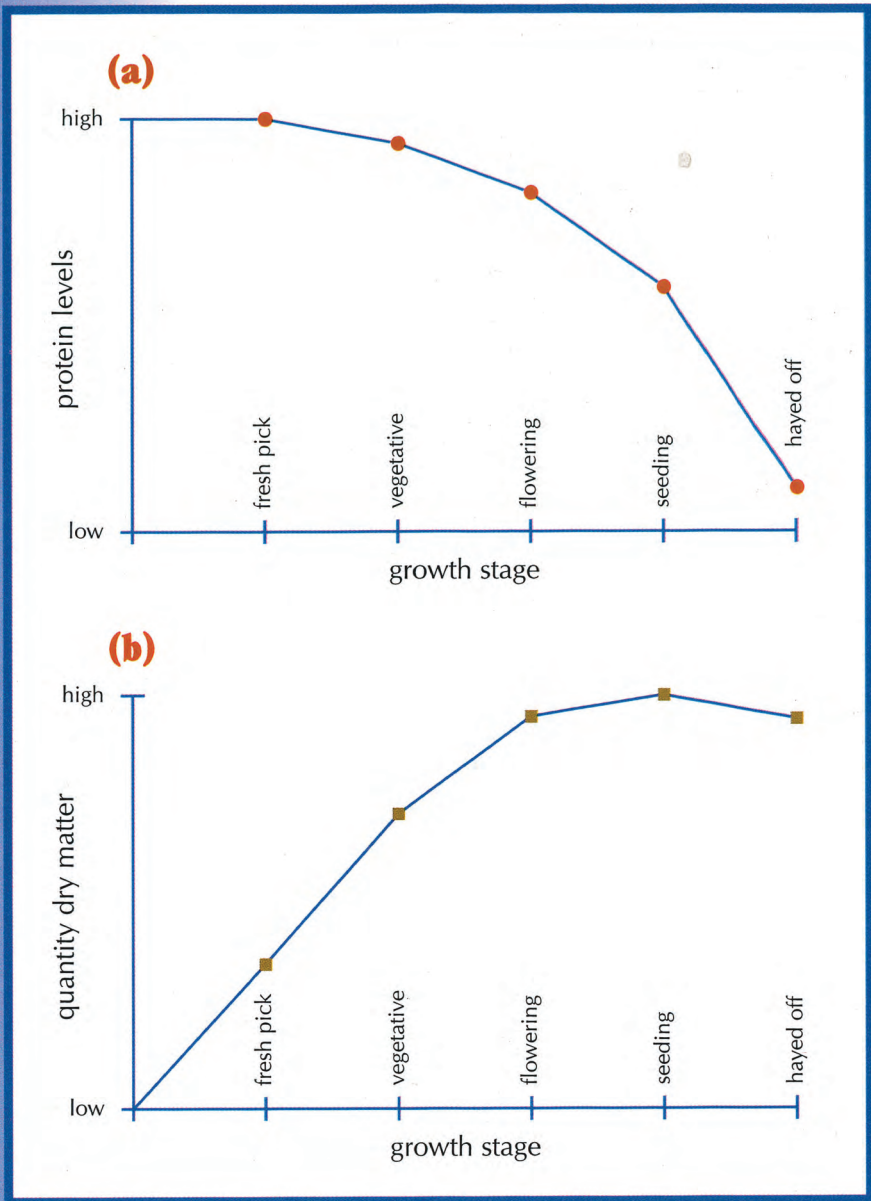
The level of nutrients actually consumed by the grazing animal is dependent upon pasture composition and diet selection. Animals usually only select parts of particular plants. Leaf is the most palatable and nutritious and will therefore be grazed more than the stem. Pasture plants such as black speargrass and bluegrass are about forty per cent leaf and are highly desirable to stock. The wiregrasses are only about ten per cent leaf and the high stem content makes them less desirable to stock. The animal will normally select a higher quality diet than that indicated by analysis of plant samples.

Knowing which grass species are dominant in a pasture is the best indicator of pasture condition. Good beef production, now and in the future, depends on the presence of *perennial*, *palatable* and *productive* grass species in your pasture.

As can be seen in figure 2, nutritive value changes with the various stages of growth. Protein in grasses can range from approximately four to fourteen per cent. Forbs and legumes can vary from six to twenty per cent (depending on species and stage of growth).

A general rule of thumb for all grass species:

**... if it is green and young, nutritive value will be OK;  
as it dries off, nutritive value declines.**

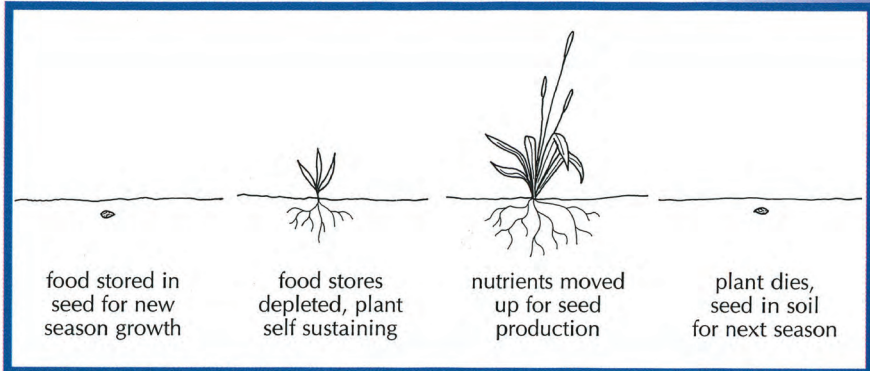


**Figure 2:** Nutritive value (a) and quantity of dry matter present (b) at different growth stages of grasses.

## Important terms and concepts

### Plant types

**Annual** (figure 3) A plant which completes its life cycle, from germination to death, in one season or year. Annuals cannot regenerate from their root stock, only from seed. Annuals do not survive into the dry and are, therefore, a less reliable source of feed than perennials.



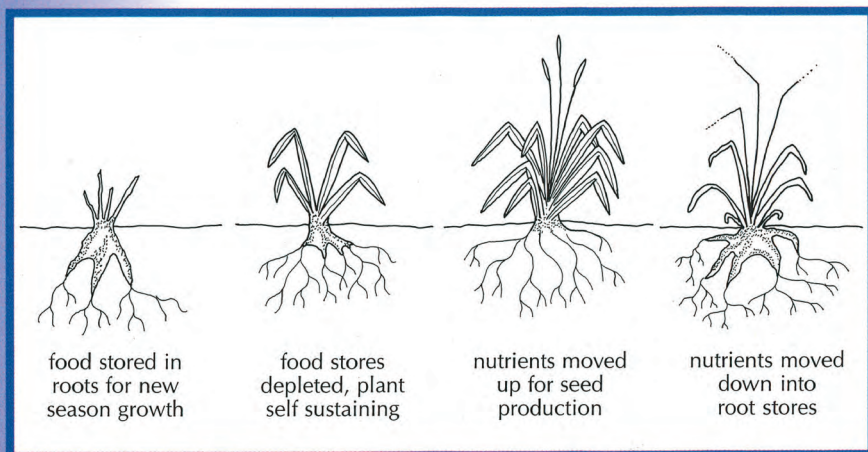
**Figure 3:** The life cycle of an annual plant.

**Forb** A non-woody broadleaf plant. Many forbs are palatable and contain high levels of protein. Those that are not palatable can become weeds. Some may be toxic to stock.

**Legume** The legume family contains species that are able to fix nitrogen, from the air into the soil, thus improving the soil and the quality of companion grasses. Legumes can be forbs, shrubs or trees.

