

Register of Australian Herbage Plant Cultivars

B. Legumes

11. Serradella

a. *Ornithopus compressus* L. (yellow serradella)

cv. Pitman

Reg. No. B-11a-1

Registered prior to December 1971

Published in the 2nd. ed. of the Register of Australian Herbage Plant Cultivars, 1972

Origin (2, 6)

The circumstances of the introduction of this variety are not known with certainty. It was observed and collected by Mr W.M. Pitman at Waroona, W.A., about 1950. After initial testing and seed multiplication by Mr. Pitman, commercial planting under the names 'Pitman's Serradella' and 'W.A. Serradella' began in the late 1950's, principally in the Gingin-Dandaragan and Esperance districts of Western Australia. It was given the cultivar name Pitman and the common name 'yellow serradella' applied to the species by the Western Australian Herbage Plant Liaison Committee in 1966.

Morphological description (5)

Prostrate annual herb with a spreading growth habit, 15-38 cm tall, with slender stems, densely leafy, covered with short white hairs. Leaves pinnate, with 10-20 pairs oblong-elliptical leaflets 6-13 mm long, pubescent. Stipules small, the upper ones often absent. Inflorescence an umbel of 3-5 flowers, on a long peduncle. Flowers small, corolla yellow; calyx tubular, 5-toothed, upper teeth connate, longer than the lower, shorter than the tube. Pods linear, flattened, 2.5-4.0 cm long and 3mm wide with 6-9 seeds, jointed, slightly bent, ending in a hooked beak, splitting into 1-seeded segments at maturity. Seeds yellow, oblong, about 2.5 mm long by 1.8 mm wide, flattened, about 176 000 (unhulled), or 352 000 (hulled/kg).

Agronomic characters (2, 6)

Winter-growing, germinating with autumn rains and flowering and maturing in spring. In the environs of Perth flowering in later September-early October (7). Adapted to a predominantly winter rainfall of 500 mm or more, the drier limits not yet defined. Deep-rooted, and establishes and grows well on moderately deep sandy soils of low fertility. It is more tolerant of potassium deficiency than subterranean clover but less so than sand plain lupins.

Has a high percentage of hard seed which soften under prolonged exposure to alternating high and low temperatures in the field or under controlled conditions (1, 2, 6). Some physiological dormancy is associated with the seed hulls (ie. pod wall), especially when not fully mature, (1). Is reported to withstand grazing and to regenerate better than *Ornithopus sativus* (French serradella) in Western Australia (2, 6), but not as well that species in South Australia (3) and Tasmania (4).

In Western Australia it grows well into late spring (5, 6) but in Tasmania is reported to mature earlier than *Ornithopus sativus* and not to maintain growth for as long in the season nor to respond as well to late light rains.

It contains no oestrogenic substances and provides a palatable high-protein feed in both the green and dry state for livestock. It is effectively nodulated by *Rhizobium* strain WU425 which is contained in the Australian commercial lupin-serradella inoculant (G).

Pitman is Susceptible to pink cutworm (*Agrotis munda*) in the vegetative as well as the podding stage and to native budworm (*Heliothis punctigera*) after pod formation. The budworm can cause serious damage to the immature seed. It is also susceptible to both the red mite (*Halotydeus destructor*) and lucerne flea (*Smynturus viridis*).

References

1. Barrett-Lennard, R.A., and Gladstones, J.S. (1964). Dormancy and hard seededness in Western Australian serradella (*Ornithopus compressus* L.). *Aust. J. Agric. Res.* **15**, 895-904.
2. Cariss, H.G., and Quinlivan, B.J. (1967). Serradella. *J. Agric. West. Aust.* **8**(4th Ser.), 226-34.
3. Crawford, E.J. (1966). Personal communication. S. Aust. Dep. Agric., Adelaide.
4. Frickle, E.F. (1966). Personal communication. Tasm. Dep. Agric., Hobart.
5. Gladstones, J.S. (1966). Personal communication. Inst. Agric., Uni. West. Aust., Nedlands.
6. Gladstones, J.S., and Barrett-Lennard, R.A. (1964). Serradella – a promising pasture legume in Western Australia. *J Aust. Inst. Agric. Sci.* **30**, 258-62.
7. Gladstones, J.S., and Devitt, A.C. (1971). Breeding and testing early-flowering strains of yellow-flowered serradella (*Ornithopus compressus*). *Aust. J. Exp. Agric. Anim. Husb.* **11**, 431-9.