Field Guide

Pasture Grasses & Legumes of SEQ

A support tool for identifying common species in pastures of South East Queensland.

Healthy Land & Water

Contents

Acknowledgements

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Why is pasture identification and monitoring important?

The grasses, forbs and legumes you see in the paddock tell a story about your land condition, its ability to grow useful forage, and the impact of your grazing management.

INDICATOR OF LAND CONDITION

The dominant pasture species are a key indicator of pasture and land condition as their relative abundance will reflect how well the grazing ecosystem is functioning – how effective the plants are at capturing solar energy and responding to rainfall to grow useful forage, helping to cycle nutrients efficiently and protect the soil.

Identifying the proportion of preferred, intermediate and non-preferred pasture species allows you to accurately assess land condition. The abundance of desirable pasture species (native or introduced) indicates good land condition, while an increase in or abundance of less palatable or invasive weeds signals a decline in land condition.

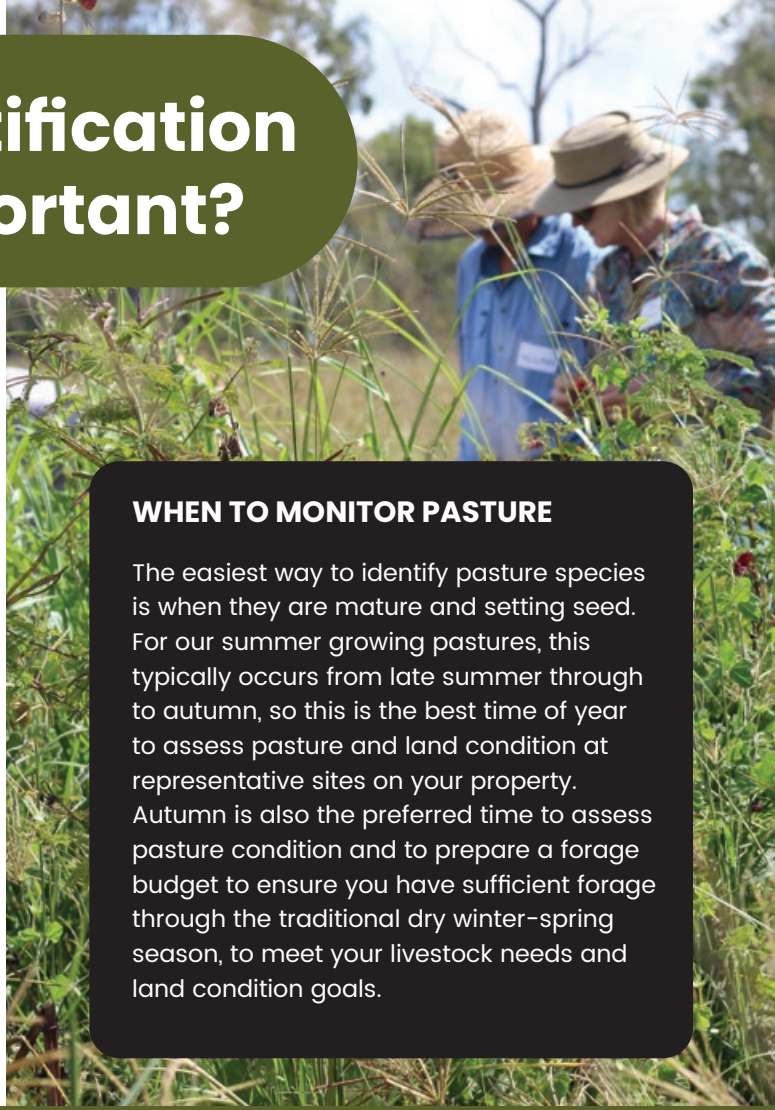
Why is pasture identification and monitoring important?

DETERMINES LONG-TERM CARRYING CAPACITY

Different species have varying palatability, nutritional value and productivity (amount of forage produced). Knowing which species are most abundant in your pasture and your land condition across your mix of land types helps estimate how many livestock your land can support sustainably over the long-term.

REFLECTS LONG-TERM GRAZING MANAGEMENT

Shifts in species composition over time can show whether your grazing management is sustainable. For instance, if palatable species are declining and less desirable ones are taking over, it may be time to adjust stocking rates or rest periods.



WHEN TO MONITOR PASTURE

The easiest way to identify pasture species is when they are mature and setting seed. For our summer growing pastures, this typically occurs from late summer through to autumn, so this is the best time of year to assess pasture and land condition at representative sites on your property. Autumn is also the preferred time to assess pasture condition and to prepare a forage budget to ensure you have sufficient forage through the traditional dry winter-spring season, to meet your livestock needs and land condition goals.

How to use this guide

This ute guide is designed to support land managers in South East Queensland to identify their key pasture species which is essential for pasture monitoring and forage budgeting. It features general notes about each species that are significant in the grazing context as well as useful tips for field identification and distinguishing between similar species.

TOOLS

Take a small hand lens and ruler with you to observe features such as seed pits and small awns. Look for the magnifying glass icon where a lens will be valuable. Where there is a key distinguishing measurement, look for the ruler icon.

MAGNIFYING GLASS

RULER

PASTURE RATING

Found on the top, right-hand corner of the description page. **Preferred**, **Intermediate** and **Non-preferred**. See the Glossary page for the description of these terms. These will usually align with the Land Condition Assessment Tool (LCAT) ratings, but there may be some differences based on observations and experience in South East Queensland.

COLOUR CODING

The pasture species have been colour coded (see below) according to whether they are native or introduced and their pasture rating.

- Native grass – Preferred 3P
- Native grass – Intermediate
- Native grass – Non-preferred
- Introduced grass – Preferred 3P
- Introduced grass – Intermediate
- Introduced grass – Non-preferred
- Native legumes
- Introduced legumes
- Denotes exotic introduced species
- Introduced invasive weed

Glossary

Annual	A plant that completes its entire life cycle in one season or year before dying.
Decreaser	A pasture plant that decreases in abundance due to persistent overgrazing as a result of its palatability to livestock.
Increaser	A pasture plant that increases in abundance due to persistent overgrazing of preferred 3P species (**p**erennial, **p**alatable and **p**roductive).
Intermediate species	A moderately palatable pasture plant. Usually lacks one or more of the 3P characteristics compared to our preferred pasture plants. Typically increases in abundance as the preferred 3P species are grazed out.
Key indicator species	A pasture plant whose presence, abundance or absence on a particular land type is a good indicator of long-term grazing management.
LCAT	Land Condition Assessment Tool. LCAT considers grazing land management and ecological principles to determine the current state of the land by evaluating key indicators of long-term land condition.

Glossary

Non-preferred species	A pasture plant that livestock will generally not eat unless they are very hungry. Sometimes referred to as undesirable.
Palatable	Readily eaten by livestock.
Perennial	A plant that lives for more than two years and continues to grow year after year.
Preferred species	Describes a pasture plant that is preferred by livestock and is **p**erennial, **p**alatable and **p**roductive (3P).
Productive	A plant that produces a high amount of useable forage.
Rhizome	An underground stem that grows horizontally below the soil surface and acts as a storage unit for plants.
Stolon (runner)	An above-ground stem that grows laterally along the soil surface producing roots at the nodes where they touch the soil.
Trifoliate	A compound leaf that is divided into three distinct leaflets. A common feature in many legumes.

Native grasses

Preferred 3P

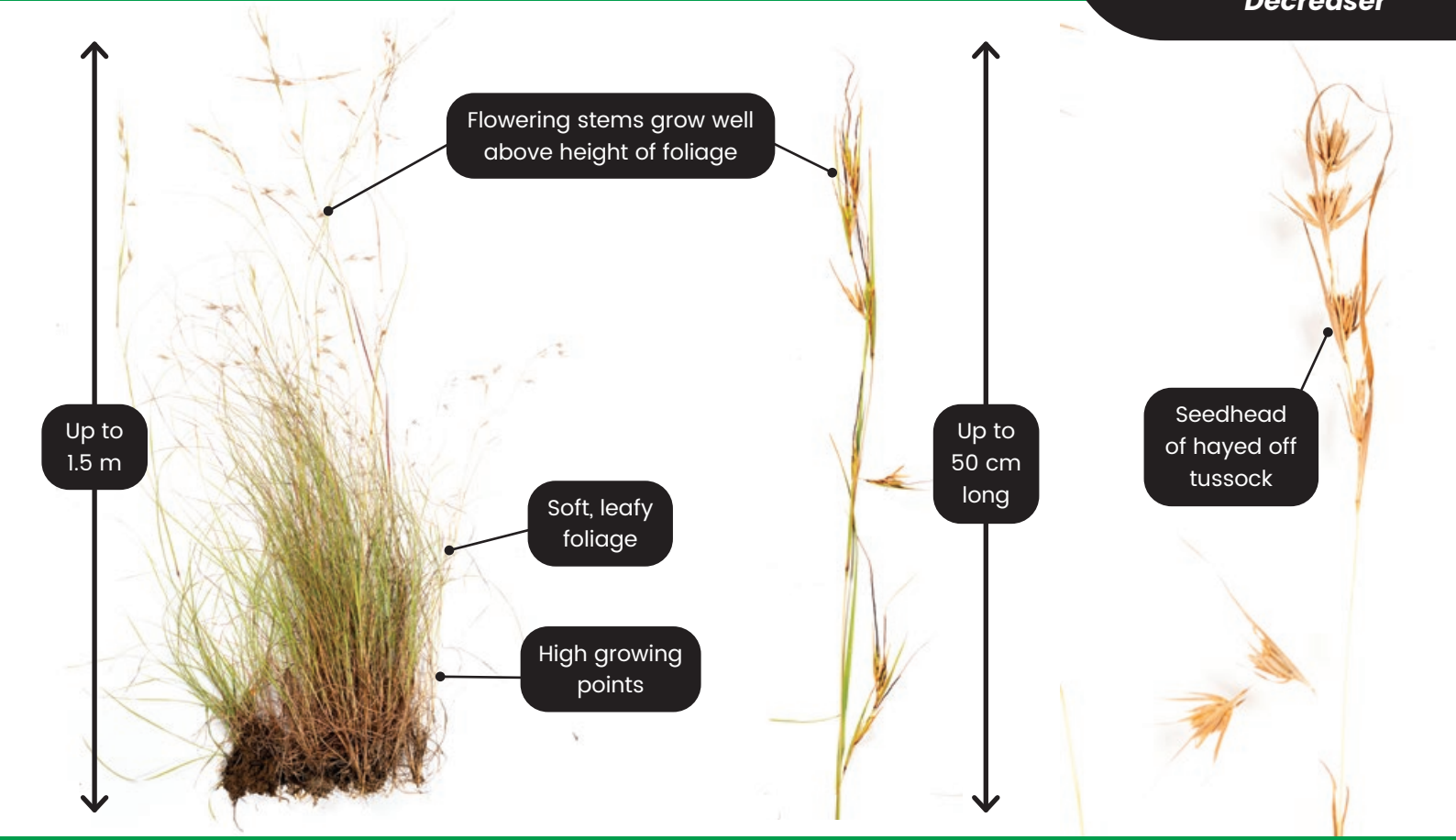
Intermediate

Non-preferred

Kangaroo grass

Themeda triandra

NATIVE GRASS
Preferred
Key indicator species
Decreaser



Kangaroo grass

Themeda triandra

NATIVE GRASS
Preferred
Key indicator species
Decreaser

Kangaroo grass is a highly palatable native, tufted perennial that grows up to 1.5 m tall. It produces soft green leaves during the growing season and distinctive weeping, flowering stems that rise above the tussock. Historically, kangaroo grass was one of the most dominant native pasture species in South East Queensland before grazing livestock were introduced.

SIMILAR SPECIES: Grader grass *(T. quadrivalis*)* is an annual and can be distinguished by the hairy glands on the seeds. It is coarser in appearance and taller (up to 2 m).

KEY INDICATOR SPECIES: Kangaroo grass is arguably our most useful species as an indicator of good grazing management owing to its palatability to livestock and high growing points that make it vulnerable to grazing pressure. Its presence in grazed native pastures, particularly in frontage country, typically indicates good land condition and sound long-term grazing management.

**Denotes exotic introduced species*

KEY IDENTIFYING FEATURES

- Preferred 3P (perennial, palatable and productive).
- Tussock (no runners).
- High growing points.
- Soft, green, leafy foliage during the growing season.
- Seedheads form clusters along the upper portion of a weeping stem.
- Flowering stems usually grow well above the main tussock (up to 50 cm long).
- Grows in a wide range of soil types.

Black speargrass

Heteropogon contortus

NATIVE GRASS
Preferred
Key indicator species
Decreaser

Black speargrass

Heteropogon contortus

NATIVE GRASS
Preferred
Key indicator species
Decreaser

Black speargrass is a palatable, perennial tussock grass usually growing up to 1 m and is commonly found on most land types in native pastures across South East Queensland.

As the name suggests, the seed and awn resemble a spear. The awn is hydrophilic (water loving), twisting when wet, driving the seed into the ground.

Black speargrass is adapted to fire and will likely decrease in abundance if pasture burning is excluded from management, even if stocking rate is well managed.

KEY INDICATOR SPECIES: An abundance of black speargrass in native pastures indicates good land condition, sound long-term grazing management and appropriate use of fire. In native pastures on land types where black speargrass would be expected to be dominant or common, scarcity may indicate a lack of fire or long-term overgrazing.

KEY IDENTIFYING FEATURES

- Preferred 3P (perennial, palatable and productive).
- Tussock, no runners.
- Smooth, strappy leaves that redden with age.
- Spear-like awns on each seed 5-10 cm long.
- Seedhead forms a bunched mat of the long awns as it matures.
- When seeds have gone, some of the husks remain, making it quite easy to identify in the winter months.
- Grows in a wide range of soil types.

Queensland bluegrass

Dichanthium sericeum

NATIVE GRASS
Preferred
Key indicator species
Decreaser

Nodes feature ring of white hairs

Queensland bluegrass

Dichanthium sericeum

NATIVE GRASS
Preferred
Key indicator species
Decreaser

Queensland bluegrass is a very desirable perennial grass that typically grows 30–80 cm and is considered one of our most palatable native grasses. It is more dominant on heavier clay soils in western parts of South East Queensland but may also be found scattered through woodlands in sub-coastal areas.

SIMILAR SPECIES: Pitted bluegrass (in this guide). A distinguishing feature of Queensland bluegrass is the ring of hairs around the node of the stems.

KEY INDICATOR SPECIES: An abundance of Queensland bluegrass in native pastures usually indicates good land condition and sound long-term grazing management.