**Perennial** (figure 4) A plant which lives for more than one year and regenerates from tussocks as well as seed. Perennial pasture species are generally the most productive and desirable due to their persistence, resilience to grazing, dry season bulk and ability to protect the soil.

**Weak perennial** A perennial grass which under unfavourable conditions will act as an annual and under favourable conditions will act as a perennial.



**Figure 4:** *The life cycle of a perennial plant.*

### ***Plant parts and features which aid identification***

**Leaf to stem proportion** Describes the plant's proportion of leaf to stem material. The leaf is the most palatable and nutritious component of the plant. Generally the more leaf the greater the forage value of the pasture species. As the amount of stem material increases the forage value declines.

**Node** A joint on the stem of the plant from which the plant can produce new roots, stems, leaves or branches.

**Palatability** Is a measure of the willingness of animals to eat a plant in preference to other plants available. Palatability is poorly understood; however, livestock tend to prefer leafy plants which do not contain secondary compounds such as tannins and alkaloids. The age of a plant, season, soil type and pasture composition also affect palatability.

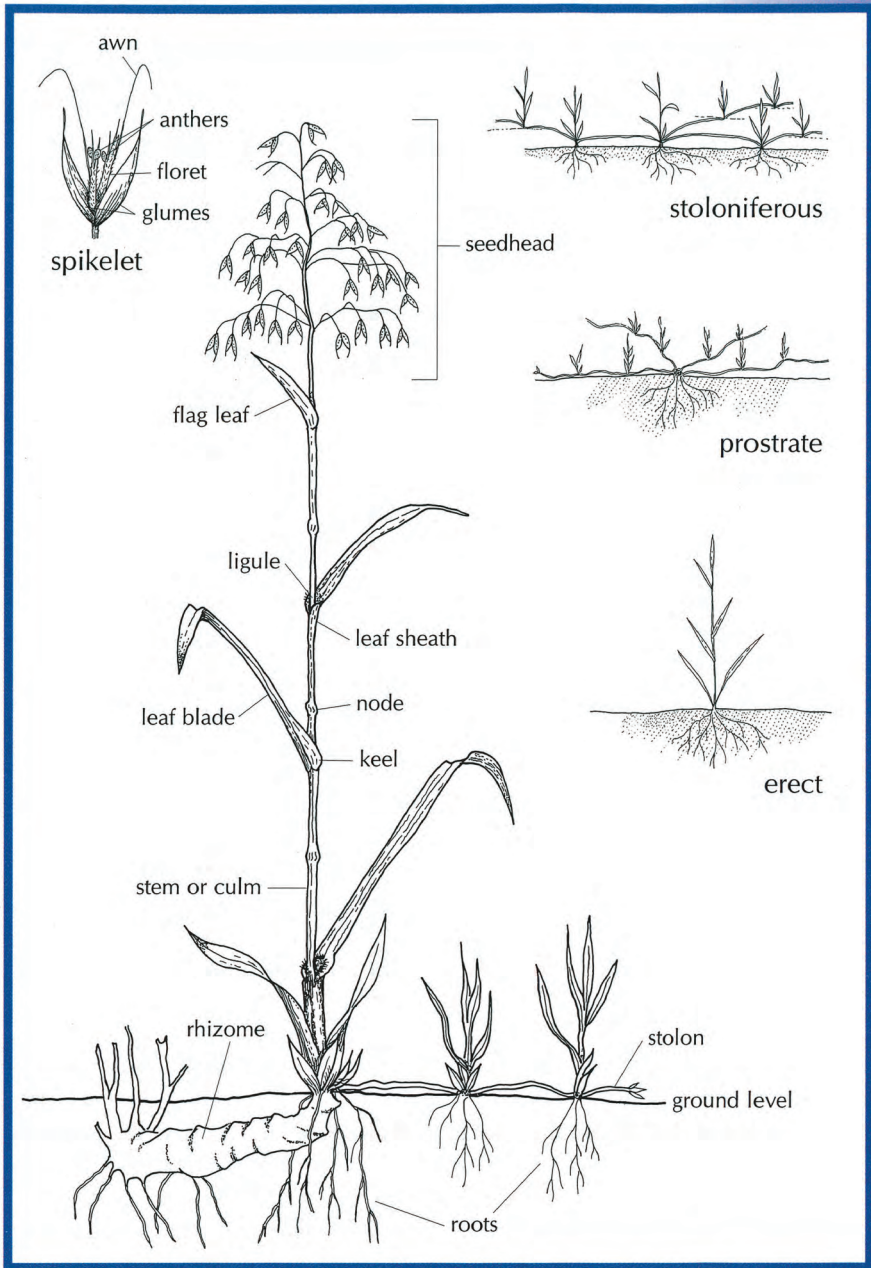
**Pit** Refers to a small indentation in the seed of some grasses.

**Prostrate** A plant's habit of growing horizontally along the ground.

**Rhizome** An underground, horizontal stem. Nodes on a rhizome produce new roots and an above-ground stem.



**Stolon** An above-ground horizontal stem. Nodes on a stolon produce new roots and an above-ground stem.



**Figure 5:** The parts and growth habits of pasture plants.  
(Adapted, in part, from Roberts and Silcock 1993)

## ***Response to grazing***

***Decreaser*** Under heavy or prolonged grazing the percentage of these particular species in the pasture will decrease, due to high palatability or lack of a competitive advantage. Generally the decreaser species are the perennial, palatable and productive grasses.

***Increaser*** Under prolonged heavy grazing the amount of these particular grass species in the pasture increases. This is usually due to a competitive advantage or the low palatability of that species compared to other species present in the pasture. Generally increaser species are less palatable and productive than decreaser species.

***Increaser/decreaser*** The way a species responds to fire, seasons, grazing and competition will determine its classification as a decreaser or increaser species.

***Land Condition*** For livestock production, land condition is the ability of land to absorb rainfall and produce useful feed. It is determined by which grasses are dominant in the pasture and by the degree of ground cover. Land in good condition will be dominated by 3P grasses and have a minimum ground cover of thirty to forty per cent.





***Grass  
species***

# Cockatoo grass

*Alloteropsis semialata*



**decreaser**  
**perennial**  
**palatable**

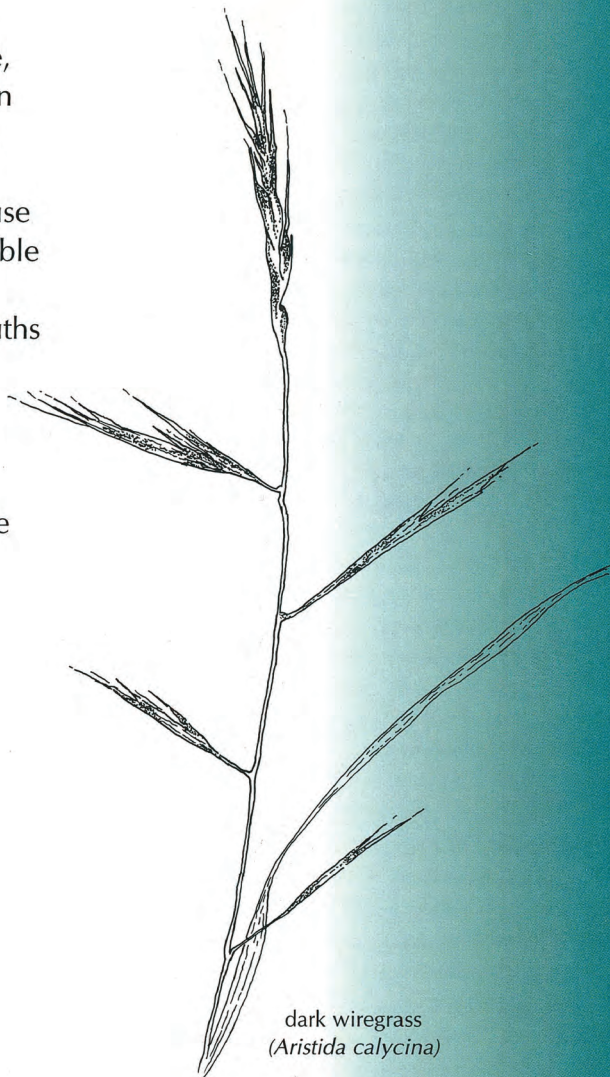
**Forage value:** Palatable when young, with leafy base attractive to stock. The stems are generally neglected.

