

Register of Australian Herbage Plant Cultivars

B. Legumes

5. *Leucaena*

a. Leucaena leucocephala (Lam.) De Wit (*leucaena*)

cv. Peru

Reg. No. B-5a-1

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Origin

Introduced from the Ministry of Agriculture of Argentina in October 1954 by CSIRO as C.P.I 18614. The seed had come from the Acclimatisation Gardens at Yerua, in the province of Entre Rios in Argentina, and these Gardens has obtained it originally from Peru (Records, Plant Introduction Section, CSIRO Division of Plant Industry, Canberra). It was included with 39 other *Leucaena* accessions in a nursery trail at Stamford, Qld., from 1955 to 1958 (3, 8). Experimental plantings were also made at other centres in Queensland (3). It was named and released by the Queensland Pasture Liaison Committee for commercial use in 1962.

Morphological description (1)

In common with other cultivars of *Leucaena*, cv. Peru has the following general characters. It is a small tree with strongly developed deeply penetrating tap root. Leaves are bipinnate; pinnae in 4-9 pairs on rachis 15-20 cm long, often with an orbicular gland below the lowermost pair of pinnae, pinnae up to 10 cm long; leaflets 11-17 pairs, oblong lanceolate, slightly unequal-sided, tip acute, glabrous (except the margin), 2.0-3.5 mm wide, 7.0-12.0 mm long. Stipules small, deciduous. Inflorescence capitate or globose, solitary, axillary, with peduncle up to 5 cm long and densely many-flowered. Involucre appressed, hairy, early deciduous. Flowers white; calyx 2.5 mm long; petals nearly twice as long; anthers pilose; ovary with some hairs on upper half. Pods thin and flat, up to 20 cm long and 2 cm wide, acuminate. Seeds elliptic-compressed, brown. Chromosome number $2n = 104$.

The particular characters of Peru may be described as follows. Compared with the line sold commercially under the name Hawaiian and the type naturalised in Australia it is a slightly taller tree with larger leaves; the flower heads are larger but contain fewer flowers; the pods are longer and broader; the seeds larger and flatter and the stem tips and young pods glabrous (3, 8). Peru grows into a symmetrical, regularly branched tree which under good conditions at Samford many attain a height of about 2.4 m during the season with a lateral spread of about the same distance. The main stem is erect but relatively short compared with that of cv. El Salvador (3, 8); basal branching is also well-developed, the main branches arising from low down on the main stem (3). Number of seeds/kg approximately 20 000-24 000.

Agronomic characters

Cv. Peru is adapted, as is the species in general, to areas in Australia where the annual rainfall is 760 mm or more with a summer incidence and where the July mean temperature does not fall below 10.0°C (8).

It is outstanding in vegetative vigour and yield of forage among the varieties tested in Australia. Initial growth is slow and it is sensitive to competition in its first year (5). Maximum growth rates of 16-17 kg of dry matter/ha per day are attained later and 2400-4900 kg of dry matter/ha per annum, with an average crude protein content of 21-24% in the Northern Territory (10). In a cutting trail at Samford, Qld, in 1958-59, Peru yielded 12 590 kg edible dry matter with a protein yield of 3602 kg/ha; these dry matter and protein yields were significantly greater than those of the Hawaiian type and El Salvador (7). Additional data obtained at Samford since 1959 have confirmed the high-yielding ability of Peru (3). It will recover severe cutting-back and defoliation (5).

It has a highly specific rhizobia requirement (9, 11); it needs inoculation with a special leucaena inoculant; one based on N.G.R.8. is recommended (9).

Flowering is generally later than that of the Hawaiian type and cv. El Salvador. Where water and temperature are not limiting, flowering in Peru may occur freely throughout the year. Peak flowering occurs March-April at Samford and February-March at Townsville (3, 8). Production of edible forage continues into the winter. Seed set is reported to be relatively poor (3, 7) in Queensland but comparable with other varieties in the Northern Territory (10). There is a high proportion of hard seed and very marked increased in germination are obtained by appropriate treatment (2, 4).

Mimosine content is probably not significantly different from other varieties (6), although reports to the contrary (8) have been published. Under proper management there is little risk of poisoning to ruminants, particularly if they become accustomed to it gradually and it does not constitute a very high proportion of the animals' diet (4, 5).

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