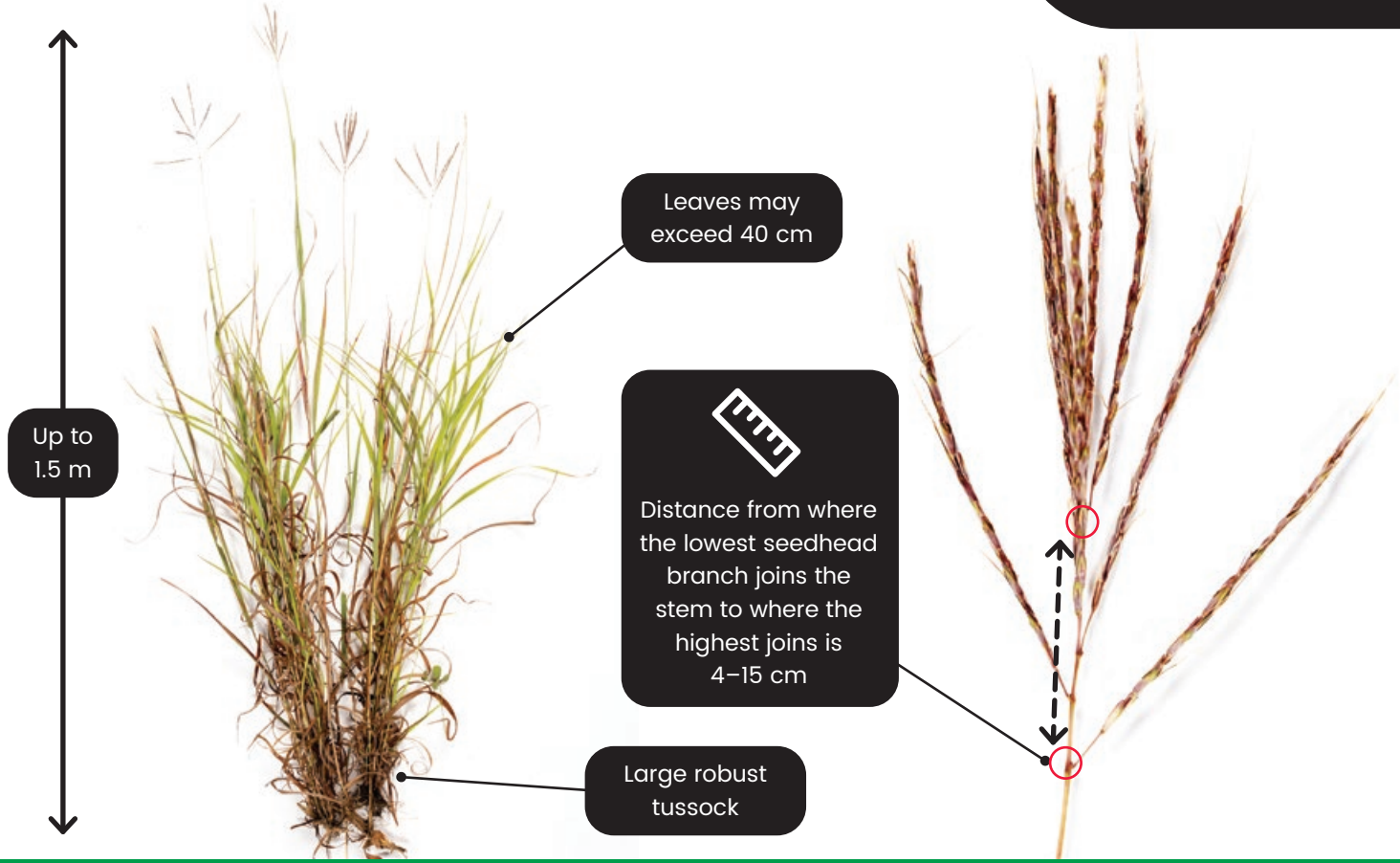
KEY IDENTIFYING FEATURES

- Preferred 3P (perennial, palatable and productive).
- Tussock (no runners).
- Ring of white hairs around the nodes of the stems.
- Fluffy seed head with 2-8 branches.
- When seeds have fallen, a fluffy tip usually remains.
- Prefers heavier soils, particularly basalt-derived clay soils.

Forest bluegrass

Bothriochloa bladhii

NATIVE GRASS
Preferred
Key indicator species
Decreaser



Forest bluegrass

Bothriochloa bladhii

NATIVE GRASS
Preferred
Key indicator species
Decreaser

Forest bluegrass is a desirable native pasture species and is widespread across South East Queensland. It can become dominant on heavy soils. It grows as a tall, robust tussock up to 1.5 m in height with pale green to blueish leaves and a typical *Bothriochloa* seedhead.

SIMILAR SPECIES: Creeping bluegrass and pitted bluegrass (both in this guide). Bluegrasses all typically feature a similar seedhead, however forest bluegrass can be differentiated by the distance of the seedhead branches along the stem, it's a tall and robust tussock, and the presence of leaves longer than 40 cm. Seed pits are **not** a good characteristic for identifying this species.

Scented top (in this guide). Seeds are typically finer than forest bluegrass.

KEY INDICATOR SPECIES: An abundance of forest bluegrass usually indicates good land condition and sound long-term grazing management.

KEY IDENTIFYING FEATURES

- Preferred 3P (perennial, palatable and productive).
- Large, robust tussock (no runners).
- Pale green to blueish leaves that may grow longer than 40 cm.
- Reddish, open and branched seedhead.
- Distance from where the lowest seedhead branch joins the stem to where the highest joins is 4–15 cm.
- Seed pits are **not** a good indicator.
- Grows in a wide range of soil types.

Scented top

Capillipedium spicigerum

NATIVE GRASS
Preferred
Decreaser

Scented top

Capillipedium spicigerum

NATIVE GRASS
Preferred
Decreaser

Scented top is a robust perennial tussock grass that grows up to 1.5 m tall. It is widespread across South East Queensland, particularly in eucalypt woodlands and forest country.

As the name suggests, scented top seeds have a distinctive, aromatic (sometimes described as medicinal) scent when crushed.

SIMILAR SPECIES: Forest bluegrass (in this guide). The seeds of scented top are typically finer.

KEY IDENTIFYING FEATURES

- Preferred 3P (perennial, palatable and productive).
- Tussock (no runners).
- Distinctive open reddish-purple seed head 10–25 cm long.
- When crushed, the seedhead has a distinctive, pleasant scent.
- Usually presents as a tall, robust leafy tussock.
- Grows in a wide range of soil types.

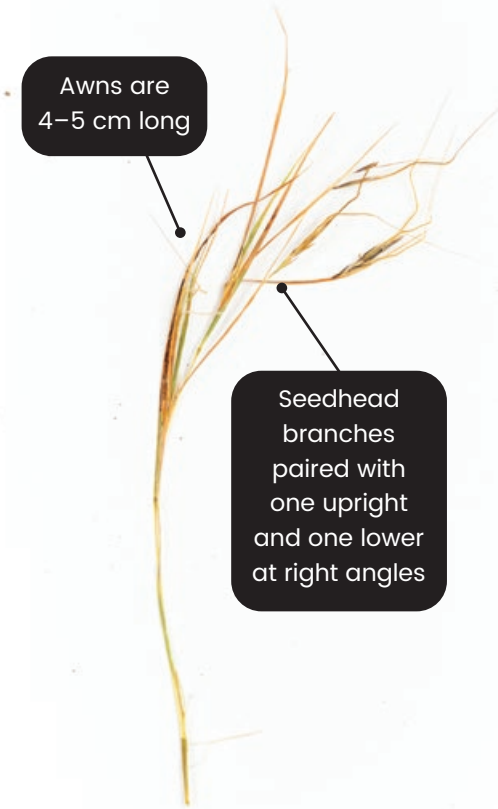
Tambookie grass

Hyparrhenia filipendula

NATIVE GRASS
Preferred
Decreaser

1-1.2 m

Foliage has a yellow-green hue



Awns are 4–5 cm long

Seedhead branches paired with one upright and one lower at right angles

Tambookie grass

Hyparrhenia filipendula

NATIVE GRASS
Preferred
Decreaser

Tambookie grass is a palatable native perennial tussock grass which is widespread in native pastures across South East Queensland and grows up to 1.5 m tall (more commonly 1–1.2 m). In the paddock it can be distinguished by its more yellow-green hue and distinctive *Hyparrhenia* seedhead.

Tambookie is the only *Hyparrhenia* species native to South East Queensland.

SIMILAR SPECIES: Exotic *Hyparrhenia* grasses; coolatai grass* *(H. hirta)* and thatch grass* *(H. rufa)*. These are both increasingly common weeds along roadsides around the western areas of South East Queensland. Coolatai grass has a bigger seedhead with awns 1.5–2.5 cm long, while thatch grass is taller and less leafy than tambookie with awns 1.6–2.2 cm long.

Kangaroo grass (in this guide) which has an elongated seedhead stem that typically grows above the height of the foliage with seedheads forming clusters along the upper portion of a weeping stem.

**Denotes exotic introduced species*

KEY IDENTIFYING FEATURES

- Preferred 3P (perennial, palatable and productive).
- Tussock grass (no runners) up to 1.5 m but typically about 1-1.2 m.
- Smooth leaves, usually with a more yellow-green hue in comparison to surrounding grasses.
- Hairless nodes.
- Seedhead branches are paired, with one upright and one lower at right angles.
- Awns are 4–5 cm long.
- Grows in a wide range of soil types.

Pitted bluegrass

Bothriochloa decipiens

NATIVE GRASS
Intermediate
Key indicator species
Increaser

Pitted bluegrass

Bothriochloa decipiens

NATIVE GRASS
Intermediate
Key indicator species
Increaser

Pitted bluegrass is a perennial native species that is widespread in native pastures across South East Queensland. The tussock grows to a height of between 30 cm–1 m but is usually under 1 m and features curly dry leaves at the base.

This grass gets its name due to the distinctive pit in the seed which can be observed with the naked eye on close inspection or with a hand lens.

SIMILAR SPECIES: Queensland bluegrass (in this guide). It can be distinguished by the pit in the seedhead and the lack of hairs around the node.

KEY INDICATOR SPECIES: Pitted bluegrass is considered an intermediate due to its lower palatability and productivity compared to other grasses. It is a very common increaser under persistent heavy grazing when more palatable species are grazed out, particularly on alluvial soils.

KEY IDENTIFYING FEATURES

- Perennial and moderately palatable.
- Slender tussock with curly dry leaves at the base.
- Dark purple, hairless nodes on stems.
- Young stems have a white waxy coating that you can rub off onto your hands.
- Distance from where the lowest seedhead branch joins the stem to where the highest joins is less than 4 cm.
- Seeds have a pit and the seedhead is more closed or compact than other bluegrasses.
- After seeds have fallen, there is usually a tuft remaining, sometimes with one or two seeds.
- Grows in a wide range of soil types.

Barbed wire grass

Cymbopogon refractus

NATIVE GRASS
Intermediate

Barbed wire grass

Cymbopogon refractus

NATIVE GRASS
Intermediate

Barbed wire grass is a small native tussock grass common in South East Queensland. It is named for its very distinctive elongated seedhead that resembles a strand of barbed wire.

It is palatable to livestock but isn't very productive and rarely becomes dominant in pasture. Seeds have a strong, spicy aroma when crushed.

SIMILAR SPECIES: Sometimes mistaken for kangaroo grass (in this guide), barbed wire grass lacks the distinctive seedhead clusters and abundance of leafy foliage.

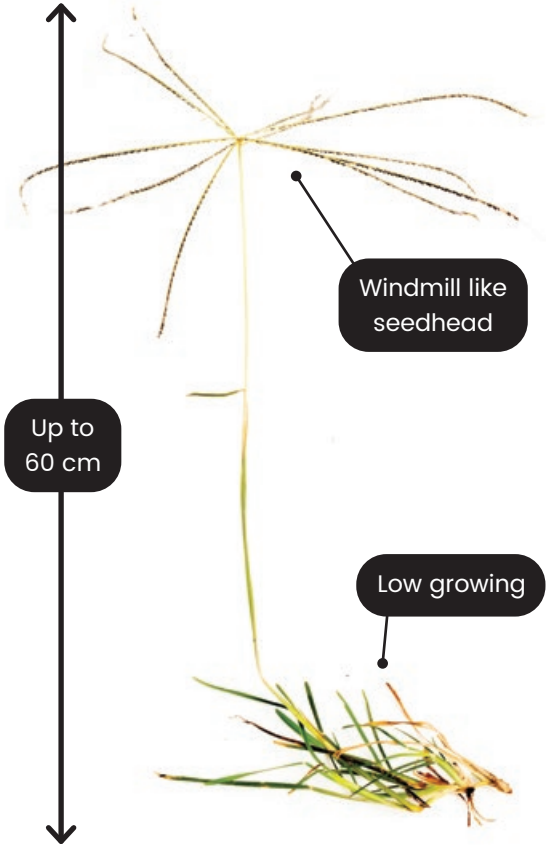
KEY IDENTIFYING FEATURES

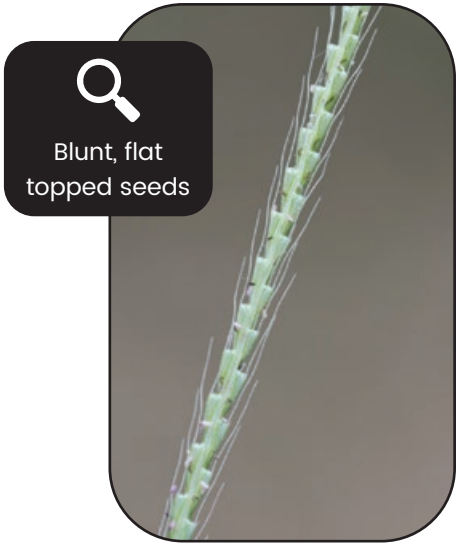
- Perennial, moderately palatable, not very productive.
- Tussock up to 1.5 m (no runners).
- Distinctive elongated seedhead that resembles a strand of barbed wire and extends above foliage.
- Crushed seeds give off a lemony-ginger scent.
- Nodes are purple and hairless.
- Grows in a wide range of soil types.

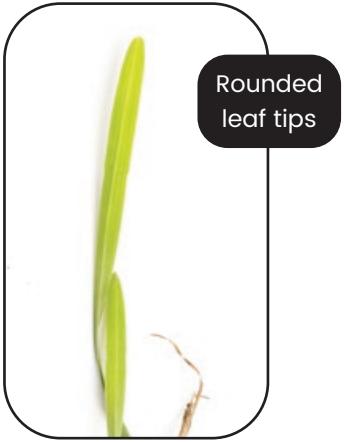
Windmill grass

Chloris truncata

NATIVE GRASS
Non-preferred
Increaser







Windmill grasses	*Chloris truncata*	*Enteropogon ramosus*	*Enteropogon acicularis*
No. of seedhead branches	5–13	3–6	7–20
Length of seedhead branches	5–23 cm	5–10 cm	Up to 20 cm

Windmill grass

Chloris truncata

NATIVE GRASS
Non-preferred
Increaser

***Chloris truncata* is one of several species commonly referred to as 'windmill grass' in South East Queensland. Each species is similar in physical appearance and can be difficult to distinguish.**

SIMILAR SPECIES: Curly and twirly windmill grass (*Enteropogon* spp). To distinguish *Chloris truncata* from the *Enteropogon* spp, look for flat ends on the seed. The number and length of seedhead branches can also be a useful tool for distinguishing between the different species of windmill grasses (refer to the table on the photo page).

