

fact sheet 6. Companion Grasses

A productive and persistent companion grass is required for sustainable leucaena-pasture systems in tropical Australia. Combining grasses with leucaena provides forage all year round to maximize weight gain. Grasses promote nitrogen fixation by leucaena which improves overall pasture and soil health, and ground cover. This reduces the opportunity for weeds and stray leucaena seedlings to establish, and minimises runoff and erosion.

Consider your location, soil type and rainfall when choosing your companion grass.

Bambatsi panic

Bambatsi *panic* is a palatable and perennial summer-growing grass that is well adapted to medium to heavy-cracking clay soils in Queensland where the average yearly rainfall is greater than 600 mm. Bambatsi can tolerate waterlogging, drought, frost and saline soil. It performs well on melon-hole (gilgai) soils in Brigalow lands; is unsuited to sandy and loamy soils of low fertility. Bambatsi can be difficult to establish and is slow to develop in its first year. But once established it is tolerant of drought and will grow into the cooler months.

Green and Gatton panic

Green and Gatton Panic are very productive and palatable grasses that are well suited to high fertility soils. **Green Panic** is better suited to higher rainfall regions or under irrigation, whereas **Gatton Panic** is regarded as being more vigorous and drought tolerant. Both are shade tolerant and thrive on high nitrogen supply so can grow vigorously beside leucaena rows.

Buffel grass

Buffel grass is the most common improved species planted into fertile soils across southern and central Queensland. It is a deep rooted, drought resistant, palatable and very productive grass that responds quickly to moisture and fertility. Buffel prefers higher fertility scrub soil but will grow on a range of soil types, but not low fertility sands or very heavy clay soils. Three cultivars are commonly sown; American (USA), Gayndah and Biloela, with Biloela typically sown on heavier soils. Buffel is commonly sown with Leucaena in new pasture situations, or naturally colonises in paddocks where it has already been planted.

Buffel is extremely competitive for moisture and will limit the productivity of established leucaena in dry years. To ensure successful establishment of leucaena into existing buffel grass paddocks, it's critical to cultivate or spray out buffel grass for at least 6mths prior to planting, and control any buffel seedlings for 3-6mths after planting.

Rhodes grasses

Rhodes grasses can be productive and persistent on a range of soil types, however are not as hardy as other improved grasses (eg buffel). Rhodes grasses are quick to establish and provide high biomass production and require greater than 700mm annual rainfall and high soil fertility to persist. A large range of cultivars are available and the more palatable types are late flowering with high leaf to stem ratio. Rhodes grass is commonly sown with other grasses in new Leucaena

pastures due to its quick establishment and good biomass production during the initial years of pasture establishment.

Signal grass

Signal grass is a low-growing creeping perennial, with trailing stems that root at the nodes. It forms a dense soil cover, with a canopy usually shorter than 40 cm when grazed. Signal grass is well adapted to a wide range of soils in the (more than 1000 mm annual rainfall) tropics, but also grows well in the coastal subtropics with lower rainfall due to moderate tolerance to dry periods and cold temperatures. Signal grass has not been commonly used in Leucaena pasture systems due to its main applicability to coastal environments, however this might change with the release of the psyllid resistant variety 'Redlands'. The released cultivar is Basilisk.

Pangola grass

Pangola is a very productive and palatable creeping grass on a range of soil types. Pangola can withstand heavy grazing and high rainfall conditions however needs to be planted from runners as it does not produce fertile seed. Pangola is highly suitable for tropical and subtropical coastal locations with annual rainfall greater than 800mm and mild winter temperatures, therefore will be a suitable companion grass for leucaena pasture systems in coastal environments.

Humidicola

Humidicola is a very productive and aggressive creeping grass that is highly suited to high rainfall (greater than 1000mm) or irrigated conditions in the tropics. Like Signal grass, Humidicola has not been commonly used in Leucaena pasture systems, but this could change with the release of the variety 'Redlands'. The released cultivar is Tully.

Digit and Finger grasses

Digit and Finger grasses are well adapted to the lighter soils (sands to loams) across a range of climatic conditions in Queensland. These grasses are related to pangola however have a more tufted growth habit, are taller, and produce viable seeds. A number of cultivars have been released (Premier, Strickland, Jarra), however seed supply has been variable in recent years. All are palatable and tolerant of low soil fertility, however are highly responsive to high nutrient supply eg from fertiliser. Digit and Finger grasses have not commonly being planted in Leucaena pasture systems, but would be highly suited on deep and fertile loam soils where a productive, persistent and palatable grass is required.

Creeping bluegrass

Creeping bluegrass is suitable for a range of soil types from low fertility forest soils to self-mulching clays. It is a strong creeper and whilst slow to establish, it can withstand heavy grazing once fully established. It flowers late in the growing season so maintains leaf quality for longer compared to other grasses. Creeping blue grass provides very high ground cover due to its strong creeping habit, and so is suitable to sloping country that might be prone to erosion. The main cultivar available is Bisset, which is a harder variety than the superseded Hatch.