

Genus Datasheet

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Datasheet No. A-140.078
(Family.Genus)

DBT- Network Programme

1. Genus: *Cajanus* DC

2. Species:

Global: 32

India:

- C. albicans* (Wight & Arn.) Maesen
- C. cajan* (L.) Millsp.
- C. cajanifolius* (Haines) Maesen
- C. crassus* (Prain & King) Maesen var.
burmanicus (Collett & Hemsley) Maesen
- C. elongatus* (Benth.) Maesen
- C. goensis* Dalzell
- C. grandiflorus* (Baker) Maesen
- C. heynei* (Wight & Arn.) Maesen
- C. lineatus* (Wight & Arn.) Maesen
- C. mollis* (Benth.) Maesen
- C. niveus* (Benth.) Maesen
- C. platycarpus* (Benth.) Maesen
- C. rugosus* (Wight & Arn.) Maesen
- C. scarabaeoides* (L.) Thouars [
- C. sericeus* (Baker) Maesen
- C. trinervius* (DC.) Maesen
- C. villosus* (Baker) Maesen

3. Systematic position: APG IV; Bentham and Hooker:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Eudicots

Bentham and Hooker (1862)

Kingdom: Plantae
Division: Phanerogamia
Class: Dicotyledons

- Clade: Rosids
 - Order: Fabales
 - Family: Fabaceae
 - Subfamily: Faboideae
 - Genus: *Cajanus* DC
- Subclass: Polypetalae
 - Series: Calyciflorae
 - Cohors: Rosales Bercht. & J. Presl
 - Ordo: Leguminosae Juss.
 - Subordo: Papilionaceae Giseke
 - Genus: *Cajanus* DC

4. Taxonomic riddles: Yes¹⁰⁸,

5. Distribution:

Global: India, Sri Lanka

India

6. Habit and Habitat:

7. Economic Importance: Edible pulse crop

8. DNA content range: Methodology

1C DNA = (0.825-1.4)pg Feulgen Microdensitometry²

Propidium iodide & DAPI flow cytometry¹⁰

2C DNA = (1.6-2.9)pg Feulgen Microdensitometry²

4C DNA = (3.28-11.69)pg Feulgen Microdensitometry^{1,2} Cytophotometry¹¹

9. Basic chromosome number(s): $x=11$ ^{12, 13, 14, 15, 16, 17, 18, 19}

10. Zygotic chromosome number(s): $2n=16$ ⁴¹

$2n=22$ 1, 2, 3, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 97, 98, 99, 100, 102, 103, 105, 106, 109, 110, 111, 114

11. Gametic chromosome number(s): $n=11$ 4, 19, 29, 30, 40, 104, 105, 112

12. Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene Chromosomes/

Neocentric chromosomes):

13. Ploidy level:Diploid^{2, 14, 18, 20, 30, 31, 41, 42, 43, 44, 60, 109, 110}

14. Nature of polyploidy (auto, segmental, allo, autoallo):

15. Aberrant chromosome number(s) (aneuploidy, aneusomaty, polysomaty):

16. Karyograms:^{1, 3, 4, 19, 106}

Meiosis: 11II^{29, 30, 34, 52}

17. Banding pattern(s):Giemsa C- Banding ²⁶

18. Physical mapping of chromosomes:18SrRNA gene and 5S rRNA gene³⁵
5 S and 18S–5.8S–25S rDNA ribosomal gene families ⁴⁵

BAC-based probes^{46, 47}

GISH:

19. Phylogenetic relationship at Chromosomal; DNA level:

Chromosomal level^{1, 3, 10, 20, 23, 24, 26, 48, 53, 54, 55, 56, 57, 58, 59, 60, 61, 107}

DNA level^{5, 6, 7, 8, 9, 15, 31, 32, 33, 38, 39, 50, 57, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 81, 101, 107, 108, 110, 113}

20. Cytogenetic mechanism (s) underlying evolution:

21. Linkage map:^{16, 17, 33, 34, 36, 37, 44, 48, 49, 50, 51}

22. Any other information:

- *C. crassus* var. *burmanicus* (Collett&Hemsl.) Maesen
- *C. villosus* (Baker) Maesen
- *C. rugosus* (Wight & Arn.) Maesen
- *C. trinervius* (DC.) Maesen