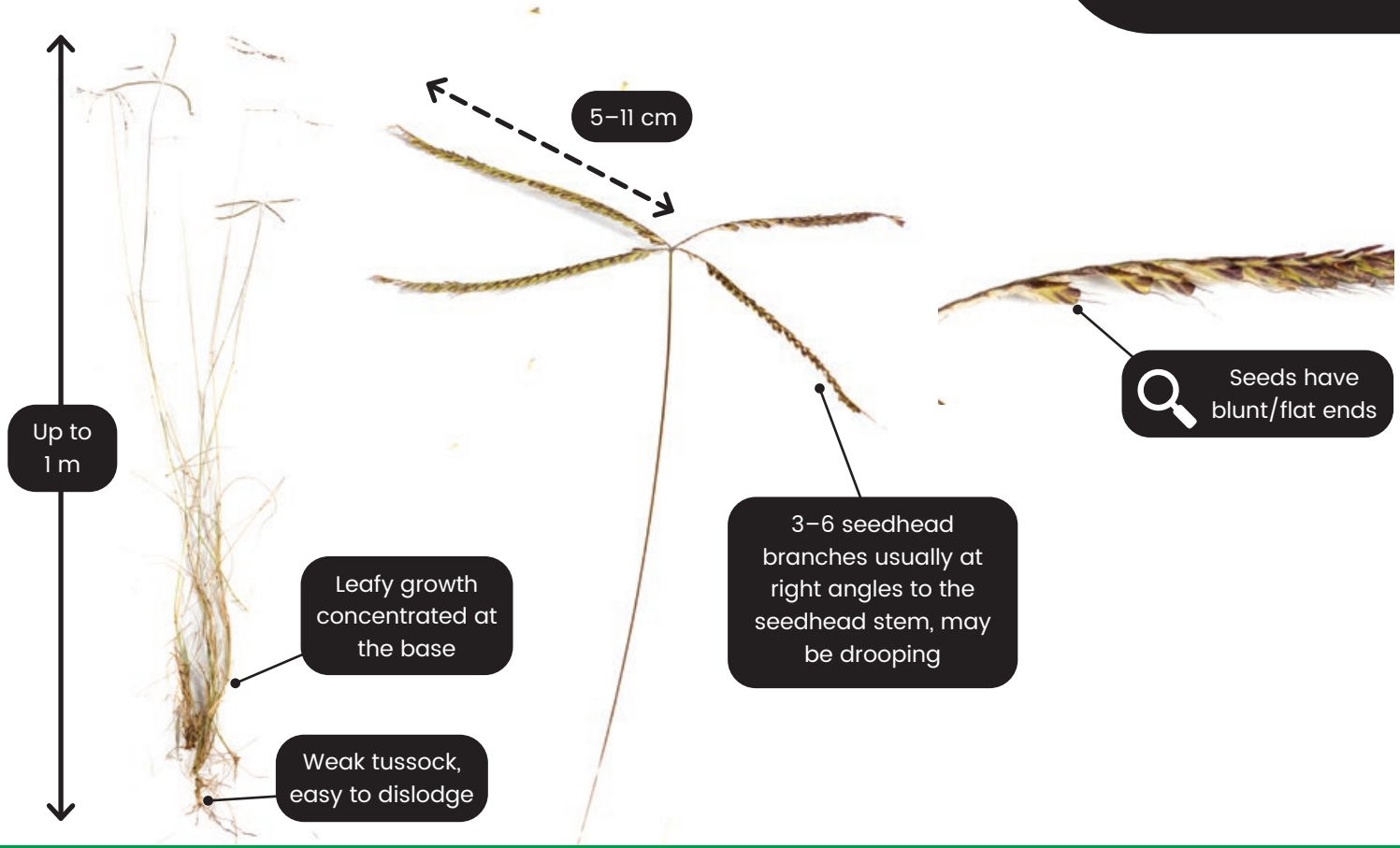
KEY IDENTIFYING FEATURES

- Perennial, moderately palatable, not very productive.
- Distinctive 'windmill' like seedhead with long branches coming out at a central point at the top of the stalk.
- Low growing (<60 cm).
- The number and length of seedhead branches can also be helpful (see table on photo page).
- Blunt or flat-topped seeds.
- Grows in a wide range of soil types.

Tall chloris

Chloris ventricosa

NATIVE GRASS
Non-preferred
Increaser



Tall chloris

Chloris ventricosa

NATIVE GRASS
Non-preferred
Increaser

Tall chloris, as the name suggests, is a slender native perennial tussock that grows taller (up to 1 m) than similar natives such as windmill grasses.

SIMILAR SPECIES: Windmill grasses (in this guide). Tall chloris is taller (windmill grasses are usually under 60 cm).

Rhodes grass (in this guide). Rhodes grass has more seedhead branches (7 to 20 per seedhead stem) and is much leafier.

KEY IDENTIFYING FEATURES

- Perennial, moderately palatable, not very productive.
- Weak tussock, sometimes with runners, that doesn't have a lot of bulk and can be easily dislodged.
- Leafy growth concentrated at the base.
- Tall seedhead with 3–6 branches (5–11 cm) coming off a central point at right angles. Sometimes drooping.
- Seeds have blunt/flat ends.
- Grows in a wide range of soil types.

Native rat's tail grass

Sporobolus elongatus and S. creber

NATIVE GRASS
Non-preferred
Key indicator species
Increaser

Native rat's tail grass

Sporobolus elongatus and S. creber

NATIVE GRASS
Non-preferred
Key indicator species
Increaser

Native rat's tail grass is native perennial tussock that grows up to approximately 1 m in height and is very common in native pastures across South East Queensland. Native rat's tail is easily confused with the exotic rat's tail species (giant rat's tail and Parramatta).

Native rat's tail grass is more palatable than the weedy rat's tail, although certainly still a non-preferred species.

SIMILAR SPECIES: Exotic rat's tail grasses (in this guide). The key difference to look for in the field is in the seedhead branches. The seedhead branches of the native species do not overlap, while the exotic invasive species do.

NOTE: Differentiation between native and weedy rat's tail grasses can be difficult and microscopic examination by a skilled person may be required.

KEY INDICATOR SPECIES: An abundance or dominance of native rat's tail grass, particularly on alluvial soils and in tandem with couch, pitted bluegrass and/or wiregrasses, may be an indicator of persistent overgrazing.

KEY IDENTIFYING FEATURES

- Perennial, moderately palatable, not very productive.
- Tussock (no runners).
- Tussock often appears less robust than the exotic invasive rat's tail grasses.
- Grey-green 'rat's tail' seedhead 20–60 cm long, turns dark brown with age.
- Seedhead branches do not overlap along the stem, unlike the exotic invasive rat's tail grasses.
- Grows in a wide range of soil types.

Wiregrass (white speargrass)

Aristida spp.

NATIVE GRASS
Non-preferred
Key indicator species
Increaser

Wiregrass (white speargrass)

Aristida spp.

NATIVE GRASS
Non-preferred
Key indicator species
Increaser

Wiregrasses are native perennial grasses that form a strong, stemmy tussock. They are a common feature of native pastures. There are many different types with their own distinctive seedhead forms. They all feature a distinctive three-awned seed and stemmy foliage with very little leaf which undoubtedly is how the name 'wiregrass' originated.

SIMILAR SPECIES: Slender bamboo grass (*Stipa verticillata*). While slender bamboo grass also features wiry foliage, it does not have the characteristic wiregrass seed with three awns arranged in a pyramid.

KEY INDICATOR SPECIES: Abundance of wiregrasses generally indicates persistent heavy stocking, particularly in fertile soils. It can also indicate the absence of fire in the landscape as wiregrasses generally increase when fire is removed.

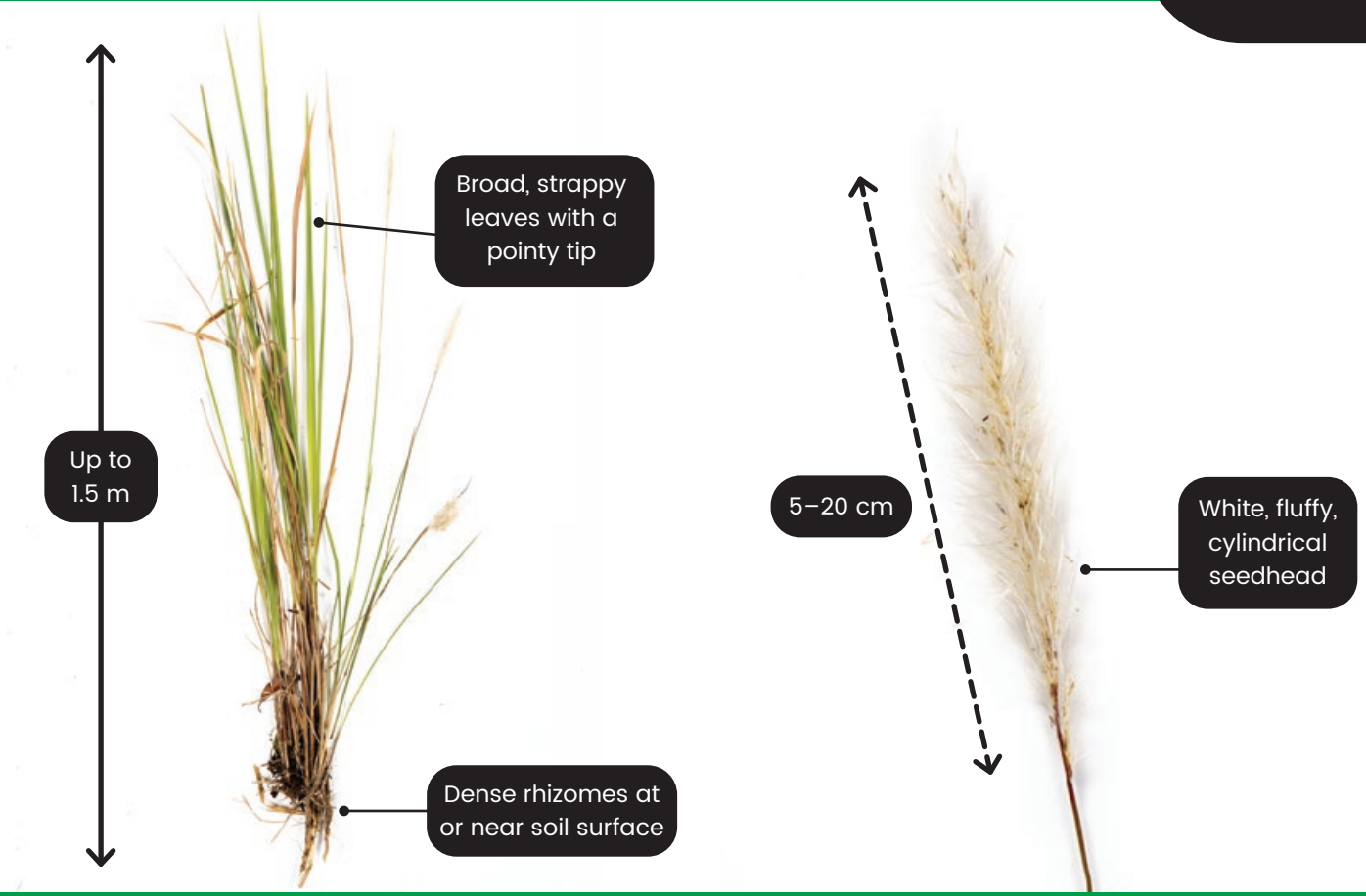
KEY IDENTIFYING FEATURES

- Perennial, not palatable or productive.
- Tussock up to 90 cm (no runners).
- Coarse, stemmy foliage with little observable leaf.
- Distinctive three-awned seed.
- Many types of wiregrasses in the region, so overall seedhead structure is not important. Look for wiry foliage and the three-awned seed.
- Grows in a wide range of soil types.

Blady grass

Imperata cylindrica

NATIVE GRASS
Non-preferred
Increaser



Blady grass

Imperata cylindrica

NATIVE GRASS
Non-preferred
Increaser

Blady grass is very common in native pastures across South East Queensland, growing in a dense sward from clumping rhizomes and reaching a height of up to 1.5 m.

The broad, strappy foliage is sharp and unpalatable once mature, but stock will graze on the new, fresh growth. Blady grass forms thick, impenetrable swards that exclude other, more palatable grasses.

SIMILAR SPECIES: Lomandra (*Lomandra longifolia*). While both have similar thick, strappy foliage, blady grass has distinctive clumping rhizomes that are often exposed on the soil surface. They also have very different seedheads.

While the presence of blady grass can be expected across many land types, abundance or dominance can be indicative of persistent heavy grazing pressure. Dense patches of blady grass can be managed with strategic fire and good long-term grazing management.

KEY IDENTIFYING FEATURES

- Perennial, only palatable when young.
- Thick, very stiff, strappy leaves with a pointy tip. Leaves grow upright from the base.
- Dense network of clumping rhizomes (underground stems) that may be exposed on the surface.
- Distinctive white fluffy seed head 5–20 cm long.
- Grows in a wide range of soil types.