**Notes:** An erect, tufted grass growing 60–100 cm tall with a thick, leafy base; seedhead has one to five finger-like branches. It is a good early season species, drought tolerant and prefers light textured soils.



# *Aristida, or wiregrass, species*

The wiregrasses are erect and stemmy, consisting of only approximately ten per cent leaf. They are generally unpalatable to stock. Seeds are distinctive, with three awns (bristles) in a triangular pattern joined to a sharp, pointed base. These sharp awns may cause injury to sheep and vegetable fault in wool, as well as irritating the eyes and mouths of animals. All *Aristida* species described in this publication are perennial but generally unpalatable and unproductive. They are increaser species.



dark wiregrass  
(*Aristida calycina*)

# Dark wiregrass

*Aristida calycina*



JAM



JAM

**increaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Low, as forage consists mostly of stem.

**Notes:** An erect, tufted, coarse perennial grass to 60 cm tall with branched seedheads. It produces little leaf and favours woodlands with light textured soils. Due to its low palatability it can become dominant under heavy grazing.



# ***Bunched kerosene grass***

*Aristida contorta*

***increaser***  
***perennial***  
***unpalatable***  
***unproductive***

***Forage value:*** Marginal before seed set, but of little value once mature.

***Notes:*** Dense, perennial, tussocky grass to 30 cm. Large spreading seeds mixed with the upper leaves of the coarse tussock.



# *Jericho wiregrass*

*Aristida jerichoensis*



**increaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Low.

**Notes:** An erect grass with a dense tussock growing to 90 cm. Seeds are held close to a narrow seedhead. When dominant it can indicate a degraded pasture. It is very fire resistant and responds to rain at any time of the year.



# Feathertop wiregrass

*Aristida latifolia*

**increaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Very low.

**Notes:** An erect, tussocky grass, 60–100 cm tall, with leaves curling at the base and a long seedhead with many drooping arms (all on one side) bearing many seeds. Not particularly tolerant to drought. As well as causing serious vegetable fault in wool, it has the capacity to penetrate the skin of sheep. A problem plant of Mitchell grass downs country, it occurs on a range of soils from sandy forest areas to heavy black clays. In some situations under very heavy sustained grazing it may be a decreaser, however in the majority of cases it tends to increase, indicating a decline in range condition.



JAM



JAM

# Reed grass

*Arundinella nepalensis*



**increaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Low, due to its coarseness.

**Notes:** Tall, erect, reed-like tufted grass up to 2 m tall, with a narrow pyramid-shaped seedhead. It prefers damp sites, growing mostly along creek banks, beds or islands. It is also found in hollows or shallow swamps. It is of value in reducing stream bank erosion.

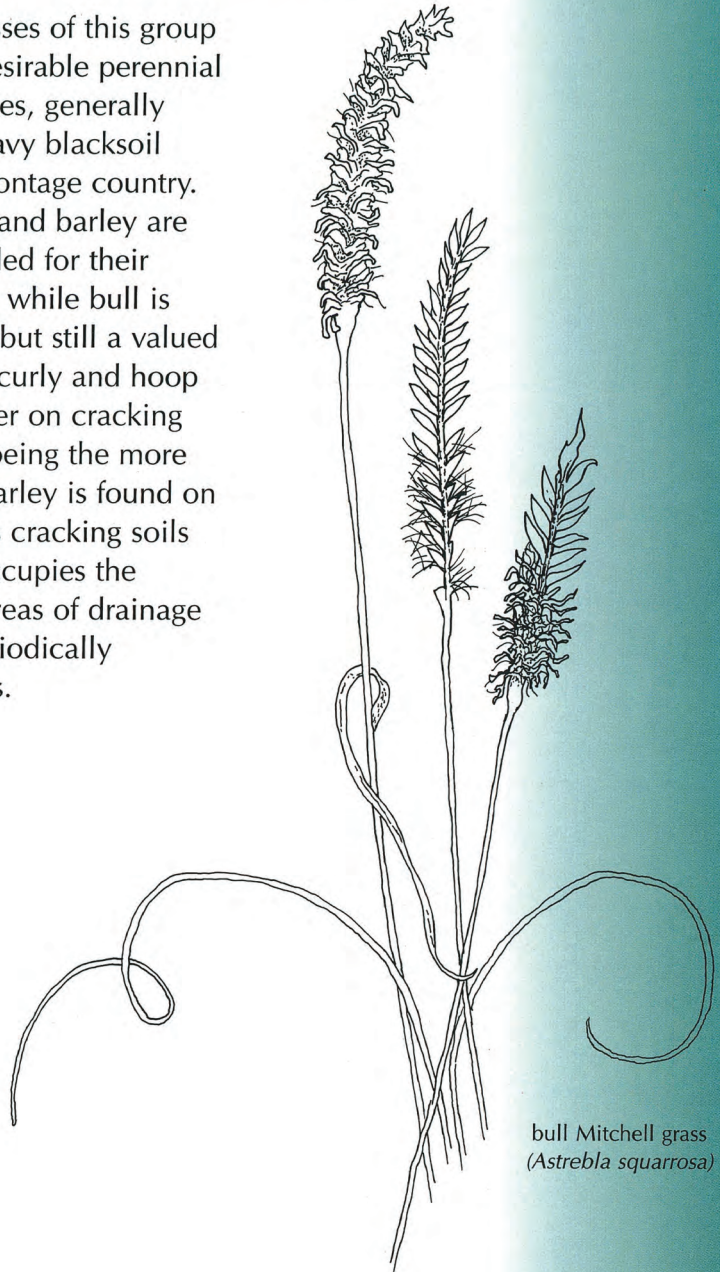


ERA

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# *Astrebla, or Mitchell grass, species*

The four grasses of this group are highly desirable perennial tussock grasses, generally found on heavy blacksoil plains and frontage country. Hoop, curly and barley are highly regarded for their forage value, while bull is more coarse but still a valued plant. Often curly and hoop occur together on cracking clays (curly being the more palatable). Barley is found on the drier, less cracking soils while bull occupies the heavy clay areas of drainage lines and periodically flooded areas.



bull Mitchell grass  
(*Astrebla squarrosa*)

# Hoop Mitchell grass

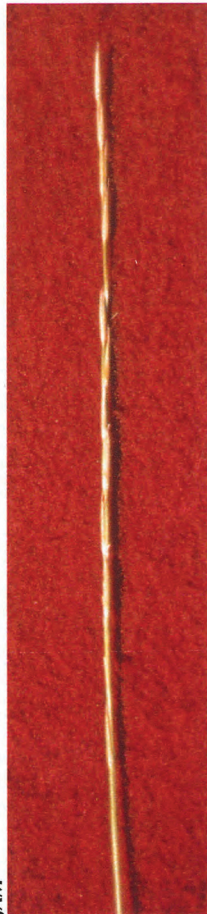
*Astrebla elymoides*



**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** Good to high.

**Notes:** An erect, tufted, leafy grass 60–90 cm tall, possessing the ability to sprout from nearly every node after rain. Its long narrow seed bearing stems tend to droop to the ground on one side of the tussock. It is resilient under moderate grazing but will decrease when heavily grazed. It is drought and fire tolerant.



