Register of Australian Herbage Plant Cultivars

B. Legumes
6. Lotononis
a. Lotononis bainesii Baker (lotononis)

cv. Miles
Reg. No. B-6a-1
Registered prior to December 1971

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Origin

Originated from seed collected by J.F. Miles CSIRO, while on tour in South Africa in 1952 (8), and introduced as C.P.I 16833. Early trials were unsatisfactory because of defective nodulation (4). D.O. Norris isolated an effective strain of *Rhizobium* in 1958 (10). Then CSIRO (4), and later the Queensland Department of Primary Industries (13) and the New South Wales Department of Agriculture (4) made extensive trials of is agronomic value. Named Miles by the Queensland Herbage Plant Liaison Committee 1966.

Morphological description (4, 8, 11)

A herbaceous perennial with slender procumbent stoloniferous irregularly branched stems, with scattered long hairs. Plants may form a dense pasture up to 60 cm high or under heavy grazing a more prostrate herbage. Leaves are palmate, mostly trifoliolate but occasionally with 4 or 5 leaflets, usually singly or occasionally in pairs at the nodes. At some nodes, particularly where roots are forming, short shoots with small leaves develop. These nodes appear to bear a cluster of up to five leaves, but in fact the leaves are on short axillary shoots (11). Leaflets are polymorphic being linear, ovate, obovate, and lanceolate, to *c*. 6 cm long and/or 3 cm wide. Margins of leaflets and small lanceolate stipules are entire. New growth is finely hairy although few hairs persist giving older foliage a generally glabrous, shiny appearance (8). A tap root is developed as well as numerous secondary roots, and similar root systems develop from the nodes of the stolons. Inflorescences are racemes, which may be contracted to dense umbellate heads, with few to more than 20 flowers; the peduncles to 15 cm long. Flowers small, yellow, calyx funnel-shaped, slightly silky, with very short subdeltoid teeth; corolla three times as long as calyx, standard and keel almost equal, the wings small and shorter. Pod linear-oblong, 8-12 mm long, many-seeded, continuous within and shattering readily when ripe. Seeds cream to yellow and magenta rose, obovoid and asymmetrically heart-shaped, the cotyledonary lobe larger than the radicle, laterally compressed, small but variable in size, approximately 3 300 000/kg. It is a tetraploid with 2x = 36 (7).

Agronomic characters (4, 11)

Cv. Miles has a long growing season, ceasing growth when the weekly mean minimum temperature falls below 9°C (6). Well adapted to a wide range of soils in areas with rainfall between 750 mm and 1500 mm, except cracking clays and very fertile soils. It performs best on well-drained soils (5) but is quite tolerant of temporary waterlogging.

Seedlings are very small but after a slow start growth is rapid and the plant is a good pioneer. It responds well to increased soil fertility. Critical concentrations in the dry matter are 0.17% for phosphorous and 0.90% for potassium (1); the species is able to extract phosphorous from soils low in soluble phosphorous (2). It is also tolerant of manganese excess (1).

It is quite unable to use indigenous rhizobia and needs a highly specific inoculant (10); the commercial inoculant is based on strain CB 376.

It flowers mainly in the spring with a secondary blooming in late summer. The flowers are cleistogamous and self-pollinated (7). Seed production can exceed 110 kg/ha, but commercial yields usually are about half of this.

It gives high yields of palatable and high protein fodder, and is comparable with lucerne in nutritive value. It is very persistent and productive under heavy grazing pressure (5) and in more open grass stands (8). High levels of seed accumulate in the soil, and often dense seedling regeneration

contributes to persistence (9, 12). It combines well with a wide range of grasses, both native such as *Heteropogon contortus,* and introduced such as *Digitaria decumbens, Paspalum commersonii, P. plicatulum,* and *P. dilatatum.* Seeds are spread in dung (8). It is susceptible to *Cercospora* leaf spot, *Botrytis* flower blight, flower blight, *Sclerotium rolfsii, Fusarium* and *Pythium* root and stolon rots, legume little leaf virus and other diseases (8). It can withstand a reasonable amount of shading.

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