Introduced grasses

Preferred 3P

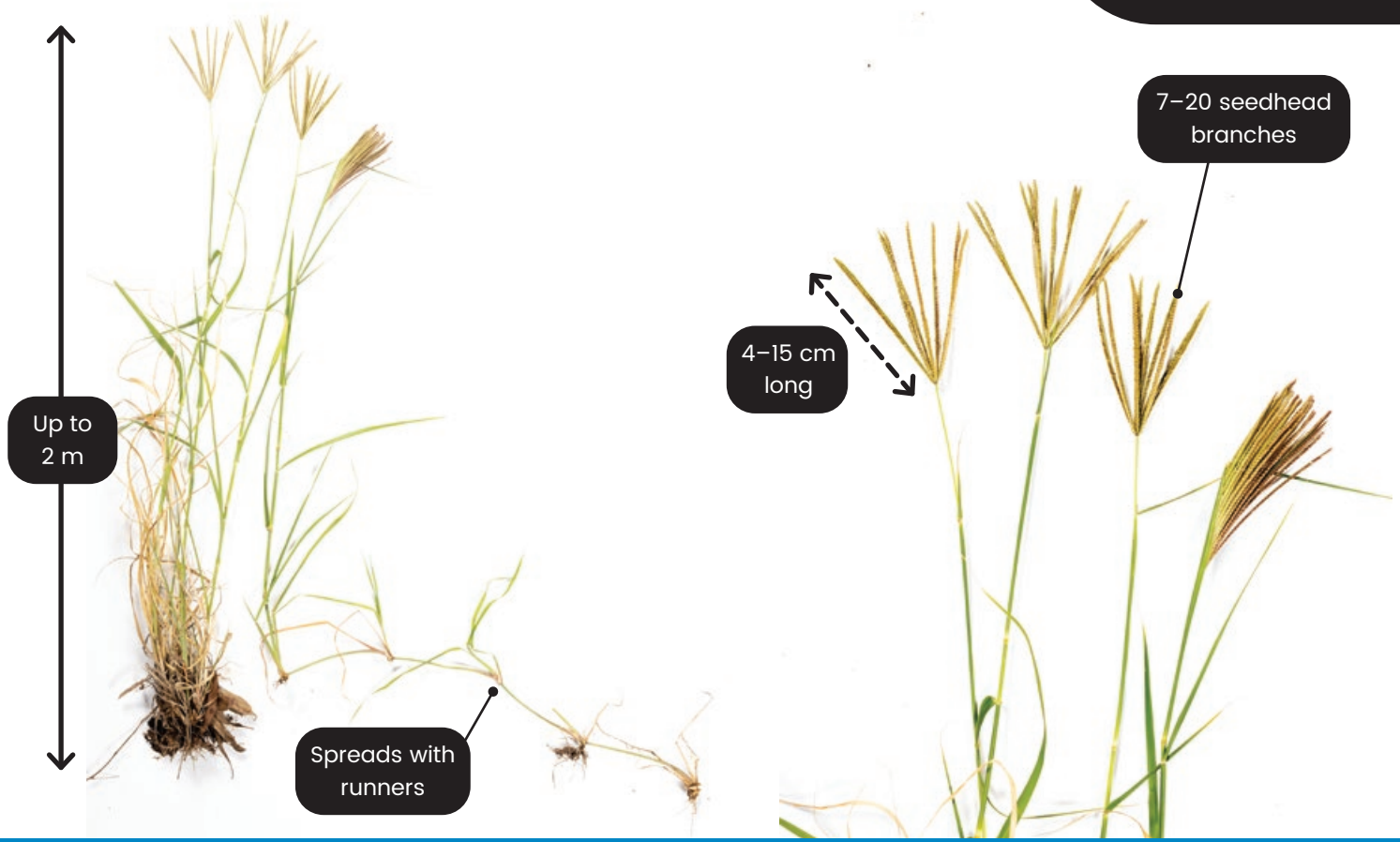
Intermediate

Non-preferred

Rhodes grass

*Chloris gayana**

INTRODUCED GRASS
Preferred



Rhodes grass

*Chloris gayana**

INTRODUCED GRASS
Preferred

Rhodes grass is a tufted grass that spreads with long runners and grows up to 2 m in height. It is a highly palatable, leafy perennial which is widely distributed in South East Queensland and valued for its drought hardiness and tolerance of grazing. It is popular with horse owners because it is very low in oxalates.

Several popular cultivars exist in South East Queensland, each with characteristics suited to different land types and applications.

Sown pasture grasses have been selected for their productivity and palatability. They are recommended for more productive land types and require higher nutrition and careful grazing management to enable them to persist long-term. The three common causes of decline in sown pasture condition are pasture rundown, pasture dieback and poor grazing management. While they have many benefits, sown species tend to form monocultures and may be considered environmental weeds of natural areas.

SIMILAR SPECIES: Feathertop Rhodes (*C.virgata**). Feathertop is a short-lived perennial tussock grass which is typically shorter (<1 m) in height and features a white, fluffy seedhead (hence the name).

**Denotes exotic introduced species*

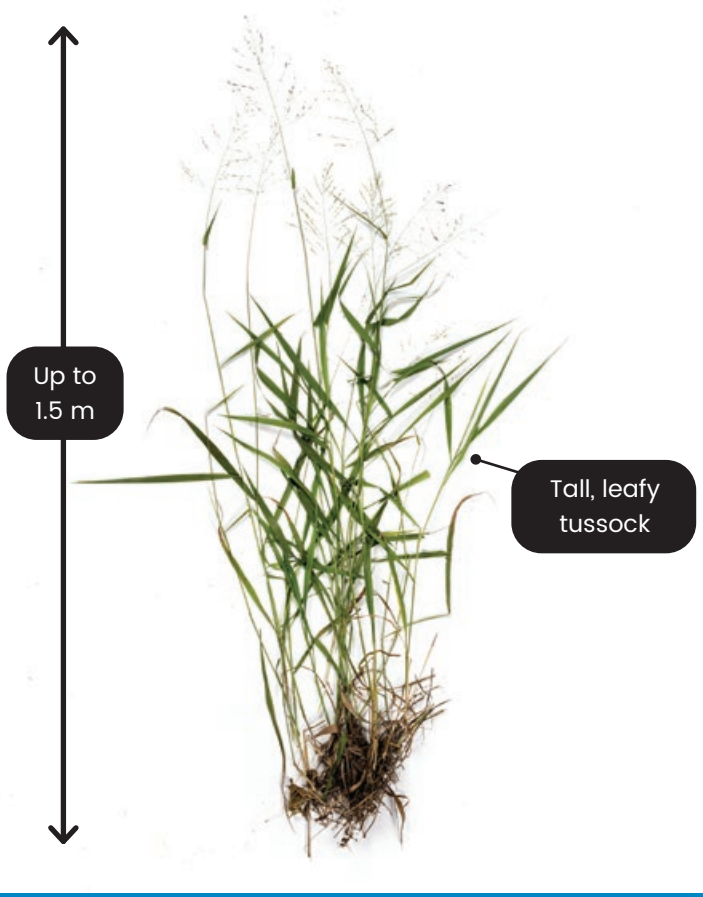
KEY IDENTIFYING FEATURES

- 3P (perennial, palatable and productive).
- Can appear as a tussock with or without runners shooting from the base. Under heavier grazing, it will be more prostrate in growth with runners spreading tightly to the soil surface.
- Smooth leaves.
- Distinctive Rhodes grass seed head looks like a firework with 7–20 branches of the seedhead coming from the top of the seedhead stem.
- Grows in a wide range of soil types but prefers more fertile soils.

Green panic

*Megathyrsus maximum var. trichoglume**

INTRODUCED GRASS
Preferred
High oxalate



Green panic

*Megathyrsus maximum var. trichoglume**

INTRODUCED GRASS

Preferred

High oxalate

Green panic is a leafy, tall tussock grass that is widely renowned for two key attributes; firstly, it is tolerant of shade and secondly, it has the highest leaf to stem ratio of all the sown pasture species locally grown. While it is a valuable forage in a grazed setting, due to its shade tolerance and fuel load, it is considered an environmental weed in and around native vegetation remnants.

It can often be seen growing under the shade lines of trees while other grasses dominate beyond. It grows up to 1.5 m tall in an upright tussock and has a distinctive large panicum seedhead. Panic is sensitive to frost and heavy frosting may cause tussock death.

Sown pasture grasses have been selected for their productivity and palatability. They are recommended for more productive land types and require higher nutrition and careful grazing management to enable them to persist long-term. The three common causes of decline in sown pasture condition are pasture rundown, pasture dieback and poor grazing management.

KEY IDENTIFYING FEATURES

- 3P (perennial, palatable and productive).
- Robust tussock with bright green, leafy foliage (no runners).
- Large panicum seedhead (18–25 cm long).
- Often grows in shade and under trees.
- Prefers fertile soils.

**Denotes exotic introduced species*

Creeping bluegrass

*Bothriochloa insculpta**

INTRODUCED GRASS
Preferred

Creeping bluegrass

*Bothriochloa insculpta**

INTRODUCED GRASS
Preferred

Creeping bluegrass is a productive, creeping perennial that provides valuable forage for livestock and is well established across much of South East Queensland.

Sown pasture grasses have been selected for their productivity and palatability. They are recommended for more productive land types and require higher nutrition and careful grazing management to enable them to persist long-term. The three common causes of decline in sown pasture condition are pasture rundown, pasture dieback and poor grazing management. While they have many benefits, sown species tend to form monocultures and may be considered environmental weeds of natural areas.

SIMILAR SPECIES: Indian couch (in this guide). Indian couch has seeds with only one pit. Creeping bluegrass may have 1-3 pits in the seeds, a reddish hue on the runners and is typically much leafier.

Forest bluegrass (in this guide). Forest bluegrass is a much larger, robust tussock and does not have runners.

KEY IDENTIFYING FEATURES

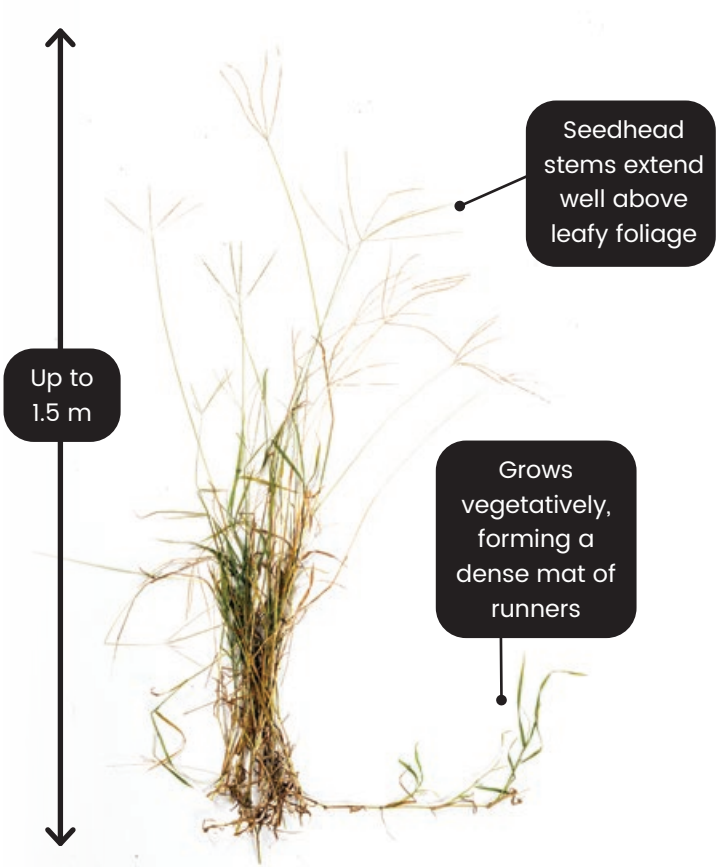
- Preferred 3P (perennial, palatable and productive).
- Creeping, leafy grass up to 1.5 m tall.
- Runners have a reddish hue (Indian couch has white runners).
- Classic *Bothriochloa* seedhead.
- Seeds are pitted and seedheads will often include seeds with 2–3 pits (differentiates this species from other *Bothriochloa* spp).
- Grows in a wide range of soil types.

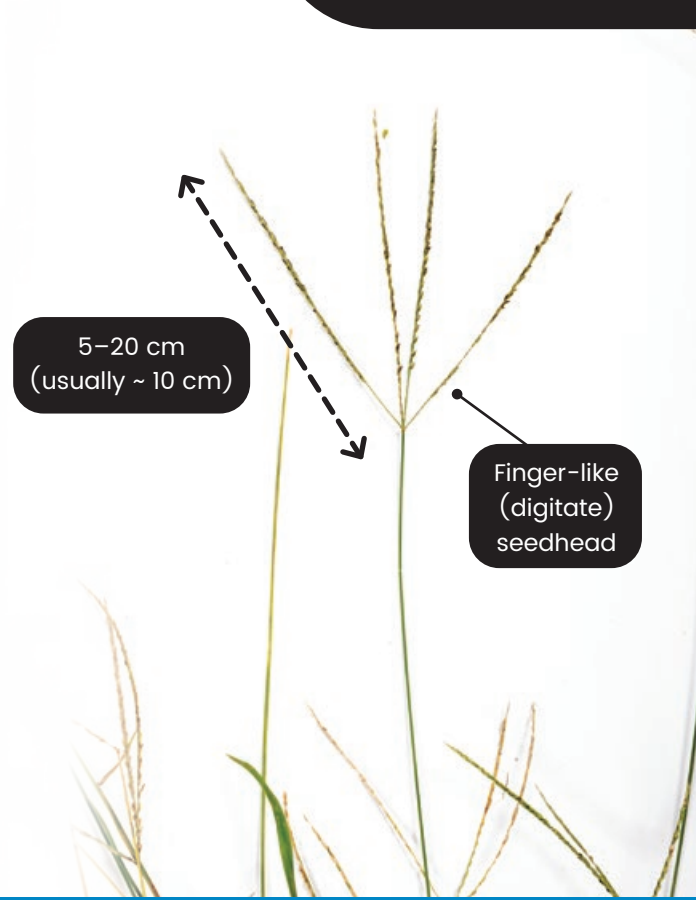
**Denotes exotic introduced species*

Pangola

*Digitaria eriantha**

INTRODUCED GRASS
Preferred





Pangola

*Digitaria eriantha**

INTRODUCED GRASS
Preferred

Pangola grass is a leafy, creeping perennial pasture grass which can be used to make hay and is tolerant of grazing, waterlogging and dry conditions.

A major constraint to its distribution is that it must be established vegetatively as it produces very little viable seed. Nevertheless, it is still common in pastures across South East Queensland, particularly in the more eastern parts where average annual rainfall exceeds 800 mm.

Sown pasture grasses have been selected for their productivity and palatability. They are recommended for more productive land types and require higher nutrition and careful grazing management to enable them to persist long-term. The three common causes of decline in sown pasture condition are pasture rundown, pasture dieback and poor grazing management. While they have many benefits, sown species tend to form monocultures and may be considered environmental weeds of natural areas.

SIMILAR SPECIES: Summer grass (*D.ciliaris*). While these two *Digitaria* species can look similar, summer grass is an annual with little forage value that spreads by seed, while pangola spreads vegetatively as a dense mat of runners.

**Denotes exotic introduced species*

KEY IDENTIFYING FEATURES

- 3P (perennial, palatable and productive).
- Forms a dense mat of runners.
- Soft, smooth green to bluish leafy foliage (up to 1.5 m in height with leaves 10-25 cm long and up to 7 mm wide).
- Finger-like (digitate) seedhead with one or two rings of radiating branches, each about 10 cm long (ranges from 5–20 cm).
- Seedhead stems extend well above foliage.
- Prefers well-drained, medium to light-textured soils.

Kikuyu

*Pennisetum clandestinum**

INTRODUCED GRASS
Preferred
High oxalate

Kikuyu

*Pennisetum clandestinum**

INTRODUCED GRASS

Preferred

High oxalate

Kikuyu is a highly nutritious and palatable 3P pasture grass that thrives in fertile upland soils with higher rainfall (greater than 900 mm annually). It spreads across the soil surface via robust, often fleshy runners, forming a low, dense mat. Kikuyu is a highly competitive species with a long growing season. In moderately to heavily grazed environments, it frequently dominates, forming a monoculture.

Sown pasture grasses have been selected for their productivity and palatability. They are recommended for more productive land types and require higher nutrition and careful grazing management to enable them to persist long-term. The three common causes of decline in sown pasture condition are pasture rundown, pasture dieback and poor grazing management.

Kikuyu contains moderate levels of oxalates which can lead to a condition known as 'big head' (nutritional secondary hyperparathyroidism) in horses.

