

Species Datasheet

Datasheet No. A-140.078.004
(family.genus.species)

DBT- Network Programme

1. Taxon:

Species *Cajanuscajan* (L.) Millsp

Variety

Cultivar

Hybrid

2. Synonyms:

- [*Cajanus bicolor* DC.](#)
- [*Cajanus flavus* DC.](#)
- [*Cajanus indicus* Spreng.](#)
- [*Cytisuscajan* L.](#)
- [*Cytisuspseudocajan* Jacq.](#)

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

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Eudicots
- Clade: Rosids
- Order: Fabales
- Family: Fabaceae Lindl.
- Subfamily: Faboideae Rudd
- Genus: *Cajanus* DC
- Species: *Cajanuscajan* (L.) Millsp

Bentham and Hooker (1862)

- Kingdom: Plantae
- Division: Phanerogamia
- Class: Dicotyledons
- Subclass: Polypetalae
- Series: Calyciflorae
- Cohors: Rosales Bercht. & J. Presl
- Ordo: Leguminosae Juss.
- Subordo: Papilionaceae Giseke
- Genus: *Cajanus* DC
- Species: *Cajanuscajan* (L.) Millsp

4. Distribution:

Global: Bolivia, India

India:

5. Indigenous/Exotic/Endemic; Cultivated/Wild:

6. Threat Status:

IUCN

BSI

7. Habit and Habitat:

8. Life Form:

9. Economic Importance:

10. Probable Progenitor of: It forms the primary gene pool.

11. DNA

C-value Methodology

1C Level = 0.825pg Propidium iodide & DAPI flow cytometry¹⁰

1C Level = 0.853 pg Feulgen densitometry¹⁰

4C DNA = 6.19 pg to 7.97pg Cytophotometry¹¹

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

13. Zygotic chromosome number(s): $2n=22$ ^{1, 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}

14. Gametic chromosome number(s): $n=11$ ^{19, 29, 30, 34, 40}

15. Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene chromosomes/Neocentric chromosomes):

16. Ploidy level: Diploid^{14, 18, 20, 30, 31, 41, 42, 43, 44}

17. Agamete ploidy:

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

19. Genomic formula:

20. Aberrant chromosome number(s) (aneuploidy, aneusomy, polysomy):

21. Somatic chromosomes: 1, 3, 19,

Karyotype: Majority Metacentric and Submetacentric

Chromosome size: Small

NOR chromosome(s): 4

Degree of asymmetry: Symmetrical

22. Banding pattern(s):

Giemsa C- Banding²⁶

23. Physical mapping of chromosomes:

In situ hybridization

Fluorescent in situ hybridization

18S rRNA gene and 5S rRNA gene³⁵

5S and 18S–5.8S–25S rDNA ribosomal gene families⁴⁵

BAC-based probes^{46, 47}

24. Genomic in situ hybridization:

25. Linkage map: 16, 17, 33, 34, 36, 37, 44, 48, 49, 50, 51

26. Chromosome associations: 11II³⁴

Female meiosis

Male meiosis

27. Chromosome distribution at anaphase I: 11:11^{29, 30, 52}

28. Genetic diversity:

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

DNA level: RAPD, ISSR, RFLP, SCAR, SSR, STS, AFLP, DArT and SNP^{5, 8, 15, 31, 32, 38, 39, 50, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81}

29. Any other information (Apomixis; Inversion; Male sterility; Pollen grain mitosis;

Pollen stainability; Translocation etc.):

Male sterility 82, 83, 84, 85, 86, 87, 88, 89