

Register of Australian Herbage Plant Cultivars

B. Legumes

14. *Vigna*

a *Vigna radiata* (L.) Wilczek (mung bean)

cv. *Celera*

Reg. No. B14a-1

Registered September 1969

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

Origin

This cultivar is derived from a seed sample collected at La Calera Station, Managua, Nicaragua, Central America, in December 1964, at an altitude of 15m, by Mr. W.T. Atkinson of the New South Wales Department of Agriculture. It was accessioned under the number P.6710 and originally determined as *Phaseolus angularis*; later it was known as *P. radiatus*. The name *Vigna radiata* (L.) Wilczek has now been adopted on the advice of the Government Botanist, Royal Botanic Gardens and National Herbarium, Sydney.

It was first tested at Grafton Agricultural Research Station by Mr G. Wilson, who reported on its earliness and seed-yielding ability under Grafton conditions (3). It was later tested by the New South Wales Department of Agriculture on research stations at Tamworth, Glen Innes, and Yanco.

Submitted for registration by the New South Wales Department of Agriculture; recommended for registration by the New South Wales Herbage Plant Liaison Committee; registered September 1969.

Morphological description (1)

Erect, soft-wooded, rather sparsely leaved, reaching a height of about 45-60 cm. Stems tillering sparingly, rather densely pubescent with fine stiffly spreading hairs, but becoming glabrous with age. Leaves dark green, pinnately trifoliate, on a long petiole; leaflets petiolulate, broad-ovate (the laterals somewhat asymmetric), entire, with a sparse pubescence chiefly on the veins. Stipules peltately attached, with a small rounded lobe below the insertion and a large ovate part above, usually fringed with rather long hairs; stipellae narrow, attenuate at the apex, about 1 cm long, persistent. Inflorescence an axillary raceme of several flowers on a long peduncle, the axis thickened at the pedicel insertions. Flowers papilionaceous, each subtended by a narrow-ovate ribbed bract, and with two similar bracteoles; the campanulate calyx of two obscure lobes, an upper of two teeth, a lower of three; the keel incurved but not making a complete spiral turn. Style bearded above the middle on the adaxial side, with a more or less globular subterminal stigma on the same side, and terminated above the stigma by a minute but distinct beak. Ovary densely pubescent with upward-pointing hairs shorter and coarser than those on the stems (scarcely 1 mm long,) becoming sparser as the fruit enlarges. Pods cylindrical, nearly straight, spreading more or less horizontally from the axis, 5.0-7.5 cm long and about 4 mm in diameter, dull greenish brown in colour, with spongy partitions. Seeds subcylindrical with an elongate and often excentric hilum, olive-green, 4-5 mm x 3 mm, 9-11 in the pod and holding well when mature, 20 000-24 000/kg.

Agronomic characters

Celera is a summer growing grain legume. At Grafton on the north coast of New South Wales, it normally flowers 6-7 weeks after sowing and the seed is ready for harvesting in a further 5-6 weeks, i.e. a totally of 80-90 days from sowing to harvest. The seed holds well in the pod when mature and yields from trial plots have varied from 766-1300 kg/ha. Analysis of the seed revealed a protein content of 23%. Sown at Glen Innes on the northern tablelands on 17 December, it commenced flowering on 7 February. The seed was harvested in early April with an estimated yield of 693 kg/ha. At Tamworth, sown on 20 December, it commenced flowering 6 February. Ripening of pods commenced in mid to late March and harvesting was undertaken on 15 May. The seed yield was assessed at 2412 kg/ha. At Yanco Agricultural College and Research Station in the south, the sowing was made on 19 December, flowering commenced 43 days after sowing, and harvesting was undertaken 132 days from sowing, with an assessed yield of 2800 kg of seed/ha,

The quick growth and early maturity of Celera renders it adaptable to coastal, tableland, and inland environments. Its earliness should give it some measure of drought resistance in inland areas. Although outyielded vegetatively by other summer-growing legumes, such as cowpeas, velvet beans, and lablab for forage or green manuring purposes, the quicker early growth of Celera may make it better adapted for use in some crop rotations. It may also be more suitable for sowing in combination with other forage crops such as millet and sorghums. It nodulates with indigenous 'cowpea-type' rhizobia or commercial cowpea inoculant (2).

As a pulse grain crop in New South Wales and possibly other States, yields ranging from 1257-2513 kg of grain/ha with a protein content of 23% appear possible. Sowing and harvesting can be undertaken with normal equipment.

References

1. Lee, Alma (1969). Personal communication. Royal Bot. Gdns. and Natn. Herbarium, Sydney.
2. Norris, D.O. (1971). Personal communication. CSIRO Div. Trop. Pastures, Brisbane.
3. Wilson, G. (1968). Quick maturing pulse crop. *Agric. Gaz. N.S.W.* **79**, 747.