JAM

# Curly Mitchell grass

*Astrebla lappacea*

**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** High.

**Notes:** Growing as an erect tussock 30–90 cm tall, its large bristly seeds are loosely arranged along a curly seedhead. A valuable feature of this grass is that it does not break up when dry, thereby still being acceptable to stock. It is fire and drought tolerant and can withstand moderate grazing pressure. Its strong presence indicates good range condition. However, it will decrease under heavy grazing.



JAM



JAM

# Barley Mitchell grass

*Astrebla pectinata*



JAM

**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** High.

**Notes:** A leafy grass growing in a dense tussock up to 100 cm tall and capable of producing an abundance of fodder. Seeds are closely packed on a short seedhead, similar to that of barley. It is fire and drought hardy and also resilient during periods of moderate grazing. Its presence is indicative of good range condition, however under heavy grazing it will decrease.



JAM



# *Bull Mitchell grass*

*Astrebla squarrosa*

**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** Good, however it is the least palatable of the Mitchell grasses and is not readily eaten by stock.

**Notes:** A heavy, tussocky, stemmy, erect and robust plant 50–150 cm tall, with bristly seeds set on a large, coarse seedhead. It grows mainly in drainage lines or water courses. As with the other Mitchell grasses, bull Mitchell is productive and nutritious while being resistant to moderate to heavy grazing and tolerant to fire and drought. Under moderately heavy grazing it may become an increaser species if other companion grasses are highly palatable.



JAR



JAM

# *Bothriochloa and Dichanthium, or bluegrass, species*

Where the Mitchell grasses are the desired perennial grasses of the open plains, the *Bothriochloas* are the desired perennial grasses of the northern eucalypt woodlands. *Bothriochloa ewartiana* (desert bluegrass) is the dominant type in the southern and western areas of the region while *Bothriochloa bladhii* (forest bluegrass) and *Bothriochloa decipiens* (pitted bluegrass) occur more in the northern and coastal areas. *Bothriochloa pertusa* (Indian bluegrass) is an introduced creeping grass that has dominated much of the south-eastern Dalrymple and Bowen Shires.

At first glance the seedheads and growth patterns of the *Bothriochloa* and *Dichanthium* species are very similar and it can be difficult to distinguish between them.

Some distinguishing features include the following:

- The leaves of the *Bothriochloas* are aromatic when crushed (some more so than others) and *Dichanthiums* are not.
- The seeds of the *Dichanthiums* appear directly in line as if stacked upon the seed below.
- The seeds of the *Bothriochloas*, although still presented one above the other, are offset from the seed below. They appear above and slightly to the left or right of the seed below.
- Many *Bothriochloas* have pitted seeds.
- *Dichanthium* bluegrasses also tend to have longer hairs on the nodes than the *Bothriochloa* bluegrasses.

Descriptions of the *Bothriochloa* species start on page G·16 and the *Dichanthiums* on page G·29.



**Figure 7:** *The characteristics of bluegrass, showing the differences between the Bothriochloa (a) and Dichanthium (b) species.*

# Forest bluegrass

*Bothriochloa bladhii*



TJH

**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** High.

**Notes:** An erect, densely tufted leafy plant, growing to 150 cm tall, leaves are highly aromatic when crushed. It is relatively tolerant to drought. A dominance of forest bluegrass in the pasture usually indicates that a long-term conservative stocking rate has been used.



TJH

# Pitted bluegrass

*Bothriochloa decipiens*

**increaser**  
**perennial**

**Forage value:** Fair, with a low ratio of leaf to stem and not as palatable as the other *Bothriochloas*.

**Notes:** A tussocky grass which has distinctive large pits in each seed and grows to 150 cm tall. It is drought resistant and recognised as an early coloniser of scalded soils. A dominance of this grass usually indicates heavy grazing has occurred in the past. Its dominance on fertile soils can mean a decline in pasture condition. Pitted bluegrass will decline under sustained heavy grazing.



HJL



HJL

# *Desert bluegrass or desert Mitchell grass*

*Bothriochloa ewartiana*



JAM

**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** High.

**Notes:** A stout, tussocky, leafy grass growing to 100 cm tall. Desert bluegrass is drought resistant, nutritious and quickly responds to rain. Stock tend to utilise it more during early growth stages. It is utilised heavily on high fertility areas (e.g. basalt) where cattle graze it early. Utilisation is less on lower fertility soils where cattle graze it later in the season. Its dominance indicates good pasture condition.



TJH

# Indian couch or Indian bluegrass

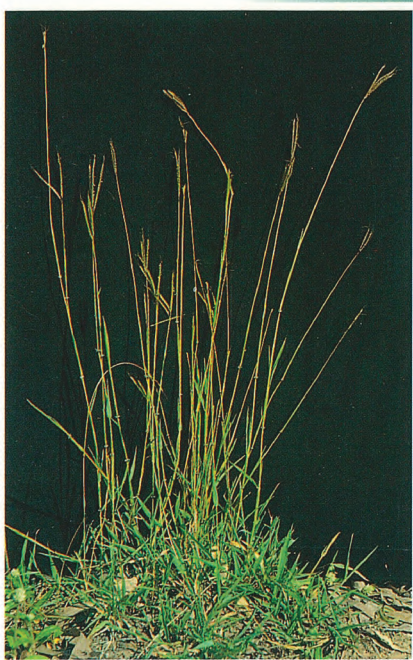
*Bothriochloa pertusa*

**increaser**  
**perennial**  
**palatable**  
**productive**

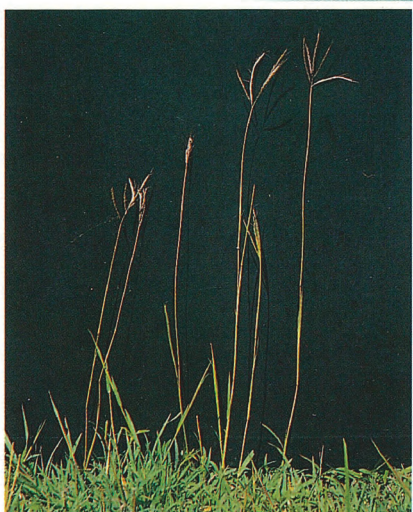
**Forage value:** Moderate.

Unlike many native grasses it is consumed readily when hayed off.

**Notes:** An introduced species, originating in India. It is widely naturalised and grows in a low creeping manner. Under favourable conditions it will grow to 70 cm tall. It spreads by seed and runners, and roots down readily from the nodes. It is tolerant to drought and responds quickly to rain by producing a large amount of seed. The seeds of Indian couch are often purple and pitted. It can also withstand heavy grazing, aiding its survival. An aggressive coloniser, it spreads readily into bare areas where native grasses have been grazed out.



ERA



ERA

# Green summer grass

*Brachiaria miliiformis*



**annual**  
**palatable**  
**productive**

**Forage value:** A very palatable and nutritious grass, it is grazed heavily for the short period in which it appears.

**Notes:** Growing semi-erect it may develop into a large leafy plant 20–40 cm tall, with the ability to root from the nodes. Its seedheads are similar to those of urochloa, although the branches are more widely dispersed and the leaves are not hairy. It tends to prefer lighter sandy soils. In cultivated land, along road sides and at water points, it can become a weed when competition from perennial grass is minimal.





