

Species Datasheet

Datasheet No. G-007.005.023
(family.genus.species)

1.Taxon:

Species: *Pinus taeda* L.

Subspecies:

Variety:

Cultivar:

Hybrid:

Image file

2. Synonyms: *Pinus lutea* Walter, *P. mughoides* E.H.L.Krause, *P. taeda* var. *alopecuroidea* Aiton, *P. taeda* var. *mughoides* E.H.L.Krause, *P. taeda* var. *tenuifolia* Aiton

3. Systematic Position:

Christenhusz *et al.* (2011)

- Class: Equisetopsida C. Agardh
- Subclass: Pinidae Cronquist
- Order: Pinales Gorozh.
- Family: Pinaceae Spreng.
- Genus: *Pinus* L.
- Species: *P.taeda* L.

Bentham and Hooker (1862)

Kingdom: Plantae

Division: Phanerogamia

Class: Gymnospermeae

Ordo: Coniferae

Tribus: Abietineae Eichler

Genus: *Pinus* L.

Species: *P. taeda* L.

4.Distribution:

Global:

India: Uttarakhand

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

6.Threat Status:

IUCN: Least concern

BSI:

7.Habit and Habitat: Evergreen tree (30-35 m tall).this pine forms extensive stands on low, sandy knolls in the 'prairie swamps' along the Gulf of Mexico; in the inland parts of the coastal plain it occurs on river

floodplains and old river terraces with deep, relatively dry sandy or loamy soils.

8.Life Form:Phanerophytes

9.Economic Importance: Timber, fuel

10. Probable Progenitor of:

11.DNA

C-value

2C (21.90 pg) ¹³

2C (26.00 pg) ⁷⁰

2C (37.90 pg) ⁶³

2C (46.30 pg) ⁹⁰

2C (43.40 pg) ⁹⁰

2C (44.20 pg) ⁶¹

2C (44.30 pg) ⁹⁶

2C (49.12 pg) ²⁰

Methodology

Feulgen microdensitometry¹³

Feulgen microdensitometry⁷⁰

Feulgen microdensitometry⁶³

Feulgen microdensitometry⁹⁰

Flow cytometry⁹⁰

Flow cytometry⁶¹

Flow cytometry⁹⁶

Flow cytometry²⁰

12.Basic chromosome number(s): $x=12$ 8, 23, 30, 31, 35, 63, 74

13. Zygotic chromosome number(s): $2n=24$ 8, 23, 30, 31, 63, 74

14. Gametic chromosome number(s):

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

Image file

16.Ploidy level: Diploid 8, 23, 30, 31, 63, 74

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: ^{23, 30, 31, 74}

Karyotype Median shortest pair submedian ^{23, 30, 31, 74}

Chromosome size Large ^{23, 30, 31, 74}

NOR chromosome(s) 10 ²³, 38 (sites) ³⁰, 20 (sites) ³¹

Degree of asymmetry Symmetrical ^{23, 30, 31, 74}

Image file

22. Banding pattern(s): C-bands, CMA+, DAPI+ ³¹

Image file

23. Physical mapping of chromosomes:

In situ hybridization

Image file

Fluorescent in situ hybridization: 45S rDNA, 5S rDNA ^{30, 31}, A-type TRS ³⁰

Image file

24. Genomic in situ hybridization:

Image file

25. Linkage map: 11, 17, 36, 58, 69, 82, 88

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; Translocation etc.):