

Datasheet No. A-074.005.001
(family.genus.species)

DBT- Network Programme

1. Taxon:

Species *Agave americana* L.
Subspecies
Variety
Cultivar
Hybrid

Image file

2. Synonyms: *Agave americana* f. *virginica* Voss, *A. americana* var. *variegata* Hook., *A. gracilispina* (Rol.-Goss.) Engelm ex Trel., *A. ramosa* Moench, *A. salmiana* var. *gracilispina* Rol.-Goss., *A. spectabilis* Salisb., *A. theometel* Zuccagni, *A. variegata* Steud., *A. virginica* Mill., *Aloe americana* (L.) Crantz

3. Systematic Position:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Monocots
- Order: Asparagales Link
- Family: Asparagaceae Juss.
- Subfamily: Agavoideae
- Genus: *Agave* L.
- Species: *A. americana* L.

Bentham and Hooker (1862)

Kingdom: Plantae
Division: Phanerogamia
Class: Monocotyledones
Series: Epigynae
Ordo: Amaryllideae
Tribus: Agaveae
Genus: *Agave* L.
Species: *A. americana* L.

4. Distribution:

Global: Mexico, Texas, Arizona, Azores, Canary Island, Madeira, Ethiopia, Algeria, Libya, Morocco, Tunisia, Botswana, Cape Provinces, Free State, KwaZulu-Natal, Lesotho, Swaziland, Guinea, Rwanda, Subantarctic Islands, Amsterdam-St. Paul Is., China, Korea, Nansai-shoto, Ogasawara-shoto, East Aegean Island, Turkey, Bangladesh, India, Pakistan, West Himalaya, Cambodia, Myanmar, Thailand, Australia, New South Wales, Norfolk Is., Queensland, New Zealand, Albania, Greece, Italy, Kriti, Sicilia, Yugoslavia, Balears, Corse, France, Portugal, Sardegna, Spain, Marianas, Fiji, Gilbert Island, Nauru, Brazil, Southeast, Caribbean, Bermuda, Cayman Island, Cuba, Dominican Republic, Haiti, Leeward Island, Puerto Rico, Windward Is., Costa Rica, Guatemala, Argentina, Northeast, Juan Fernández Is, Bolivia, Colombia, Ecuador, Peru

India: Widespread

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

6. Threat Status:

IUCN: Not evaluated

BSI:

7. Habit and Habitat: Stoloniferous herb; Widely naturalized, mainly near the coast, in the Mediterranean region

8. Life Form: Perennial

9. Economic Importance: Medicinally uses for Antiseptic, Diaphoretic, Diuretic, Laxative and odontalgic properties. Also used for fibre, soil reclamation, thatching; as insecticide, in paper and soap industry etc. Steroidal sapogenin yielding plant

10. Probable Progenitor of:

11. DNA

C- value

Methodology

4C (0.0863au)¹

Feulgen microspectrophotometry¹

4C (0.1865au)^{1,2}

Feulgen Cytophotometry²

1C (8.0pg)³

Flow Cytometry³

2C (15.9pg)³

4C (31.8pg)³

12. Basic chromosome number(s):

13. Zygotic chromosome number(s): 2n=20⁵; 2n= 60^{1,4,6,8,12,15,17,19,20}, 2n=90¹⁴; 2n=81-104¹⁹; 2n=118¹²; 2n=119¹²; 2n=106-120¹⁹;

$2n=120^{1,2,3,7,9,10,11,12,13,16,18}$; $2n=180^{12}$; $2n=240^{11}$

14. Gametic chromosome number(s):

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

Image file

16. Ploidy level: Diploid^{1,4,12,19,20}; triploid¹⁹; tetraploid^{1,2,3,7,10,12,13,19}; hexaploid¹²

Image file

17. Agametoploidy

18. Nature of polyploidy (auto, segmental, allo, autoallo): Autopolyploidy¹³

19. Genomic formula:

20. Aberrant chromosome number(s) (aneuploidy, aneusomy, polysomy): variant metaphase plates showing $2n=24^{16}$, $2n=36^{16}$, $2n=44^{13}$, $2n=65^{16}$, $2n=72^{16}$, $2n=96^{13,16}$, $2n=104^{13}$, $2n=105^{13}$, $2n=110^{13}$, $2n=115^{13}$, $2n=125^{13}$, $2n=134^{13}$

21. Somatic chromosomes:

Karyotype: Majority nearly submetacentric chromosomes^{4,16}; majority sub-telocentric chromosomes^{8,12}; majority metacentric chromosomes¹³

Chromosome size: very small to medium^{4,13,16}; very small to small^{8,20}

NOR chromosome(s): 2NOR¹²; 4NOR¹²; 8NOR^{1,4}; 10NOR¹³; 14NOR^{1,16}; 16NOR¹³

Degree of asymmetry: Bimodal karyotype with 5 long and 25 short chromosomes in haploid complement^{1,4,16}

Image file

22. Banding pattern(s):

Image file

23. Physical mapping of chromosomes:

In situ hybridization

Image file

Fluorescent in situ hybridization

Image file

24. Genomic in situ hybridization:

Image file

25. Linkage map:

Image file

26. Chromosome associations:

Female meiosis

Male meiosis

Image file

27. Chromosome distribution at anaphase I:

28. Genetic diversity:

Chromosomal level

Image file

DNA level

29. Any other information (Apomixis; Inversion; Male sterility; Pollen grain mitosis; Pollen stainability; Translocations etc):