# Buffel grass

*Cenchrus ciliaris*

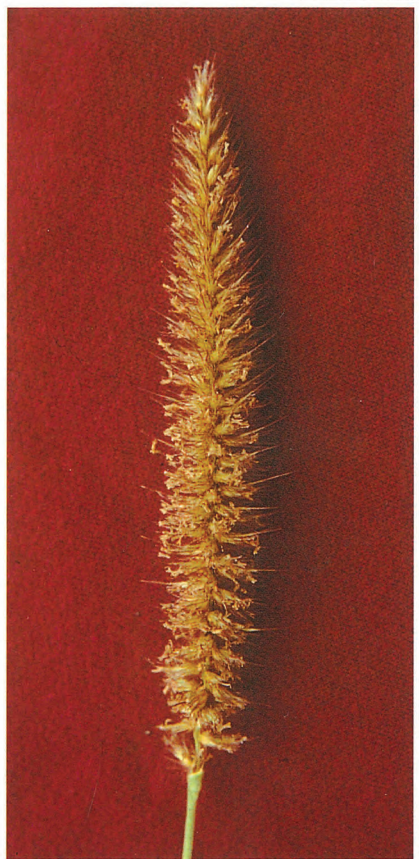
**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** Very good. It is a palatable, nutritious and highly productive grass. Palatability reduces with age.

**Notes:** A tussocky, erect, deeply rooted grass which is native to South Africa. Tall varieties include the blue-leaved Biloela and Nunbank (suited to clay soils). The shorter varieties include the purple-seeded Gayndah and American (suited to lighter soils). Buffel grass will decrease with overgrazing, although regular grazing is used to improve palatability. It is also valued as a soil stabiliser and is used extensively in pasture rehabilitation. If eaten by horses when no other pasture is available it can cause 'big head'.



DIC



HT

# Purpletop rhodes grass

*Chloris inflata*



**increaser**  
**perennial**  
**unproductive**

## **Forage value:**

Moderate forage value and digestibility when young, declining with maturity.

**Notes:** A tussocky, introduced grass 40–90 cm tall, it is a native of Africa but is widely naturalised. It has creeping stems and characteristic purple seedhead. It grows on heavily grazed areas or disturbed soil. It can also grow on saline soils.



# Feathertop rhodes grass

*Chloris virgata*

**increaser**  
**annual**  
**unpalatable**  
**unproductive**

**Forage value:** Low to moderate, palatability is low yet bulk is high, eaten when young.

**Notes:** A loosely tussocked, erect grass 30–90 cm tall and native to Africa. Stock prefer it when young and actively growing or when little else is available. However, it produces a lot of bulk and is an effective soil stabiliser. It can indicate recent soil disturbance. It will also grow on moderately saline soils.



HIL



HIL

# Golden beard grass

*Chrysopogon fallax*



RGS

**increaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** Good during early growth stages. The short green pick is very palatable.

**Notes:** An erect, leafy, tussocky grass 90–120 cm tall, with a deep vigorous root system. Underground stems (rhizomes) make it resistant to drought and heavy grazing. It responds rapidly to summer rain and is early to mature. In much of the north, especially on low-fertility soils, this species has replaced black speargrass (*Heteropogon contortus*) as the dominant pasture plant. Golden beard grass will decline under sustained heavy grazing.



TJH

# Silky oil grass

*Cymbopogon bombycinus*

**increaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** It is readily eaten when young, however it soon turns to stalk and is then rarely eaten.

**Notes:** An erect, tussock forming grass to 100 cm tall, with a distinctly woolly seedhead. It is resistant to drought and gives off a strong citrus-like scent when the leaves around the base are crushed.



ERA



ERA

# Barbwire grass

*Cymbopogon refractus*



TJH

**decreaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Low, as it has little leaf and is only palatable when young.

**Notes:** Grows as an erect tussock 50–150 cm tall. Leaves emit a strong citronella odour, making it unpalatable to stock except when very young, possibly explaining why it does not survive under heavy grazing. It has the ability to grow on sheet-eroded areas. Young seedheads have a distinctive barbed wire arrangement.



TJH

# Green couch

*Cynodon dactylon*

**increaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** Very high, and very palatable to stock.

**Notes:** A creeping grass 10–30 cm tall, which forms a dense mat with stems on the ground that root down at the nodes. It prefers wet areas and when established it is very drought resistant and withstands heavy grazing. It is useful as a soil stabiliser and tolerant to saline areas. Common on heavy soils that have been heavily grazed.



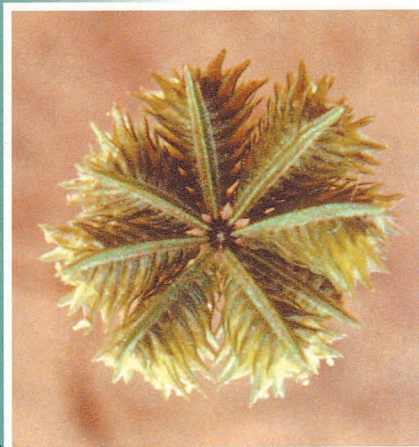
DIC



DIC

# Button grass

*Dactyloctenium radulans*



**increaser**  
**annual**  
**palatable**  
**unproductive**

**Forage value:** Excellent, palatable when green and dry, but is low in bulk.

**Notes:** A semi-erect, open tufted grass growing to 30 cm tall. Although highly regarded, it can cause nitrate poisoning if hungry animals graze it while lush and growing on nitrogen rich soils (e.g. stock yards and cattle camps). It is tolerant of saline soils. Button grass is an annual grass which responds quickly to early summer rain, but then hays off. It prefers open areas and, if dominant, indicates the pasture has been overgrazed. It is common around yards, gateways and water points.



# *Sheda grass*

*Dichanthium annulatum*

***increaser***  
***perennial***  
***unpalatable***  
***unproductive***

***Forage value:*** Low, having a low leaf to stem ratio.

***Notes:*** Sheda grass is an invasive grass which grows to 100 cm in height and prefers wetter areas. It is not highly desirable for stock, having a high amount of stem compared to leaf.



JAM



JAM

# Angleton grass

*Dichanthium aristatum*



**increaser**  
**perennial**  
**palatable**  
**productive**

## **Forage value:**

Moderate to good.

**Notes:** A robust, tufted, semi-erect introduced grass to 100 cm tall, it can spread by runners or seed. It may be distinguished from other *Dichanthium* species by the presence of a band of fine, white hairs immediately below the seedheads. It is tolerant to heavy grazing, waterlogging and is well adapted to heavy soils. It is reported to be tolerant to salt.



# Curly bluegrass

*Dichanthium fecundum*

**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** Excellent, highly palatable and nutritious.

**Notes:** A loosely tufted, leafy grass growing up to 100 cm tall. Stems are slender and often bent or branched at the lower nodes. Leaves are long, narrow and sometimes folded. Occurring widely throughout the region it is often found on areas of better clay loams, alluvial areas and on creek banks and river flats. Curly bluegrass is highly sought after by stock, hence it will rapidly decrease in a heavily grazed pasture. Its presence indicates the pasture is in good condition. Overall an excellent source of fodder.



SR



SR

# Queensland bluegrass

*Dichanthium sericium*



TIH

**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** Excellent, high yielding, nutritious and palatable.

**Notes:** A tall, strong, erect, tussocky grass 40–100 cm tall, which indicates a pasture in good condition that has been grazed conservatively. It makes good hay and quickly shoots after early rain, however it is not very resistant to drought. Queensland bluegrass is highly desirable to stock and can easily be grazed out of the pasture. It grows mainly on heavy, black, cracking clay soils.