KEY IDENTIFYING FEATURES

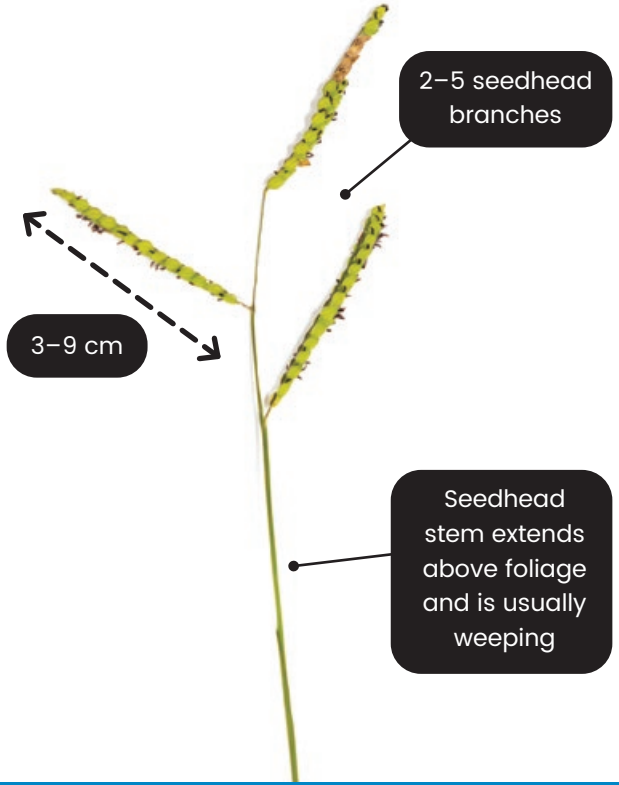
- 3P (perennial, palatable and productive).
- Creeping runners (usually 2–4 mm thick) form a dense mat of leafy growth.
- Gets very thatchy underneath if the sward is higher than about 30 cm.
- Seedheads are uncommon and well hidden (sheathed) and not reliable for identification.
- Prefers fertile upland soils and high rainfall.

**Denotes exotic introduced species*

Paspalum (common)

*Paspalum dilatatum**

INTRODUCED GRASS
Preferred



Paspalum (common)

*Paspalum dilatatum**

INTRODUCED GRASS
Preferred

Paspalum was introduced as a highly nutritious and productive perennial pasture. It grows lush, leafy foliage with minimal stem and a tall seedhead that extends above the foliage. Under moderate to heavy grazing, it tends to grow quite flat. Paspalum prefers moist, alluvial soils and can often be seen growing in drainage lines.

It is susceptible to an Ergot fungus that can cause 'paspalum staggers' in livestock.

Sown pasture grasses have been selected for their productivity and palatability. They are recommended for more productive land types and require higher nutrition and careful grazing management to enable them to persist long-term. The three common causes of decline in sown pasture condition are pasture rundown, pasture dieback and poor grazing management.

SIMILAR SPECIES: Signal grass (in this guide), which is also considered a preferred pasture species but is high in oxalates (important to horse owners). Paspalum can be distinguished by its soft, silky, deep green foliage in comparison to the erect, hairy, lighter green leaves of signal grass.

KEY IDENTIFYING FEATURES

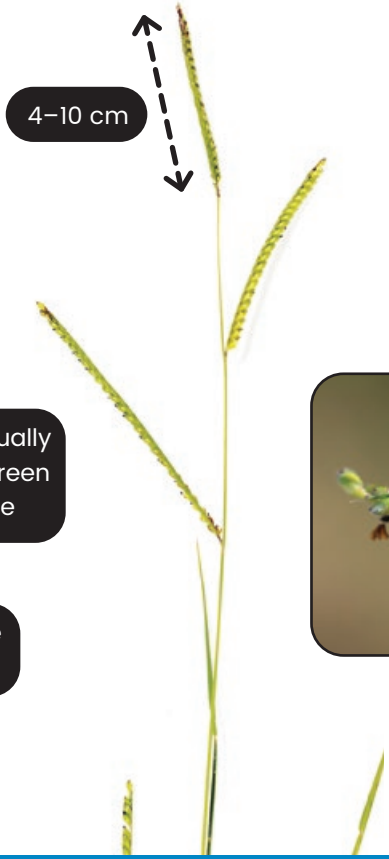
- 3P (perennial, palatable and productive).
- Leaves are usually dark green and silky smooth.
- Clumping growth with foliage up to 1 m.
- Tall, weeping seed head usually extends well above the height of the foliage.
- Seed heads have 2–5 branches that are between 3–9 cm long.
- Prefers fertile, alluvial soils.

**Denotes exotic introduced species*

Signal grass

*Urochloa decumbens** (formerly *Brachiaria decumbens*)

INTRODUCED GRASS
Preferred
High oxalate



Signal grass

*Urochloa decumbens** (formerly *Brachiaria decumbens*)

INTRODUCED GRASS
Preferred
High oxalate

Signal grass is a vigorous, tufted perennial grass with lighter green foliage compared to other grasses. A distinctive feature of this grass is the hairy leaves. Signal grass has spread widely across roadsides and pastures of South East Queensland and is also a common inclusion in sown pasture mixes.

While signal grass is considered a preferred 3P pasture species for livestock, it contains moderate levels of oxalates which can lead to a condition known as 'big head' (nutritional secondary hyperparathyroidism). It is often reported to be avoided by horses.

Sown pasture grasses have been selected for their productivity and palatability. They are recommended for more productive land types and require higher nutrition and careful grazing management to enable them to persist long-term. The three common causes of decline in sown pasture condition are pasture rundown, pasture dieback and poor grazing management.

SIMILAR SPECIES: Common paspalum (in this guide). Key differences include the deep green colour and silkiness of paspalum leaves. Signal grass leaves are typically lighter green, more erect and hairier. The seedhead stalks of common paspalum usually extend well above the foliage.

**Denotes exotic introduced species*

KEY IDENTIFYING FEATURES

- 3P (perennial, palatable and productive).
- Erect tussock up to 1.5 m tall (no runners).
- Leaves are hairy and often lighter green than surrounding grasses.
- Seedhead on an erect stem with two or more seed branches coming off at right angles.
- Grows in a wide range of soil types.

Setaria

*Setaria sphacelata**

INTRODUCED GRASS
Preferred
High oxalate

Setaria

*Setaria sphacelata**

INTRODUCED GRASS

Preferred

High oxalate

Setaria is a tall, vigorous and robust tussock grass (up to 2 m) with a distinctive cylindrical seedhead. While it is considered a 3P pasture species, it can get very stalky and requires planned strategic grazing management to optimise its productivity and palatability. It is often dominant in pastures of coastal regions of South East Queensland.

Sown pasture grasses have been selected for their productivity and palatability. They are recommended for more productive land types and require higher nutrition and careful grazing management to enable them to persist long-term. The three common causes of decline in sown pasture condition are pasture rundown, pasture dieback and poor grazing management. While they have many benefits, sown species tend to form monocultures and may be considered environmental weeds of natural areas.

Setaria is much maligned by horse owners as it is very high in oxalates, which can lead to a condition known as 'big head' (nutritional secondary hyperparathyroidism) in horses.

KEY IDENTIFYING FEATURES

- 3P (perennial, palatable and productive).
- Tall robust tussock up to 2 m (no runners).
- Wide (>1 cm), strappy leaves on upright stems.
- Cylindrical seedhead (6–25 cm long).
- Grows in a wide range of soil types.

**Denotes exotic introduced species*

Angleton grass

*Dichanthium aristatum**

INTRODUCED GRASS
Preferred

Seedhead branches retain some husk after seeds have dropped

Angleton grass

*Dichanthium aristatum**

INTRODUCED GRASS
Preferred

Angleton grass is a leafy, perennial tussock that usually grows up to 1.8 m tall (in grazed settings) and prefers heavier soils. It is now well established and becoming dominant across some south-western areas of South East Queensland, including Rosewood and Boonah.

Angleton grass is a very hardy species known to be tolerant of heavy grazing, salinity, waterlogging and low nitrogen availability.

While Angleton grass is generally accepted as a 3P preferred pasture species, its grazing value varies with variety and ecotype. Many graziers in South East Queensland report that it forms dense monocultures, outcompeting more desirable species such as Rhodes grass.

Sown pasture grasses have been selected for their productivity and palatability. They are recommended for more productive land types and require higher nutrition and careful grazing management to enable them to persist long-term. The three common causes of decline in sown pasture condition are pasture rundown, pasture dieback and poor grazing management. While they have many benefits, sown species tend to form monocultures and may be considered environmental weeds of natural areas.

SIMILAR SPECIES: Bluegrasses (in this guide - see forest bluegrass, Queensland bluegrass, pitted bluegrass and creeping bluegrass). Leafy foliage of angleton grass tends to curl as it hays off.

**Denotes exotic introduced species*

KEY IDENTIFYING FEATURES

- 3P (perennial, palatable and productive).
- Tussock, no runners.
- Leaves tend to curl as they hay off.
- Seedheads have 1–6 branches and are 2–6 cm long and the base of each seedhead branch has short velvety hairs.
- Seeds have a single awn up to 25 mm long.
- When seeds drop, the seedhead branches retain some husk.
- Can sometimes get very tall (close to 2 m) and stemmy in ungrazed settings or along fence lines.
- Prefers heavier soils including self-mulching clays.

Green couch

*Cynodon dactylon**

INTRODUCED GRASS
Intermediate
Key indicator species
Increaser

Green couch

*Cynodon dactylon**

INTRODUCED GRASS
Intermediate
Key indicator species
Increaser

Green couch is a low-growing, strongly stoloniferous (spreads by runners), perennial that is widespread across South East Queensland in pastures, roadsides and lawns. While moderately drought-tolerant, the palatable foliage is a fair-weather friend, quickly browning off under dry conditions or frost.

SIMILAR SPECIES: Blue couch (*Digitaria didactyla*) has a more bluish-green leaf and has only 2 to 3 seedhead branches.

Native couch (*Brachyachne* spp.) is an annual and the seedhead branch curls at the end when it matures.

Indian couch (*Bothriochloa pertusa*) (in this guide) has 3 to 13 seedhead branches from multiple points along the seedhead stem.

KEY INDICATOR SPECIES: A pasture dominated by couch grass, particularly when observed with other intermediate species such as pitted bluegrass and native rat's tail, may indicate persistent overgrazing.

*Denotes exotic introduced species

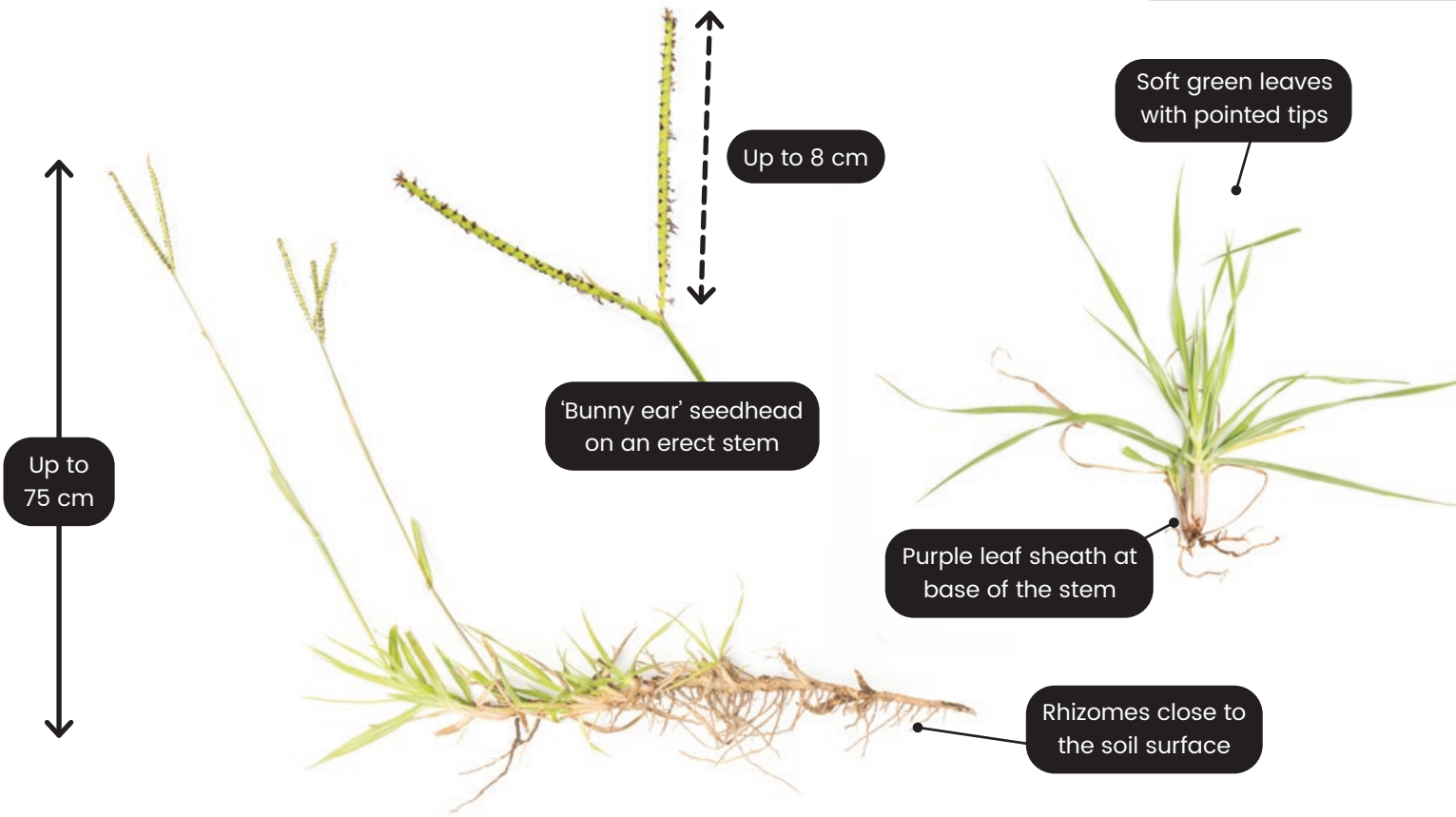
KEY IDENTIFYING FEATURES

- Perennial and palatable, but not very productive.
- Low growing (up to 40 cm tall) with creeping runners.
- Leaf blades range from 2–15 cm long and 1–1.5 mm wide. Under favourable conditions, it can appear quite lush and leafy.
- Seedhead usually has four branches 3–5 cm long, coming from a single point at the top of the seedhead stem.
- Seeds are small and hairless and may have pollen sacks hanging from them.
- Grows in a wide range of soils.

Bahia grass

*Paspalum notatum**

INTRODUCED GRASS
Intermediate
Increaser



Bahia grass

*Paspalum notatum**

INTRODUCED GRASS
Intermediate
Increaser

Bahia grass is a low growing, mat-forming perennial grass. It was introduced due to its soil stabilisation qualities and is also tolerant of heavy grazing, some shade and low fertility.

While bahia grass can tolerate tough conditions, it does not provide much in the way of winter forage as the green, leafy growth in the growing season quickly declines in palatability when it frosts or hays off.

Although it tolerates low fertility, bahia grass prefers fertile, alluvial soils and may become dominant in this setting, outcompeting more productive grasses such as Rhodes grass. Graziers are likely to consider it a weed.

