

Species Datasheet

Datasheet No. A-140.001.014
(family.genus.species)

DBT- Network Programme

1. Taxon:

Species: *Arachis hypogaea* L.
Subspecies
Variety
Cultivar
Hybrid

Image file

2. Synonyms: *Arachis nambyquarae* Hoehne, *A. hypogaea* var. *hypogaea*, *A. hypogaea* subsp. *nambyquarae* (Hoehne) A. Chev., *A. hypogaea* var. *nambyquarae* (Hoehne) Burkart, *A. hypogaea* subsp. *oleifera* A. Chev., *A. nambyquarae* Hoehne, *Lathyrusesquirolii* H. Lév.

3. Systematic Position:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Eudicots
- Clade: Rosids
- Order: Fabales
- Family: Fabaceae Lindl.
- Subfamily: Faboideae Rudd
- Genus: *Arachis* L.
- Species: *A. hypogaea* L.

4. Distribution:

Global: *A. hypogaea* cultivated in Asia, Africa, Americas

India: Cultivated in most parts of India

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

Bentham and Hooker (1862)

Kingdom: Plantae

Division: Phanerogamia

Class: Dicotyledons

Subclass: Polypetalae

Series: Calyciflorae

Cohors: Rosales Bercht. & J. Presl

Ordo: Leguminosae Juss.

Subordo: Papilionaceae Gussone

Genus: *Arachis* L.

Species: *A. hypogaea* L.

6. Threat Status:

IUCN:

BSI:

7. Habit and Habitat: Procumbent herb, Tropical, Subtropical, and warm temperate regions

8. Life Form: Annual

9. Economic Importance: Major crop for high quality vegetable oil, human food, feedstock, ground cover value

10. Probable Progenitor of:

11. DNA

C-value	Methodology
2C (5.60 pg) ¹	Flow cytometry
2C (5.80pg) ²	Flow cytometry
2C (4.21pg) ³	Feulgenmicrodensitometry
2C (5.91pg) ⁴	Flow cytometry and Feulgenmicrodensitometry

12. Basic chromosome number(s): $x = 10^{2,5-12}$

13. Zygotic chromosome number(s): $2n=40^{2, 5-29}$; $2n = 40, 42, 44$ (Varieties: G153 , F439.2, F452.4, Samuru 61)³⁵

14. Gametic chromosome number(s): $n = 20^{7,9, 10}$

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

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16. Ploidy level: Tetraploid^{2, 5-29, 35}

Image file

17. Agametoploidy:

18. Nature of polyploidy (auto, segmental, allo, autoallo): Allotetraploid^{8, 13, 17, 19, 20, 22, 23, 30}

19. Genomic formula: AABB^{2, 13, 17, 19, 20, 22, 26, 28, 30, 34}, AAAA³³

20. Aberrant chromosome number(s) (aneuploidy, aneusomy, polysomy): Aneuploids³⁵

21. Somatic chromosomes: 6, 7, 8, 14, 19

Karyotype Majority metacentric / submetacentric chromosomes

Chromosome size Small

NOR chromosome(s) 2

Degree of asymmetry Symmetrical

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22. Banding pattern(s): C- banding⁶, Heterochromatic DAPI⁺ bands^{2, 19}, Centromeric DAPI⁺ bands^{14, 17}

Image file

23. Physical mapping of chromosomes:

In situ hybridization

Image file

Fluorescent in situ hybridization: 18S - 5.8S - 26S and 5S ribosomal gene families^{14, 19}, A and B genomes distinguished by Cot -1 library (repetitive DNA sequences)¹³

Image file

24. Genomic in situ hybridization:^{17, 22}

Image file

25. Linkage map:^{74 - 86}

Image file

26. Chromosome associations:

Female meiosis

Male meiosis^{20 II 7, 10, 29, Also I, III 10}

Image file

27. Chromosome distribution at anaphase I:

28. Genetic diversity:

Chromosomal level

Image file

DNA level^{18, 23, 24, 25, 26, 27, 28, 32, 33, 34, 37 - 73}

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

Pollen stainability; Translocation etc.): Pollen Stainability :91 %³⁶