JAR

# Cotton panic grass

*Digitaria brownii*

**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** High, a desirable grass which is readily eaten by stock.

**Notes:** A slender, tussock forming grass 15–60 cm tall. As the leaves dry they twist and curl. It is fairly drought tolerant yet needs good summer rain to establish. It indicates a light grazing history and good pasture condition.



JRM



JRM

# Summer grass

*Digitaria ciliaris*

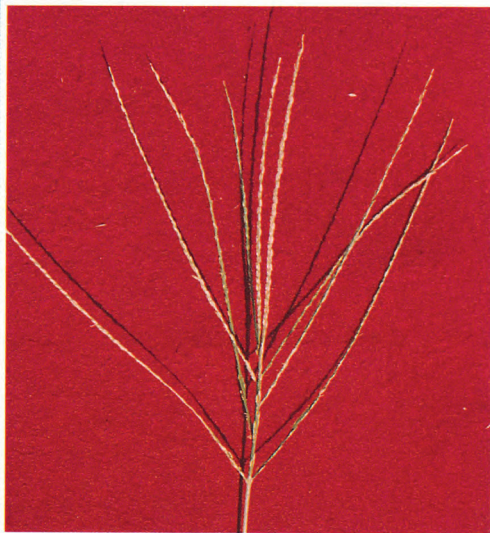


JAM

**increaser**  
**annual**  
**palatable**  
**unproductive**

**Forage value:** Low, as it produces little bulk.

**Notes:** A tufted grass 15–70 cm tall, with stems rooting freely at the nodes. It is eaten by stock, yet due to its nutritive value declining rapidly with drying it is not highly regarded. Seedheads tend to collect against fences during the dry period.



JAM

# *Barnyard grass or swamp grass*

*Echinochloa colona*

**increaser**  
**annual**  
**palatable**  
**unproductive**

**Forage value:** Although palatable, its value is low due to its restriction to wetter areas and its low bulk.

**Notes:** A semi-erect, tussocky grass 15–60 cm tall, with erect stems which root from the lower nodes. It is common on heavy soils, disturbed areas and wet areas such as creeks and melon holes. It is regarded as a troublesome weed in cultivated and irrigated land.



JAM



JAM

# *Bottle-washer grass*

*Enneapogon avenaceus*



**increaser**  
**annual**  
**palatable**  
**unproductive**

## **Forage value:**

Considered useful as it is grazed at all growth stages.

**Notes:** It is a small, upright grass to 30 cm tall with a rather loose, open tussock. Yield is relatively low although during some seasons it may dominate the pasture. It is a hardy grass which regenerates from seed quickly after adequate summer rain. Commonly found on stony, shallow soils.





# Never-fail grass

*Eragrostis setifolia*

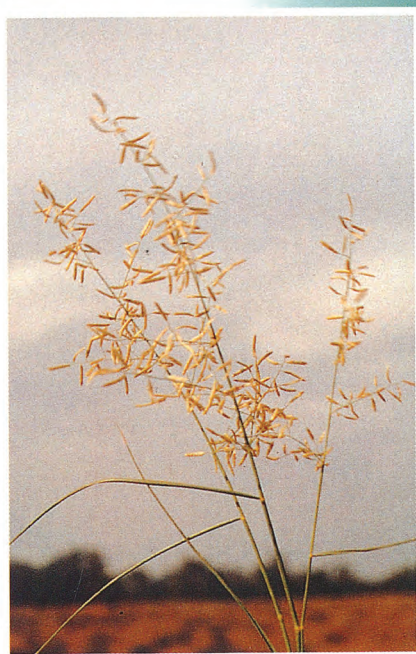
**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** Good due to it being a reliable drought feed of moderate palatability.

**Notes:** A compact, tussocky grass 10–60 cm tall, having spiky leaves which may curl gently at the base, and many wiry stems. Seedheads are pale to purple in colour. It is a very hardy, drought-tolerant grass, resistant to moderate grazing. It becomes unpalatable with age and its presence generally indicates good range condition.



JAM



JAM

# Poverty grass

*Eremochloa bimaclata*



**increaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Poor.

**Notes:** Small, tussock forming grass less than 30 cm in height with leaves mostly at the base. Usually rejected by stock. It grows where many other grasses are unable to establish.

# Three-awned wanderrrie

*Eriachne aristidea*

**increaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Low, sometimes eaten when young. Palatability and value declines rapidly with maturity.

**Notes:** A short-lived, loosely tufted, leafy plant 10–45 cm tall, with open branched seedheads consisting of large, purple, sharp seeds. It is a useful grass for stabilising loose soils.



JAM

# *Buck wanderrie grass*

*Eriachne helmsii*



***perennial***  
***unpalatable***  
***unproductive***

***Forage value:*** Poor.  
Although ignored when mature it is readily grazed when young.

***Notes:*** An erect, loosely tufted grass growing to 80 cm tall, with rough, sharply pointed leaves and loosely branched seedheads which turn white on maturity. It is a hardy grass which indicates a heavily grazed pasture. It grows on the harder areas within a paddock.



# Tall cup grass

*Eriochloa crebra*

**perennial**  
**palatable**  
**productive**

**Forage value:** Good, palatable and nutritious, although rarely dominant in the pasture.

**Notes:** An erectly tufted grass growing 60–100 cm tall, with bluish-green leaves having a prominent white midrib. It is resilient to heavy grazing and considered a useful pasture species. Common on clay soils.



JAM



JAM

# Silky browntop

*Eulalia aurea*



**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** Fair when young, becoming unpalatable with maturity and turning rank at the end of the wet season.

**Notes:** A densely tussocked, erect grass 50–150 cm tall which is most easily recognised by its silky haired reddish brown to dark brown seedhead, comprised of 2 to 4 arms. It has good drought resistance and prefers to grow on wetter sites often in depressions on melon hole country. Its presence indicates the pasture is in good condition.



# Black speargrass

*Heteropogon contortus*

**decreaser**  
**perennial**  
**palatable**  
**productive**

**Forage value:** High when young but declining as it dries off.

**Notes:** A robust, erect, tussocky grass 60–150 cm tall with the leaves turning a reddish colour when mature. Seeds intertwine on ripening to give a tangled, knotted appearance at the top of the grass stems. These sharp seeds cause serious vegetable fault in wool and can penetrate animals' skin and eyes. Black spear benefits from burning. It is preferentially grazed early in the season, and post-fire grazing management is required to ensure it is not damaged by early grazing.



# Giant speargrass

*Heteropogon triticeus*



**decreaser**  
**perennial**  
**palatable**  
**unproductive**

**Forage value:** Very low. It only has a small amount of leaf, although it is readily eaten when young.

**Notes:** A coarse, robust, tufted grass, growing up to 300 cm tall, with thick cane-like stems and leaves mostly at the base. Its presence indicates a very light grazing history. It will disappear under light to heavy grazing. Plant populations in an area are usually low.





# *Blady grass*

*Imperata cylindrica*

**increaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Poor.

Eaten only when very young or after burning, older leaves rarely eaten.

**Notes:** A coarse, erect, tussocky grass to 100 cm tall, having extensive underground stems (rhizomes) which make it difficult to eradicate from cultivated land, hence it easily becomes a weed. Its presence can indicate infertile or run down soils. Commonly found on range country in higher rainfall areas.