SIMILAR SPECIES: Common paspalum (in this guide). The distinguishing feature of bahia grass is its characteristic 'bunny ears' seed head.

KEY IDENTIFYING FEATURES

- Perennial and palatable (when green) but not very productive.
- Soft green leaves up to 30 cm long and 4–8 mm wide.
- Clumping growth habit with foliage up to 75 cm tall.
- When grazed down, the creeping underground stems may be visible.
- Leaf sheaths have a distinctive purple colour (where the leaf stems meet the rhizomes).
- Characteristic 'bunny ears' seedhead arrangement with 2–3 seedhead branches on an erect stem.
- Grows in a wide range of soil types but prefers fertile alluvial soils.

*Denotes exotic introduced species

Red natal grass

*Melinis repens**

INTRODUCED GRASS
Intermediate

Red natal grass

*Melinis repens**

INTRODUCED GRASS
Intermediate

Red natal grass is a naturalised species that is widespread along roadsides and in pastures across South East Queensland. It features a distinctive woolly seedhead that fades with maturity from a deep reddish colour to a pale pinkish white. Red natal is highly palatable but effectively acts as an annual or semi-perennial.

The abundant, fluffy seedheads can create the illusion of dominance, but this may not reflect their actual contribution to forage biomass. When visually estimating pasture composition, be sure to take a closer look.

SIMILAR SPECIES: Molasses grass (*M.minutiflora**). Also highly palatable and featuring a very similar seedhead, molasses grass is a much more robust grass with leaves that are covered in soft, sticky hairs.

KEY IDENTIFYING FEATURES

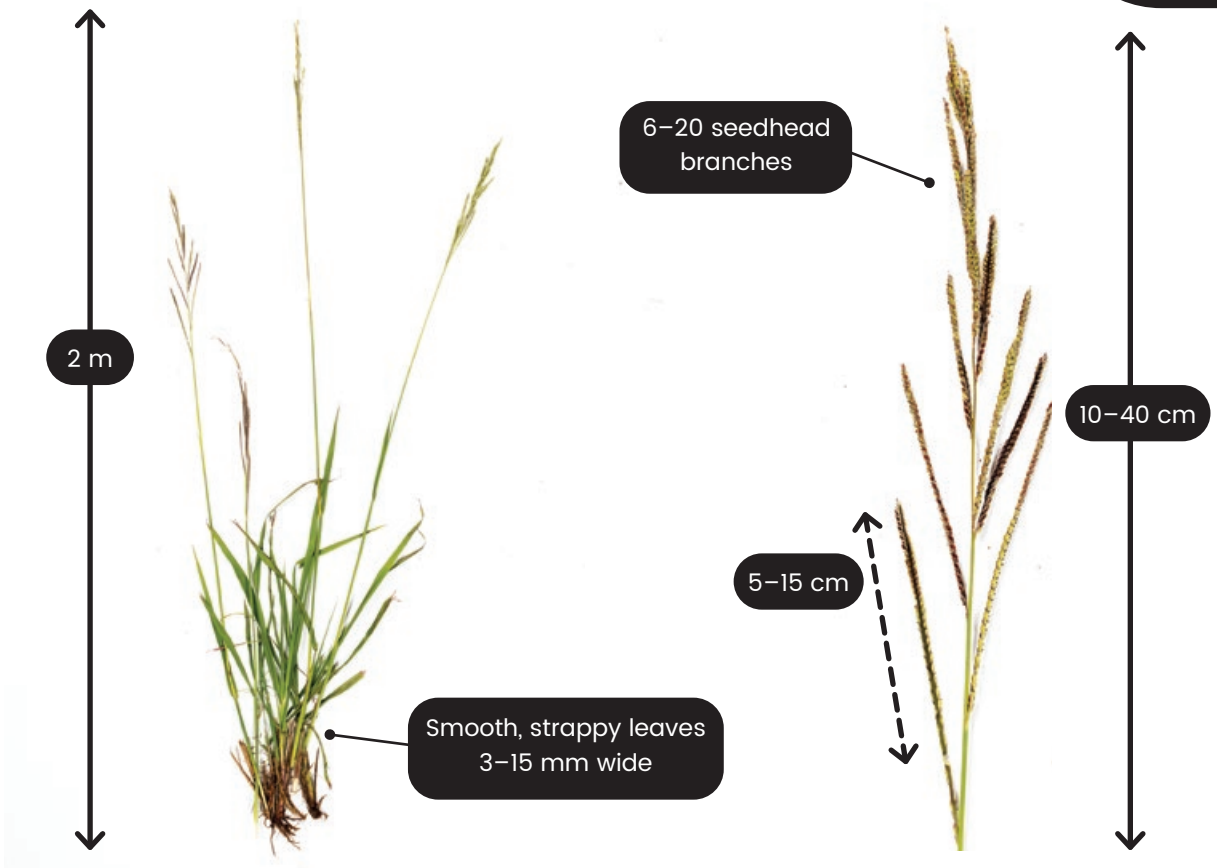
- Weakly perennial, palatable but not productive.
- Tussock grass up to 1.2 m tall with a shallow root system making it easy to dislodge.
- Distinctive fluffy seedhead (10–25 cm long) with a deep reddish colour that fades to a pale pinkish white over the season.
- Seedhead branches maintain shape after seeds drop.
- Grows in a wide range of soil types.

*Denotes exotic introduced species

Tall paspalum (vasey grass)

*Paspalum urvillae**

INTRODUCED GRASS
Intermediate



Tall paspalum (vasey grass)

*Paspalum urvillae**

INTRODUCED GRASS
Intermediate

Also referred to as vasey grass, tall paspalum is a perennial tussock grass usually found in higher rainfall and coastal areas of South East Queensland that, as its name suggests, grows very high (can exceed 2 m tall). Foliage is palatable and nutritious when young but declines rapidly at maturity, becoming stemmy and unpalatable. It tends to flower early so its grazing value is somewhat limited.

SIMILAR SPECIES: Broadleaf paspalum (*P. mandiocanum**) which is also common in higher rainfall and coastal areas however, the seedhead is more similar to common paspalum (in this guide), it is also lower growing (less than 1 m tall) and typically grows in shaded and semi-shaded conditions.

KEY IDENTIFYING FEATURES

- Perennial but has limited palatability.
- Tall, robust tussock grass up to 2 m tall (no runners).
- Big, smooth, strappy leaves up to 50 cm long and 3–15 mm wide.
- Distinctive seedheads 10–40 cm long with 6–20 branches, form on thick tall stems that extend above the foliage.
- Prefers more fertile soils in higher rainfall areas.

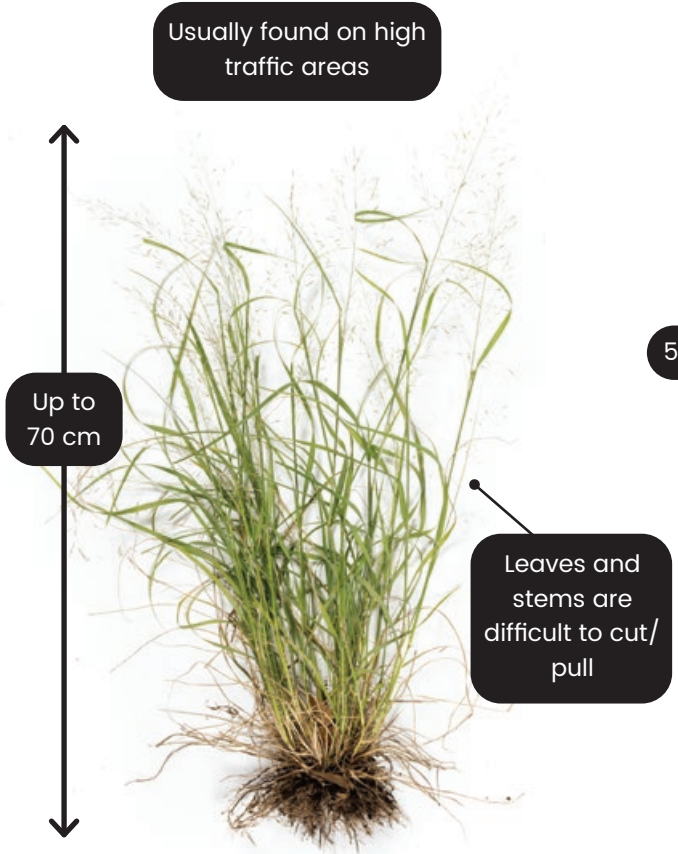
*Denotes exotic introduced species

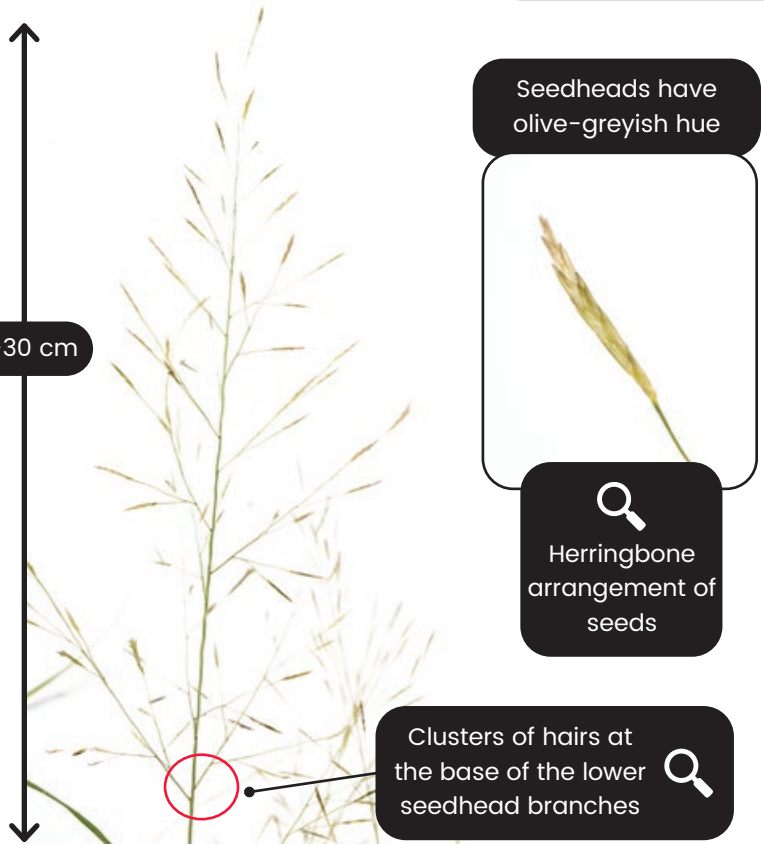
Elastic grass

*Eragrostis tenuifolia**

INTRODUCED GRASS
Non-preferred

Usually found on high traffic areas





Elastic grass

*Eragrostis tenuifolia**

INTRODUCED GRASS
Non-preferred

Elastic grass is a short (up to 70 cm tall), tufted lovegrass that is widespread in South East Queensland and commonly found along driveways and other high-traffic areas.

It gets its name from its tough, stringy foliage which shreds when cut. This characteristic is a good indicator of its lower palatability.

SIMILAR SPECIES: African lovegrass (in this guide). African lovegrass seedheads have a purplish hue (changes to green or straw colour with maturity). Elastic grass has clusters of hairs at the base of the lower seedhead branches, whereas African lovegrass does not.

KEY IDENTIFYING FEATURES

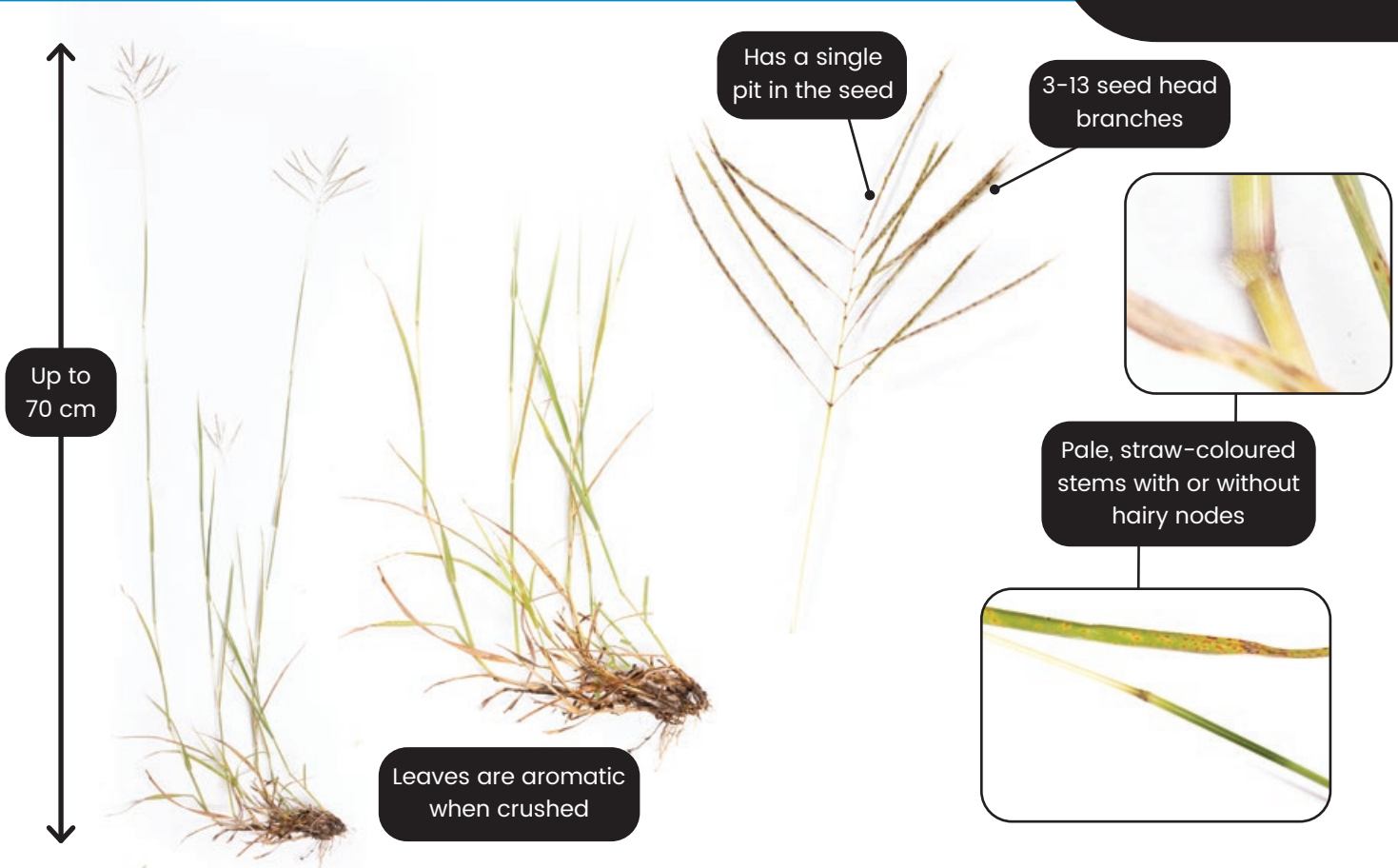
- Short-lived perennial, moderately palatable.
- Short, tufted perennial grass up to 70 cm tall.
- Long, smooth, narrow leaves (up to 3 mm) that are difficult to cut/pull and have a shredded appearance when mown.
- Seedheads have an olive-greyish hue.
- Seedhead branches have a cluster of hairs at the base.
- Seeds appear in a herringbone-patterned cluster characteristic of lovegrasses.
- Grows in a wide range of soil types, typically in high-traffic areas.

