

Species Datasheet

Datasheet No. A-140.085.011
(family.genus.species)

DBT- Network Programme

1. Taxon:

Species: *Vicia faba* L.
Subspecies
Variety
Cultivar
Hybrid

Image file

2. Synonyms: *Faba bona* Medik., *Fabafaba* (L.) House, *Faba vulgaris* Moench, *Orobis faba* Brot., *Viciaequina* Steud., *Viciaesculenta* Salisb., *Vicia vulgaris* Gray, *Faba major* Desf. *Faba minor* Roxb., *Faba vulgaris* var. *paucijuga* Alef.

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

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Eudicots
- Clade: Rosids
- Order: FabalesBromhead
- Family: FabaceaeLindl.
- Subfamily: Faboideae Rudd
- Genus: *Vicia* L.
- Species: *Vicia faba* L.

Bentham and Hooker (1862)

Kingdom: Plantae
Division: Phanerogamia
Class: Dicotyledons
Subclass: Polypetalae
Series: Calyciflorae
Cohors: Rosales Bercht. & J. Presl
Ordo: LeguminosaeJuss.
Subordo: PapilionaceaeGiseke
Genus: *Vicia* L.
Species: *Vicia faba* L.

4. Distribution:

GlobalCultivated

IndiaTemperate India

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

6.Threat Status:

IUCN

BSI

7.Habit and Habitat:Herbaceous .Erect .Grows upto 200 cm tall .

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8.Life Form:Annual

9.Economic Importance:Pulse Crop. Forage .Fodder . Green manure

10. Probable Progenitor of:

11.DNA

C-value

Methodology

1C (10.94- 14.73 pg)¹

DNA Cytophotometry

4C(53.31pg)^{2, 3}

Microdensitometer

4C (51.22 pg)⁴

Microdensitometer

12.Basic chromosome number(s): $x=6^{1,5,6,7,156}$

13. Zygotic chromosome number(s): $2n=12^{1,3,4,5,7-28,155,156,157}$

14. Gametic chromosome number(s): $n=6^{6,7,24,155,156}$

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

Image file

16.Ploidy level:Diploid^{1,3,4,5,7-28,155,156,157}

Image file

17.Agametoploidy:

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

19.Genomic formula:

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

21.Somatic chromosomes: $1,3,4,5,7,8,9,13,14,16,19,25,28,29,30,31,156$

Karyotype Majority subtelocentric chromosomes

Chromosome size Large

NOR chromosome(s) 2

Degree of asymmetry Asymmetrical

Image file

22. Banding pattern(s): Q- banding^{11, 32}; C- banding^{12, 19, 25, 33, 34, 35}; G- banding^{36 - 41}

Image file

23. Physical mapping of chromosomes: 18S - 5.8S - 26S and 5S ribosomal gene families

10, 15, 17, 22, 25, 26; Satellite DNA sequences¹¹; Fok I repeat

sequences²¹; Repetitive DNA sequences^{18, 23, 42};

Transgenes²⁷

In situ hybridization

Image file

Fluorescent in situ hybridization

Image file

24. Genomic in situ hybridization:

Image file

25. Linkage map:⁷⁹⁻⁸⁹

Image file

26. Chromosome associations:

Female meiosis⁷

Male meiosis 6 II^{6, 7, 24, 155}

Image file

27. Chromosome distribution at anaphase I:^{6, 2}

28. Genetic diversity:

Chromosomal level^{14, 20}

Image file

DNA level^{29, 43 - 78}

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

Pollen stainability; Translocation etc.): Pollen stainability: 86 - 100 %^{6, 24}