# Red Flinders grass

*Iseilema vaginiflorum*

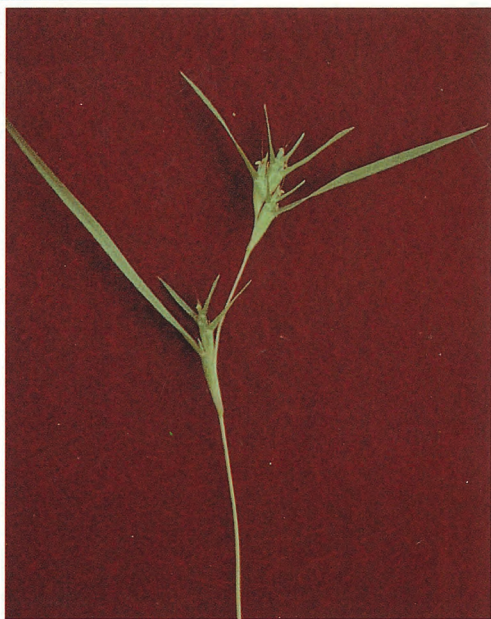


TJH

**annual**  
**palatable**  
**productive**

**Forage value:** Highly palatable when green or dry.

**Notes:** A leafy, tufted grass 20–70 cm tall, with smooth, purple stems which are erect or spread out from the base. Increases during periods of drought and moderate grazing, but decreases under prolonged heavy grazing. A grass of the Mitchell grass downs, clay soils or creek frontages. Overall a very desirable grass. It is also useful for hay.



JAM

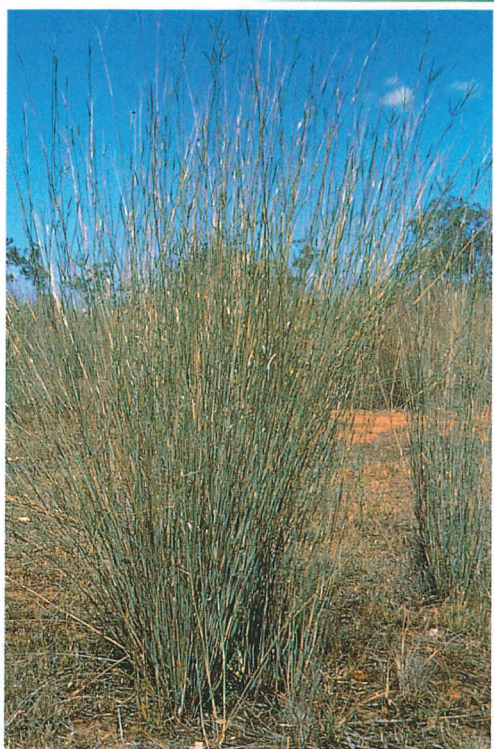
# *Umbrella canegrass*

*Leptochloa digitata*

**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Low, rigid stems reduce palatability, grows relatively little leaf.

**Notes:** A robust, coarse, tussocky grass up to 200 cm tall. Rigid, erect, cane-like stems are covered with a bluish-green powder. It is grazed down when little other fodder is available and is useful as a stabiliser for river banks. Found mainly in creek channels or seasonally flooded areas.



# Red Natal grass

*Melinis repens*



DRH

**increaser**  
**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Low, due to low yield. It is only palatable when actively growing.

**Notes:** A weak, perennial, erect grass 60–90 cm tall, with a weakly developed open tussock, and distinctive reddish-pink seedheads which may turn white on maturity. It increases in disturbed and cultivated areas. It can indicate a substantial loss of topsoil if widespread in the pasture. A native of South Africa.



TJH

# Northern canegrass

*Mnesithea rottboellioides*

**perennial**  
**unpalatable**  
**unproductive**

**Forage value:** Low, due to high quantity of stem and low quantity of leaf material.

**Notes:** Reed-like tall and erect grass 200–300 cm tall, with clumps arising from underground stems (rhizomes). Characteristic of the high rainfall tropical regions. Also commonly found on low lying parts of blacksoil plains in lower rainfall areas. It has some grazing value when the plant is very young.



DC



DC

# *Native millet*

*Panicum decompositum*



***perennial***  
***palatable***  
***productive***

***Forage value:*** Good, produces a large amount of palatable bulk.

***Notes:*** A coarse, erect, tussocky grass 30–100 cm tall, which easily establishes, preferring wetter areas with heavier textured soils (clays). It is fire resistant but does not survive drought. Its palatability varies with soil type and location, thereby making it an increaser in some situations and a decreaser in others. It is a weak perennial that dies in most years.

# *Hairy panic*

*Panicum effusum*

***decreaser***  
***perennial***  
***palatable***  
***productive***

***Forage value:*** Moderate, it is very palatable especially when young and leafy.

***Notes:*** A small, tufted, short-lived grass 20–60 cm tall, with leaves and stems distinctly hairy. It does not stand heavy grazing, yet light grazing will promote profuse seeding and rapid regeneration. It can cause photosensitisation in sheep if large amounts of young growth are consumed 2–6 weeks after rain. Grows on a range of soils and can be more common in good seasons following dry years.



ERA

# *Yabila grass*

*Panicum queenslandicum*



***increaser***  
***perennial***  
***unpalatable***  
***unproductive***

***Forage value:*** Low. Although it produces a fair amount of bulk, it is not readily eaten.

***Notes:*** A dense, tussocky grass 30–100 cm tall and preferring heavy clays. It can withstand a fair amount of stocking and has some drought resistance. Grazing combined with poor seasons favour its increase.



# Comet grass

*Perotis rara*

**increaser**  
**annual**  
**unpalatable**  
**unproductive**

**Forage value:** Low, due to small amount of bulk.

**Notes:** A slender, small, tussock grass 15–30 cm tall with a distinctive arrow-shaped seedhead. Although palatable when young this reduces as seeds mature – when they become hard and sharp, and can penetrate the skin and eyes causing injury. It is a useful coloniser in pasture reclamation and prefers sandy soils. It increases under grazing particularly in dry years.



DRH



JAM

# Fire grass

*Schizachyrium fragile*



JAM

**increaser**  
**annual**  
**palatable**  
**unproductive**

**Forage value:** Little to no value due to low herbage and bulk.

**Notes:** A slender, late maturing, tussocky grass 10–75 cm tall. Stems and nodes are a reddish colour and the thin stems often lie on the ground. Although grazed it is not considered a valuable species. Mainly occurs on low-fertility yellow earths and sandy soils.



JAM

# *Rat's-tail grass or whitegrass*

*Sehima nervosum*

**decreaser**  
**perennial**  
**unpalatable**

**Forage value:** Low, due to low palatability.

**Notes:** An erect, loosely tussocked plant 60–100 cm tall. Leaves are covered with a blue-green coating which rubs off. Although palatability is low, it is grazed as stocking pressure increases. Its presence may indicate the pasture is in good to fair condition. It rarely dominates a pasture.



# Plume sorghum

*Sorghum plumosum*



**decreaser**  
**perennial**  
**palatable**  
**productive**

## **Forage value:**

Moderate, due to high bulk.

**Notes:** A stalky grass with a leafy tussock and robust root system, it can grow up to 300 cm in height. It remains green well into the dry season, and is grazed throughout the year. Palatability and nutritive value decline with maturity. Its presence indicates grazing pressure has been conservative.



# *Katoora or ray grass*

*Sporobolus actinocladus*

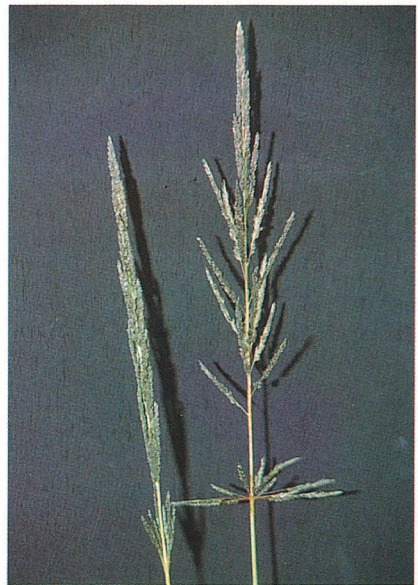
**increaser**  
**perennial**  
**palatable**  
**unproductive**

**Forage value:** Low.  
Although leaves are very palatable, this plant produces little bulk.

**Notes:** A slender, tussocky grass to 50 cm tall with the forage close to the ground. Leaves often curl and twist when dry. It colonises clay pan fringes and scalded areas where water tends to lie. Due to its ability to colonise bare areas, large amounts of this plant on blacksoil areas may indicate the country is in poor condition.