**Denotes exotic introduced species*

Indian couch

*Bothriochloa pertusa**

INTRODUCED GRASS
Non-preferred
Increaser



Indian couch

*Bothriochloa pertusa**

INTRODUCED GRASS
Non-preferred
Increaser

Indian couch may grow as either a tussock or with runners forming a dense mat. It can reach up to 70 cm in height, and the foliage has a distinctive gingery aroma when crushed.

While Indian couch was introduced for its value as a pasture grass being tolerant of grazing and dry conditions, in South East Queensland, it is considered non-preferred because it does not produce much useful forage and it is very invasive. It has been identified as a problem in catchments further north and it is increasing in abundance in South East Queensland.

SIMILAR SPECIES: Creeping bluegrass (in this guide). Distinguishing features of creeping bluegrass are the more prominent ring of hairs on the node and the seedheads, which often contain seeds with 2–3 pits. Creeping bluegrass usually has runners with a reddish hue.

KEY IDENTIFYING FEATURES

- Perennial, not very productive.
- Tussock or creeping straw-coloured runners. Up to 70 cm tall.
- Leaves that have a gingery aroma when crushed.
- Pale, straw-coloured stems with or without hairy nodes.
- Seedhead stems are very upright and usually stand taller than the foliage, giving the sward a ‘stalky’ look.
- Seedhead with 3–13 branches.
- Pitted seeds.
- Grows in a wide range of soil types.

**Denotes exotic introduced species*

Legumes

Native Legumes

Introduced Legumes

Glycine pea (Variable glycine)

Glycine tabacina

NATIVE LEGUME

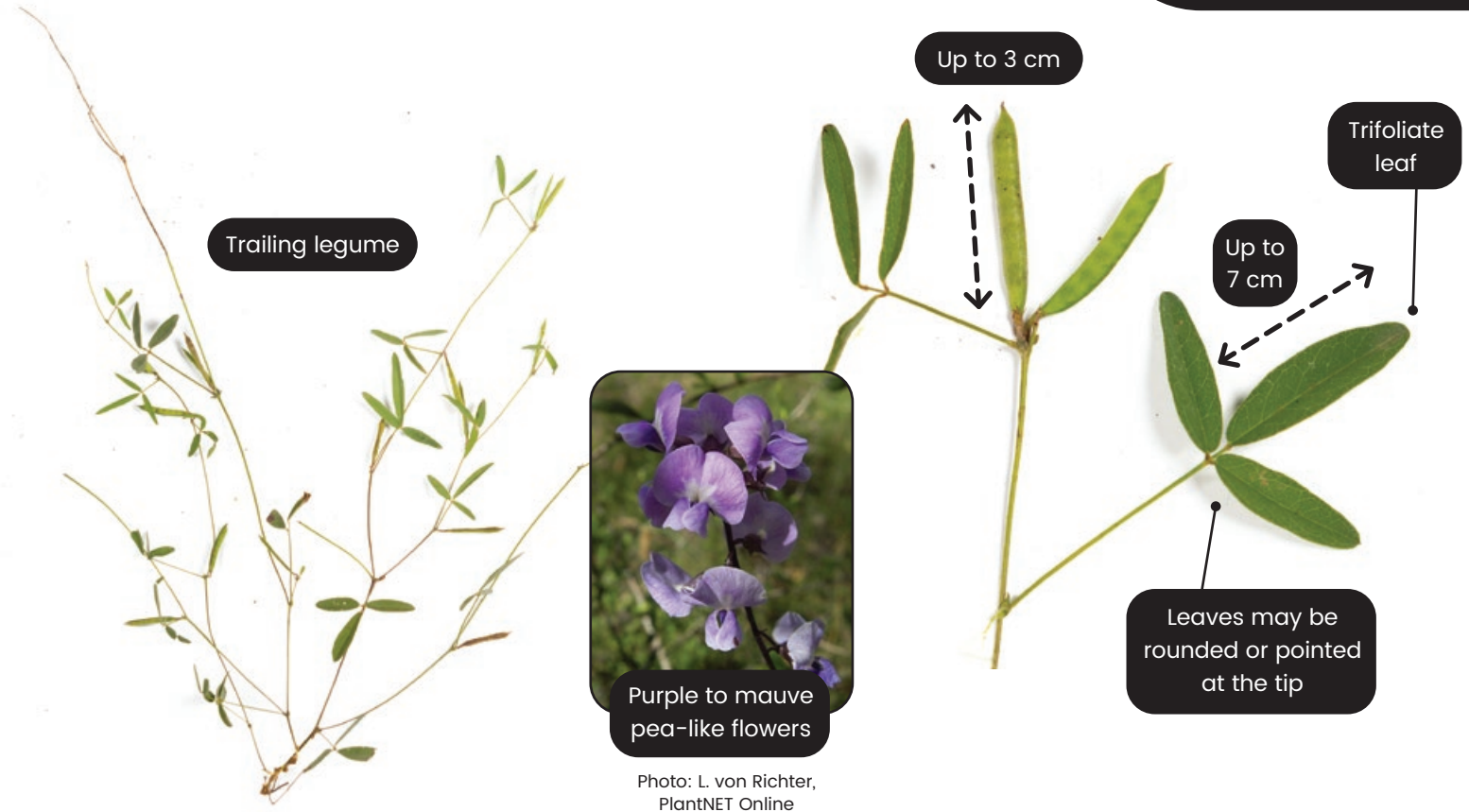


Photo: L. von Richter, PlantNET Online

Glycine pea (Variable glycine)

Glycine tabacina

NATIVE LEGUME

Glycine pea is a perennial trailing legume commonly found in native pastures across South East Queensland.

Compared to introduced legumes, the native counterparts are much smaller and have far less biomass. However, they are a valuable feature of a healthy pasture, adding protein to the diet of livestock and contributing nitrogen to the soil.

KEY IDENTIFYING FEATURES

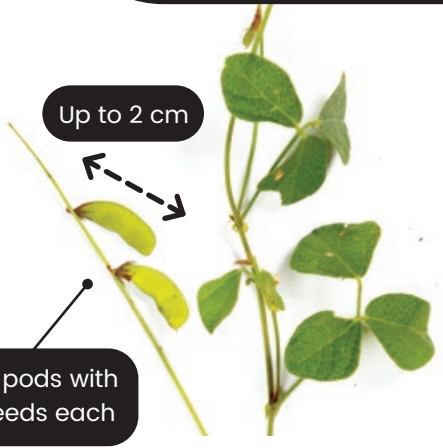
- Palatable and perennial but not very productive.
- Small trailing legume with stoloniferous stems.
- Small purple to mauve pea-like flowers.
- Olive green, elongated foliage in a trifoliate arrangement (three leaflets).
- Leaves are up to 7 cm long and may be rounded or pointed at the tip.

Rhynchosia

Rhynchosia minima

NATIVE LEGUME

Trailing legume



Yellow pea-like flowers with dark veining

Photo: Greg Tasney, iNaturalist, Australia

Rhynchosia

Rhynchosia minima

NATIVE LEGUME

Rhyncosia is a perennial trailing legume commonly found in native pastures across South East Queensland.

Compared to introduced legumes, the native counterparts are much smaller and have far less biomass. However, they are a valuable feature of a healthy pasture, adding protein to the diet of livestock and contributing nitrogen to the soil.

SIMILAR SPECIES: Siratro and burgundy bean. Key distinguishing features are that rhyncosia has smaller leaflets, yellow flowers and does not produce as much biomass.

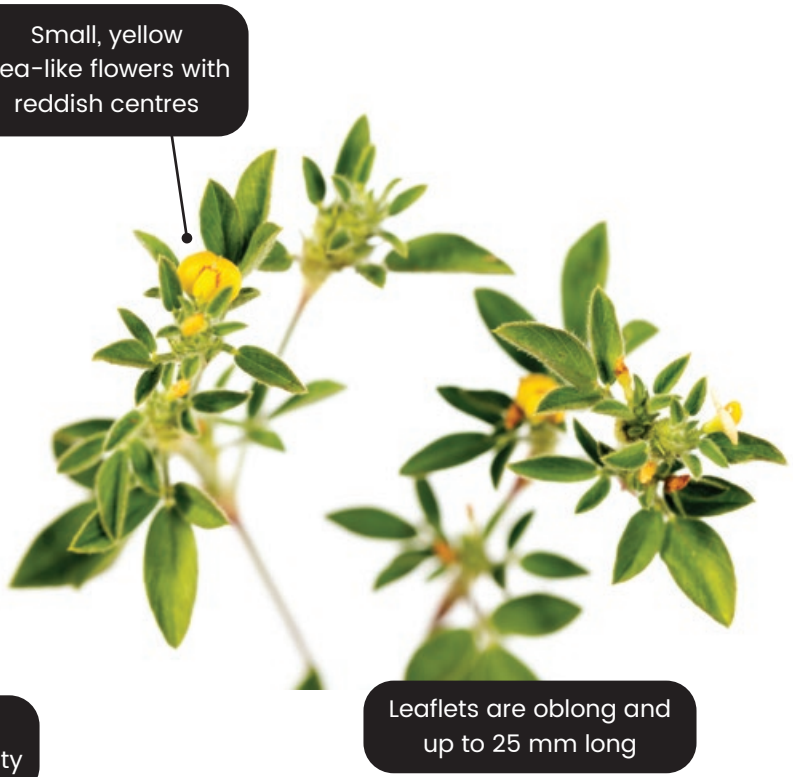
KEY IDENTIFYING FEATURES

- Perennial, palatable but does not produce much biomass.
- Long, trailing stems up to 1.2 m in length.
- Yellow pea-like flowers with dark veining and up to 15 per flowering stem.
- Green oval-shaped trifoliate leaves (three leaflets) with each leaflet up to 3.5 cm long.
- Flat seed pods with only two seeds per pod, up to 2 cm long.

Shrubby stylo

*Stylosanthes scabra**

INTRODUCED LEGUME
Preferred



Shrubby stylo

*Stylosanthes scabra**

INTRODUCED LEGUME
Preferred

Stylos are a group of legumes in the *Stylosanthes* genus of which there are several different species with unique characteristics. Shrubby stylo is one species in this group. As the name suggests, it has a small shrubby form that features a strong tap root and small pea-like yellow flowers.

Because of its tolerance to dry conditions and grazing, it has been quite widely distributed and has persisted over time in suitable soils across the region.

Sown pasture legumes are an extremely valuable component of a healthy pasture, adding protein to the diet of livestock and contributing nitrogen to the soil to boost grass growth, productivity and prevent pasture rundown. The presence of at least 30% (by biomass) of legumes is desirable to maximise long-term production of sown pastures and is a key feature of healthy pastures.

KEY IDENTIFYING FEATURES

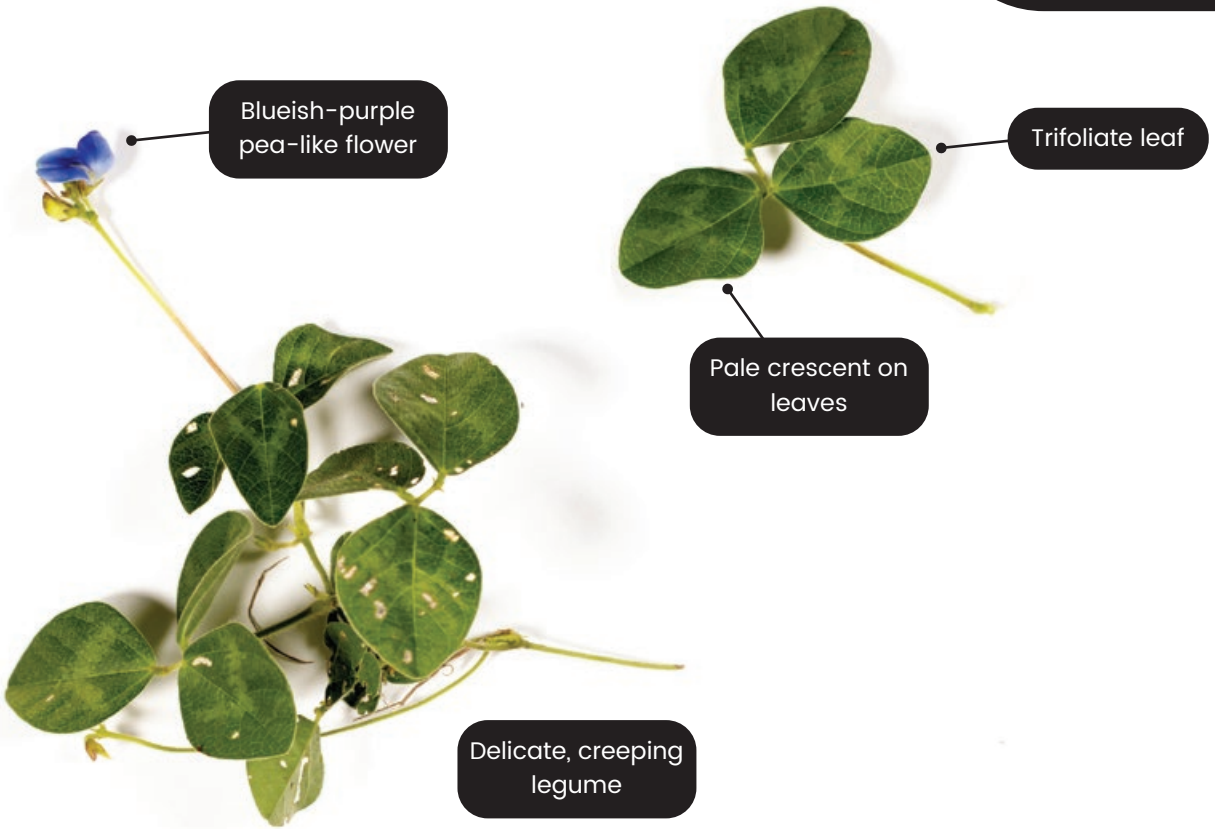
- Preferred 3P (perennial, palatable and productive).
- Small, yellow pea-like flowers with reddish centres.
- Low (<1.5 m), shrubby forb with a trifoliate leaf (three leaflets).
- Leaves are small and oblong in shape.
- Stems become woody with maturity.
- Not adapted to heavy clay soils.

**Denotes exotic introduced species*

Shaw creeping vigna

*Vigna parkeri**

INTRODUCED LEGUME
Preferred



Shaw creeping vigna

*Vigna parkeri**

INTRODUCED LEGUME
Preferred

Creeping vigna is a soft-stemmed, creeping/climbing leafy legume with a typical trifoliate (three leaflets) foliage and a small bluish-purple pea-like flower.

