

Register of Australian Herbage Plant Cultivars

B. Legumes

20. Cassia

Chamaecrista rotundifolia (Persoon) Greene (round-leafed cassia)

cv. Wynn

Reg. No. B-20a-1

Registered July 1984

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Origin

Collected at Valinhos, Brazil, By D.O. Norris in 1964 and introduced as CPI 34721. More productive and persistent than other early flowering accessions of the species over a range of environments in Queensland, New South Wales and the Northern Territory. Submitted by CSIRO Division of Tropical Crops and pastures, which will maintain breeders' seed. Recommended for registration by the Queensland Herbage Plant Liaison Committee. Registered July 1984.

Morphological description (1,2,3,4)

Chamaecrista rotundifolia is a sub-woody, semi-erect, perennial herb with pubescent to sub-glabrous stems 45 – 110 cm long. Leaves bifoliolate. Stipules lanceolate-cordate 4 – 11 mm long, petioles 3 – 8 mm long, eglandular. Leaflets 2, asymmetrically subrotund to broadly obovate, rounded apically, 12 – 38 mm long, 5 – 25 mm wide. Flowers 1 – 2 axillary, small yellow. Sepals lanceolate, usually ciliate, up to 5 mm long. Petals obovate, up to 6 mm long, glabrous, sessile. Fertile stamens 5, somewhat unequal, filaments very short. Anthers linear oblong, up to 2 mm long, essentially glabrous and erostate, dehiscent by paired terminal pores. Ovary pubescent. Pedicel more or less filiform, 14 – 78 mm long. Pod linear, 20 – 45 mm long, 2.5 – 5.0 mm wide, flat, elastically dehiscent, seeds obliquely transverse. Seeds rectangular, flattened, approximately 200 000 – 470 000/kg.

Wynn has broad leaflets, 15 – 22 mm wide, long pods, 38 – 40 mm long, and small seeds (253 000/kg).

Agronomic characters (3)

Wynn is summer growing; vegetation is injured by frost but plants are not killed. There is a large annual seedling recruitment in spring and early summer. Tolerant of heavy grazing and combines well with most pasture grasses. Although adapted to a wide range of soil types, it is best suited to lighter textured surface soils in areas receiving more than 600 mm rainfall per annum. It is susceptible to waterlogging on heavy soils.

Growth is indeterminate, with stem elongation and new flower bud initiation occurring towards the stem apices, while older more basal pods ripen. Flowering starts several weeks after germination in spring and continues throughout the year until stopped by frost or drought. Although pods shatter readily seed yields in excess of 700kg/ha have been harvested at Beerwah, Gatton and Gympie. Hardseed content of fresh seed samples is usually greater than 90%.

Dry matter yields in excess of 7000kg/ha have been recorded at Beerwah and Gatton. At Beerwah, yields of cv. Wynn were double those of greenleaf desmodium and siratro in spring and early summer and equal to those cultivars in late summer and autumn. On granite soil at Narayan, Wynn outyielded siratro in spring and autumn and spread from small experimental plots into several acres of mixed buffel, Rhodes and speargrass over a few years. On brigalow soil at Narayan, Wynn yielded less than siratro when grown in association with green panic.

There is no evidence of *Rhizobium* specificity for *C. rotundifolia* which nodulates freely with cowpea inoculum without any signs of nitrogen deficiency.

Wynn is readily eaten by cattle and sheep, without any ill-effects. In toxicity screening trials with rats, cv. Wynn produced more liveweight gain than Hunter River lucerne.

It is remarkably free of pests and diseases. The only disease reported to date is mild leaf spotting caused by *Pleospora* sp. on old leaves at Gympie in June 1982. The examining pathologist considered the infection was secondary and unlikely to be important in grazed pastures.

References

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