

Round-leaf cassia

Scientific name(s)

Chamaecrista rotundifolia

Strengths

- Grows in soils of low fertility
- Rapid establishment and spread
- High seed yield
- Adapted to acid soils

Limitations

- Low palatability, particularly of young leaves
- Poor drought tolerance if ungrazed

Plant description

Plant: A short-lived, summer growing perennial legume (in wetter environments) or a self-regenerating annual (in drier, frosty environments); herbaceous to slightly woody; prostrate to semi-erect, growing to 1m tall, with a shallow taproot.

Stems: Stems slightly hairy, 45-110 cm long.

Leaves: Rounded with two leaflets

Flowers: Up to three small yellow flowers originating from the leaf axils.

Pods: Flat, straight or slightly curved, up to 6cm long, shattering when mature

Seeds: Seeds small, rectangular, flattened, sometimes pointed on the corners, tan to light brown, 2-3 mm long; 200,000-470,000 seeds/kg.

Pasture type and use

Sown into native pastures to improve feed quality and as a legume component of long term sown grass pastures; colonises readily.

Where it grows

Rainfall

Grows as a perennial in a 900-1,500 mm rainfall region, and as an annual in a 550-900 mm region.

Soils

Free-draining light soils of acid to neutral pH, particularly sands or sandy loams of low to moderate fertility.

Temperature

Summer growing, top growth killed by frost. Where regular heavy frosts occur, round-leaf cassia behaves as an annual.

Establishment

Companion species

Grasses: Indian blue grass, Rhodes grass, Digit grass, Tall finger grass, and any other grasses adapted to lighter soils.

Legumes: Fine stem stylo, Lotononis, joint vetch, serradella, biserrula.

Sowing/planting rates as single species

1 kg/ha

Sowing/planting rates in mixtures

0.5 kg/ha

Sowing time

Spring/summer

Inoculation

Group M; promiscuous but inoculation is recommended.

Fertiliser

Responds to phosphorus and sulphur on soils of low-fertility (based on soil test).

Management

Maintenance fertiliser

Phosphorus and sulphur on soils of low-fertility.

Grazing/cutting

Very tolerant of and requires constant heavy grazing. If allowed to grow tall and then 'crash' grazed, individual plants fail to regenerate and die. Populations will regenerate from seed. Not selectively grazed in the young, growing stages but preferred when the leaves are older, often after seed set.

Seed production

Very heavy seed set, but seed ripens over an extended period and shatters. Yields of 800 kg/ha have been harvested using suction harvesting equipment.

Ability to spread

Will spread naturally through seed shattering and in dung after ingestion by livestock.

Weed potential

Large seed set and low seasonal palatability suggest this plant could have weed potential though this is unlikely and has not been observed in drier environments.

Major pests

None known.

Major diseases

None known.

Herbicide susceptibility

Not known; generally not sown in areas where herbicides are used.

Animal production

Feeding value

Good protein and digestibility levels recorded under grazing on fertile soils. Application of P and S on low fertility soils in southern Queensland increased N concentrations of leaf tips to 3.3% N (21% crude protein). 'Wynn' cassia has raised the N concentration of black speargrass by 20-40% under grazing and fertilising (with P & S).

Palatability

Generally not readily eaten by cattle in the growing season under higher rainfall conditions, but becomes more acceptable as the associated grasses mature later in the season. Can comprise up to 20% of the diet in late autumn. Lower seasonal palatability differential in drier areas as plant tissue is generally drier. Not eaten by horses.

Production potential

DM yields of up to 7,000 kg/ha recorded in south-east Queensland but less in drier environments.

Livestock disorders/toxicity

No known anti-nutritional factors.

Cultivars

Cultivar	Seed source/Information
Wynn	Southedge Seeds Heritage Seeds Progressive Seeds Australian Herbage Plant Cultivars

Further information

Lloyd, D, O'Brien, S, Johnson, B, Pengelly, B and Wurst, M (2006). Pasture Legumes for Subtropical Grain and pastoral Systems - the Ute Guide (PIRSA, GRDC)

Topical Forages database (SoFT) - Round-leaf cassia; Wynn casia

Better Pastures for the Tropics and Subtropics - Lucerne

Acknowledgements

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Author and date

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December 2008