Despite its seemingly fragile foliage, creeping vigna is persistent under heavy grazing, likely due to its creeping nature and ability to form a dense mat amongst perennial pastures such as Kikuyu and Rhodes.

Sown pasture legumes are a valuable component of a healthy pasture, adding protein to the diet of livestock and nitrogen to the soil. The presence of at least 30% (by biomass) of legumes is considered ideal in a healthy pasture and managing for this is an indicator of sound grazing management.

KEY IDENTIFYING FEATURES

- Preferred 3P (perennial, palatable and productive).
- Bluish-purple flowers.
- Delicate creeping leafy legume with typical trifoliate (three leaves) foliage.
- Pale crescent marking on leaf.
- Grows in high rainfall areas and tolerates acid soils.

*Denotes exotic introduced species

Burgundy bean

*Macroptilium bracteatum**

INTRODUCED LEGUME
Preferred

Burgundy bean

*Macroptilium bracteatum**

INTRODUCED LEGUME
Preferred

Burgundy bean is a productive leafy climbing legume that is closely related to Siratro but is known for having a higher cold tolerance. Being highly palatable to livestock, it may quickly be grazed out under continuous moderate to heavy grazing.

Being more cold tolerant, burgundy bean may commence growth earlier in the season than siratro or other summer dominant legumes.

Sown pasture legumes are an extremely valuable component of a healthy pasture, adding protein to the diet of livestock and contributing nitrogen to the soil to boost grass growth, productivity and prevent pasture rundown. The presence of at least 30% (by biomass) of legumes is desirable to maximise long-term production of sown pastures and is a key feature of healthy pastures

SIMILAR SPECIES: Siratro (in this guide). Siratro has more elongated and pointier leaves that feel more coarsely hairy than burgundy bean and does not feature the two distinctive lobes on the central leaflet.

**Denotes exotic introduced species*

KEY IDENTIFYING FEATURES

- Preferred 3P (perennial, palatable and productive).
- Deep burgundy-red pea-like flowers on a long stem.
- Pods 4-9 cm long.
- Trifoliate leaf (three leaflets) with the central leaflet (usually the largest) having two lobes and only a single lobe on the two lower leaflets.
- Cold tolerance means it may appear earlier in spring than other summer legumes.
- Grows in a wide range of soil types.

Siratro

*Macroptilium atropurpureum**

INTRODUCED LEGUME
Preferred

Siratro

*Macroptilium atropurpureum**

INTRODUCED LEGUME
Preferred

Widespread in South East Queensland, siratro is a productive, leafy climbing legume that is readily grazed by livestock. It may quickly be grazed out under persistent moderate to heavy grazing.

Sown pasture legumes are an extremely valuable component of a healthy pasture, adding protein to the diet of livestock and contributing nitrogen to the soil to boost grass growth, productivity and prevent pasture rundown. The presence of at least 30% (by biomass) of legumes is desirable to maximise long-term production of sown pastures and is a key feature of healthy pastures.

SIMILAR SPECIES: Burgundy bean (in this guide). Siratro has more elongated and pointier leaves that feel more coarsely hairy than burgundy bean. The central leaflet of burgundy bean has two distinctive lobes.

KEY IDENTIFYING FEATURES

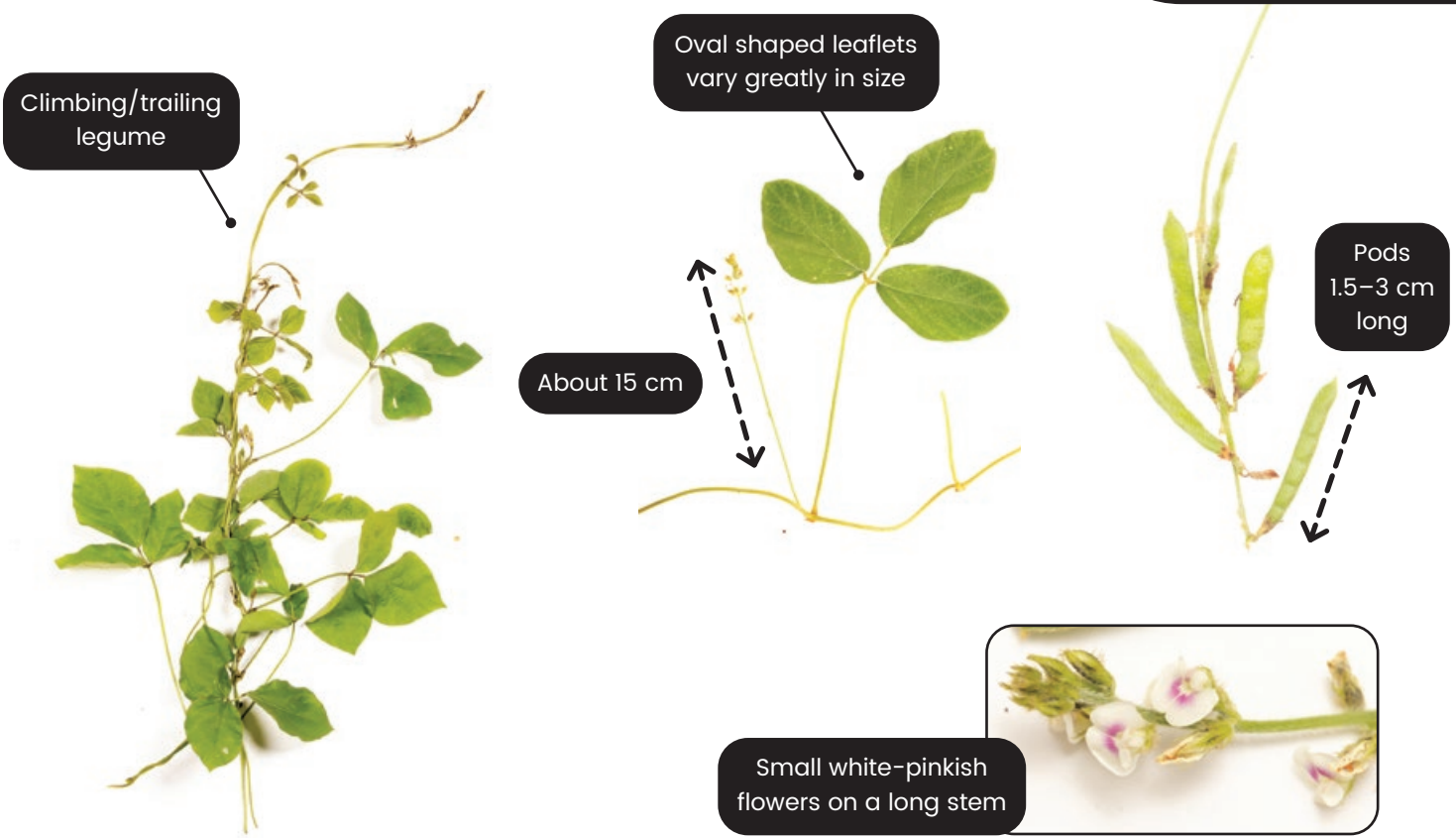
- Preferred 3P (perennial, palatable and productive).
- Climbing legume.
- Dark purple (may be almost black) pea-like flowers on a long stem.
- Dark green, trifoliate leaf (three leaflets) which is slightly hairy on both sides and may appear silvery on the underside.
- Cylindrical pods 5-10 cm long.
- Leaves have distinctive 'creases' along the veins.
- Grows in a wide range of soil types but does not like waterlogging.

*Denotes exotic introduced species

Glycine

*Neonotonia wightii**

INTRODUCED LEGUME
Preferred



Glycine

*Neonotonia wightii**

INTRODUCED LEGUME
Preferred

Glycine is a vigorous, palatable and productive climbing legume in a grazed environment. These characteristics make it problematic in natural areas and for this reason it is often regarded as a weed, particularly in establishing environmental plantings.

Sown pasture legumes are an extremely valuable component of a healthy pasture, adding protein to the diet of livestock and contributing nitrogen to the soil to boost grass growth, productivity and prevent pasture rundown. The presence of at least 30% (by biomass) of legumes is desirable to maximise long-term production of sown pastures and is a key feature of healthy pastures.

SIMILAR SPECIES: Siratro and burgundy bean (both in this guide). The distinguishing feature to look for in the field is the white to pinkish flowers as siratro/burgundy bean has dark purplish flowers.

WEED POTENTIAL: Glycine is considered an environmental weed in natural areas where it can smother grasses and understorey vegetation. It is particularly problematic in new tree plantings where vegetation is establishing.

KEY IDENTIFYING FEATURES

- Preferred 3P (perennial, palatable and productive).
- Climbing legume.
- Green trifoliate leaves (three leaflets), alternately arranged on stems up to 4.5 m long.
- Oval-shaped leaflets which vary greatly in size from 1–10 cm.
- Many white to pinkish/mauve pea-shaped flowers coming from a long stem (about 15 cm).
- Pods are 1.5–3 cm long.
- Climbing and twining nature means it can often be found using other vegetation as a climbing frame.
- Prefers fertile alluvial soils.

**Denotes exotic introduced species*

Round leaf cassia (Wynn cassia)

*Chamaecrista rotundifolia**

INTRODUCED LEGUME
Intermediate

< 1 m

Up to 6 cm

Paired, rounded leaflets

Small, yellow pea-like flowers

Round leaf cassia (Wynn cassia)

*Chamaecrista rotundifolia**

INTRODUCED LEGUME
Intermediate

Wynn cassia is a short-lived perennial legume that tends to behave as an annual in lower rainfall environments. It is well established in many pastures across South East Queensland, particularly on lighter forest soils and is easy to identify with its distinctive paired leaflets and yellow pea-like flowers.

Its palatability notably varies throughout the season, with livestock preferring to graze it as the plant matures and has (usually) set seed. Its dominance can sometimes cause concern for producers, but this tends to be seasonal and generally doesn't persist long-term. Wynn cassia is a valuable pasture legume on suitable land types.

Sown pasture legumes are an extremely valuable component of a healthy pasture adding protein to the diet of livestock and contributing nitrogen to the soil to boost grass growth, productivity and prevent pasture rundown. The presence of at least 30% (by biomass) of legumes is desirable to maximise long-term production of sown pastures and is a key feature of healthy pastures.

KEY IDENTIFYING FEATURES

- Short-lived perennial, may behave as an annual in areas with lower rainfall (<800 mm), palatable (may vary) and productive.
- Small yellow pea-like flowers.
- Distinctive paired round leaflets.
- Low growing (<1 m) with mostly lateral growth.
- Long stems (45–110 cm) can sometimes be a little woody.
- Pods up to 6 cm long.
- Grows well in lighter soils and tolerates low fertility.

*Denotes exotic introduced species

Introduced invasive weeds

African lovegrass !

*Eragrostis curvula**

INTRODUCED
INVASIVE WEED
Non-preferred

Increaser

African lovegrass !

*Eragrostis curvula**

INTRODUCED
INVASIVE WEED
Non-preferred

Increaser

African lovegrass is an introduced, invasive, unpalatable perennial grass weed which may grow to over 1 m in height. It forms a robust tussock with a dense root network, characteristics that make it very tolerant of drought and dry conditions. It is very competitive with preferred pasture grasses in grazed settings and is widespread in pastoral areas of South East Queensland along roadsides and in pastures.

SIMILAR SPECIES: Elastic grass (in this guide) which is notably smaller in size and seedheads have an olive-greyish hue.

INVASIVE SPECIES: African lovegrass is very invasive and action should be taken to control it in pastures to avoid spread and subsequent loss of productivity. An integrated weed management plan with a focus on good grazing management and weed hygiene is critical.

KEY IDENTIFYING FEATURES

- Non-preferred invasive exotic grass.
- Large robust tussock up to 1.2 m tall that often hollows in the middle with age and may have a weeping look.
- Hairs at the base of the stem where the plant emerges from the soil.
- Dense root network makes it difficult to dislodge.
- Narrow leaves (1–3 mm).
- Distinctive, large lovegrass seedhead that fades from a blackish-purple through to green and straw as it hays off.
- Generally larger and more robust in appearance than other lovegrasses that grow in South East Queensland.
- Grows in a wide range of soil types.

*Denotes exotic introduced species

Exotic rat's tail grasses !

Sporobolus natalensis*, S.pyramidalis*, S.africanus and ***S.fertilis****

INTRODUCED
INVASIVE WEED
Non-preferred

Increaser

Which rat's tail?

Feature	Giant rat's tail grasses *S.natalensis, S.pyramidalis & S.jacquemontii*	Paramatta grasses *S.africanas & S.fertilis*	Native rat's tail grasses *S.creber & S.elongatus*
Seedhead stem visibility	Mostly obscured. Branches lay flat to the stem at the top and then lightly spreading towards the base.	Usually obscured. Flat against stem at the top and may spread towards the base.	Clearly visible due to internode gaps. Branches usually flat against the stem.
Seedhead width **1/3 from TOP** of seedhead	>5 mm	3–4 mm	<3 mm
Seedhead Branches **1/3 from TOP** of seedhead	<~4 cm long	<1 cm long	<1 cm long
Seedhead Branches at **BASE** of seedhead	<10 mm long 1–2 mm wide Rod shaped	<~4 cm long 2–3 mm wide Rod shaped	<6cm long 3–4 mm wide Usually cone shaped

Source: Adapted from Thompson, J. (2009). A guide to rat's tail grasses and allied Sporobolus species in Queensland. Queensland Herbarium, Brisbane.

Exotic rat's tail grasses !

Sporobolus natalensis*, S.pyramidalis*, S.africanus* and S.fertilis*

INTRODUCED
INVASIVE WEED
Non-preferred

Increaser

What we commonly refer to as giant rat's tail grass or Paramatta grass is a suite of introduced, invasive, unpalatable perennial grass weeds from the Sporobolus genus. Exotic rat's tail grasses typically form a robust tussock with a dense root network, making them very tolerant of dry conditions. They are very competitive with preferred pasture grasses.

SIMILAR SPECIES: Native rat's tail (in this guide). The most reliable difference to look for in the field between native and exotic rat's tail grasses is the overlapping seedhead branches of the exotic species. In the native rat's tail grasses, the seed head branches do not overlap.

NOTE: Differentiation between native and exotic rat's tail grasses can be difficult and microscopic examination by a skilled person may be required. If you are unsure, we recommend sending a sample to the Queensland Herbarium for accurate identification.

INVASIVE SPECIES: Exotic rat's tail grasses are very invasive and action should be taken to control them in pastures to avoid spread and subsequent loss of productivity. An integrated weed management plan with a focus on good grazing management and weed hygiene is critical.

**Denotes exotic introduced species*

KEY IDENTIFYING FEATURES

- Non-preferred invasive exotic grass.
- Varies in size between species. May be 0.5 m to over 1 m tall.
- Dense root network makes it difficult to dislodge.
- Narrow leaves.
- Distinctive, long, rat's tail seedhead.
- Generally larger and more robust in appearance than native rat's tail.
- Grows in a wide range of soil types.

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