H/1



D/C

# Fairy grass

*Sporobolus australasicus*



**increaser**  
**annual**  
**palatable**  
**unproductive**

**Forage value:** Low, even though very palatable it produces little bulk.

**Notes:** A tussock grass 10–40 cm tall with a dense base, leaves have stiff, short bristles on the edges, seedhead is pyramid shaped and ranges from purple to green in colour. It is palatable even when mature after seeding. It colonises degraded areas and its presence can indicate poor range condition and previous overstocking.

# Fairy or yakka grass

*Sporobolus caroli*

**increaser**  
**perennial**  
**palatable**  
**unproductive**

**Forage value:** Low, although very palatable and nutritious, it is low yielding.

**Notes:** A slender, tussock forming grass 20–75 cm tall, with leaves having short bristly hairs on their edges and which crinkle noticeably on drying. It is tolerant to grazing but dries rapidly on maturing. A useful grass for colonising and reclaiming scalded areas. It becomes prominent in areas which have been overgrazed. Found in wetter areas on most land types.



HILL

# *Tussocky sporobolus*

*Sporobolus diandrus*



***increaser***  
***perennial***  
***unpalatable***  
***unproductive***

***Forage value:*** Low.  
Only eaten when young,  
animals will not eat the  
tough, mature herbage.

***Notes:*** A tussocky grass to  
100 cm tall with a strong,  
wiry root system. When  
present in large amounts it  
indicates a history of heavy  
grazing. It can eventually  
push out the more desirable  
species, causing losses in  
production. Occurs mainly  
in coastal areas where it can  
become a serious weed.







***Forbs,  
legumes  
and other  
species***

# Buffalo clover

*Alysicarpus vaginalis*



SR



SR

**perennial  
legume**

**Forage value:** Limited due to low bulk, although valuable in a mixed pasture due to its high protein content.

**Notes:** A semi-erect to spreading herb. Leaves round, often having a yellow midrib, flowers are pink to purple in colour, seedpods are narrow, oblong and hairy. Reported to be susceptible to nematode attack. It is readily eaten by horses and cattle.



SR

# Sedge

*Cyperus fulvus*

**perennial  
herb**

**Forage value:** Little to no value, sometimes grazed when young.

**Notes:** A grass-like, tufted herb with short underground stems and narrow, grass-like leaves which grow from the base. It grows a cluster of simple flowers at the stem tops, the fruit is a small nut. It grows mostly on moist sites.



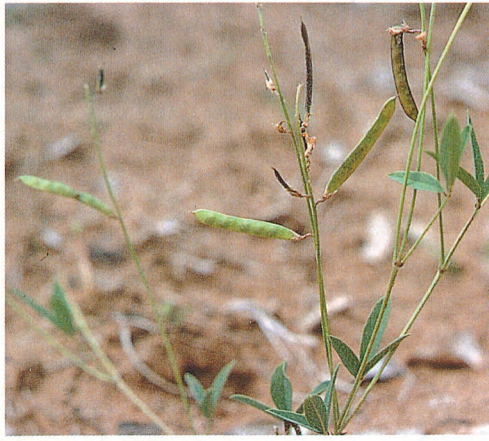
SR



SR

# *Glycine pea*

*Glycine tabacina*



***decreaser***  
***perennial***  
***legume***

***Forage value:*** Good, it is palatable and enthusiastically grazed, with good protein levels.

***Notes:*** Having a creeping, trailing or sometimes twining growth habit, with three leaflets growing on the ends of long stalks. Flowers are a pinkish-purple colour, pods are straight and bean-like.

TJH

# Woolly or rusty glycine

*Glycine tomentella*

**decreaser**  
**perennial**  
**legume**

**Forage value:** Good, high in protein, palatable and nutritious.

**Notes:** This plant has stout stems which climb or lie on the ground; its flowers are purple to mauve or reddish in colour and pods are broad and compressed. The whole plant is covered with rust-coloured hairs. It is reported to have drought and frost resistance, and only tolerates light grazing. Overall a useful species.



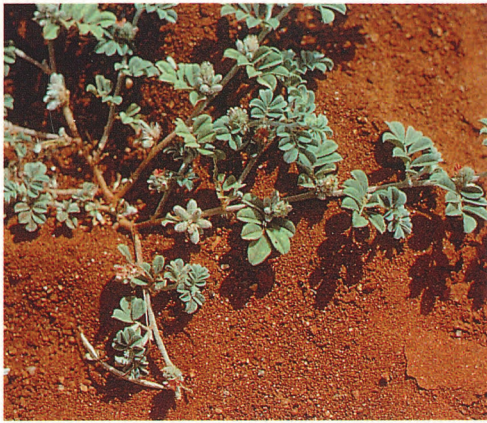
DRH



ERA

# Birdsville indigo

*Indigofera linnaei*



JAM

**increaser**  
**perennial**  
**legume**

**Forage value:** Palatable to sheep and cattle yet toxic to horses.

**Notes:** Growing along the ground (prostrate) with hairy leaves, stems and pods. It has grey-green coloured leaflets and produces pinkish-red pea-like flowers and two-seeded seedpods. It is drought tolerant, and thrives under heavy grazing, becoming prevalent around waters and other disturbed areas. While being very palatable to sheep and cattle, it is toxic to horses (causing Birdsville disease if consumed when little other fodder is available) and becomes more toxic when dry.



# Pigweed

*Portulaca* species

**increaser**  
**annual**

**Forage value:** Although palatable to stock it can cause poisoning.

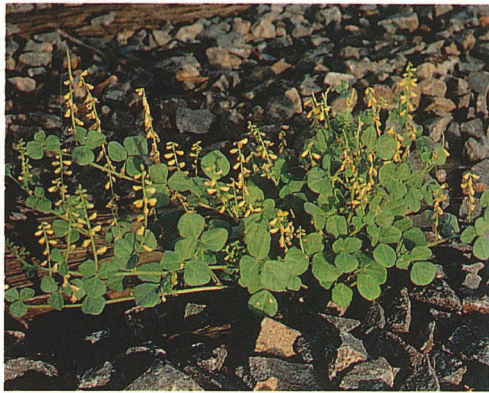
**Notes:** A very fleshy plant growing in a prostrate, sprawling way. One species has thick reddish stems and fleshy leaves, both of which are hairless; the other has green stems. Flowers are yellow and stalkless. Grows mostly in disturbed areas such as stock yards, or overgrazed areas along creek/river flats. Both species are eaten with no effect in a mixed diet. However when eaten by hungry or travelling stock, when little other fodder is available, oxalate and/or nitrate poisoning may occur. Both species contain similar lethal amounts of oxalates and nitrates.



DRH

# *Rhynchosia*

*Rhynchosia minima*



TJH



TJH

## *perennial legume*

**Forage value:** Limited by moderate palatability and low bulk. Palatable when young.

**Notes:** A slender, twining or trailing legume, with velvety squarish to round leaflets. Flowers are standard yellow and pea-like, the pods contain two seeds and are sickle shaped, and the often dotted stems are slightly sticky. Although more salt tolerant than other legumes it is sensitive to flooding. It is widespread and toxicity is not a problem. Seldom abundant, although it will increase as land condition declines.





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