**Centrosema pubescens**

**Scientific name**
*Centrosema pubescens* Benth.

**Synonyms**
*Bradhburya pubescens* (Benth.) Kuntze; *Centrosema galeottii* Fantz; *Centrosema schiedeanum* (Schldl.) R.J. Williams & R.J. Clem.; *Clitoria schiedeana* Schldl.

**Family/tribe**

**Morphological description**
Perennial, trailing-climbing herb with strong tendency to root at nodes of trailing stems. Leaves trifoliolate, leaflets ovate to orbicular, ca. 3 cm long and 1.3–2 cm broad, shortly acuminate and finely pubescent. Young leaflets and terminal portions of stolons are typically reddish. Stipules triangular-elongated, persistent. Inflorescence an axillary raceme with 3–5 lilac to bluish-violet flowers, each flower subtended by two striate bracteoles. Calyx campanulate, 5-teethed; standard orbicular, approx. 2 cm in diameter; wings and keel much smaller than standard, directed upwards. Pod linear, compressed, approx. 13 cm long and 5–6 mm broad, straight to slightly bent and beaked, containing up to 15 seeds. Seeds transversely oblong to very slightly reniform, approx. 5 mm long, yellowish-greenish with dark mottles. 36,000 seeds per kg. (This description refers to the *C. pubescens* form as represented by cv. Belalto.)

**Note:** There are three *C. pubescens* forms according to geographic origin:

(a) Mexico and Honduras: coarse, rather big leaves, from higher altitude, soil fertility demanding.

(b) Costa Rica and Panama: smaller-leafed, stoloniferous form as represented by cv. Belalto, mainly from higher altitudes.

(c) Llanos Orientales, Colombia: low-altitude germplasm, less stoloniferous, good adaptation to acid, low-fertility soils, disease susceptible.

**Similar species**
*C. pubescens*: bracts 6–9 × 3–6 mm, sericeous; pedicels 3–6 mm at anthesis; bracteoles 10–16 × 6–9 mm; seeds yellowish green.

*C. molle*: bracts 4–6 × 1–2 mm, puberulous; pedicels 6–9 mm at anthesis; bracteoles 6–9 × 4–6 mm; seeds brownish black.

**Common names**
Because of the confusion between *Centrosema pubescens* Benth. and *Centrosema molle* Mart. ex Benth. in much of the literature, there are no specifically unique common names for either species, although most should be applied to the more common species, *Centrosema molle*.

**Distribution**
*Native:*

**Northern America:** Mexico (Campeche, Chiapas, Colima, Federal District, Guerrero, Hidalgo, Jalisco, Mexico, Michoacán, Morelos, Nayarit, Oaxaca, Puebla, Querétaro, Quintana Roo, San Luis Potosí, Tabasco, Veracruz, Yucatán)

**Central America:** Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua; Panama (w.)

**South America:** Colombia (Llanos Orientales only)

**Uses/applications**
*Forage*
Grazed pastures in mixture with a grass, legume-only protein bank, cut-and-carry.
Environment
Potential also as soil cover.

Ecology
Soil requirements
Non-Mexican germplasm is in general better adapted to acid, less fertile soils than common centro (*Centrosema molle*); requires well-drained soils.

Moisture
Subhumid to humid tropics with rainfall >2,000 mm/year.

Temperature
Good growth in cool season (Australia).

Light
No information available.

Reproductive development
Like common centro, an indeterminate legume; flowering is induced mainly by photoperiod (short days) but is also favoured by water stress. In Colombia, accession CIAT 5161 (from Panama) is very late flowering.

Defoliation
Because of stoloniferous habit, shows good regrowth and persistence.

Fire
No information available.

Agronomy
Guidelines for establishment and management of sown forages.

Establishment
Essentially the same as common centro (*Centrosema molle*).

Fertilizer
No reports, probably not too different from *C. molle*; like *C. molle*, responds to inoculation with *Bradyrhizobium* strains CB 1923 and CB 2947.

Compatibility (with other species)
No information available.

Companion species
Reports restricted to *Megathyrsus maximus*; otherwise probably not too different from *C. molle*. ‘Belalto’ centro persisted with proper fertilization and stocking management for at least 10 years in the humid tropics of Australia.

Pests and diseases
In Australia, ‘Belalto’ centro less affected by *Cercospora* leaf spot and spider mites than common centro. In Colombia, Colombian germplasm was severely affected by *Pseudomonas* bacterial blight.

Ability to spread
Limited.

Weed potential
Unknown, but probably low.

Feeding value
Nutritive value
Similar to *C. molle*. Accession CIAT 5161, means of 7 cuts, 3-month old leaf: 24% CP, 53% IVDMD, 0.19% P, 0.83% Ca; accession CIAT 5920 (Mexico), young leaf tissue (= 6 months after planting): 26% CP, 71% IVDMD.

Palatability/acceptability
Considered to be similar to that of common centro (C. molle).

Toxicity
None reported.

Production potential
Dry matter
cv. Belalto 12.8 t DM/ha/year in North Queensland; accession CIAT 5161: 7.6 t DM/ha/year under cutting in Quilichao, Colombia.

Animal production
550–650 kg LWG/ha/year gain possible in humid Queensland, Australia ('Belalto' in mixture with Megathyrsus maximus).

Genetics/breeding
2n = 22.

Seed production
Up to 350 kg/ha under experimental and 107 kg/ha under commercial conditions.

Herbicide effects
No information available.

Strengths
In comparison with common centro (C. molle):
- Cool-season growth of ‘Belalto’ in Australia.
- Stoloniferous growth habit (Panama and Costa Rica germplasm only).

Limitations
In comparison with common centro (C. molle):
- Low seed production.
- Lack of competition with low-priced, imported seed of common centro.

Selected references


Cultivars
‘Belalto’ (Q 8333) Released in Australia (1971). Origin Costa Rica; good cool-season tolerance.

Promising accessions
CIAT 5161 Selected in Colombia. Origin Cañas Gordas, Panama (8°43’ N, 1,060 m asl, rainfall 3,300 mm); particularly stoloniferous.