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SESAME



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SESAME

- **Scientific name:- (Sesamum indicum)**
- **Chromosome no:- ($2n=26$)**
- It is an ancient oil seed crop of tropics and warm sub-tropics. It is also called as gingelly.
- **Origin:** India, and Ethiopia (Africa)
- **Distribution:** India, Pakistan, Africa, China, Mexico, Iran, Iraq etc.
- **Progenitors:** Sesamum angustifolium
- S. radiatum
- S. alatum



Wild species utilised in breeding programme

- 1. *S.alatum*($2n = 26$)
Resistant to phyllody *S.alatum* x *S.indicum*
alatum is having dormancy.
- 2. *S.malabaricum* ($2n = 26$) Occurs in Travancore of Kerala. It freely crosses with cultivated gingelly. Oil content is low 32% It is utilised to induce male sterility in cultivated sesame.
- 3. *S.laciniatum* $2n = 32$
Tolerant to phyllody, drought and jassid resistant.
Fertile auto allopolyploid produced by crossing
S.indicum x *S.laciniatum*
- Sterile, Double.
- 4. *S.prostratum* occurs in S.India ($2n = 26$)
Tolerant to drought.



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Breeding objectives

1. Breeding high yielding varieties tolerant to drought.

Eg:- Thillarani (KAU)

2. Breeding white seeded varieties

Finest quality of oil is obtained from white seeded lines. Eg :-
G.Til 4

3. Development of mono stemmed varieties.

By this more population per unit area and yield can be increased. Monostemmed varieties are low yielders.

4. Development of multicapsule / axil and multicarpellary varieties.

5. Rice fallow varieties :

Shorter in duration.eg:- TMV 3, TMV 4 , TMV 6, VRI 1

6. Non- shattering varieties

African lines.(Done in Kasetart university of sesame breeding project)

7. Resistant to disease

Powdery mildew (TIL 10)

Phyllody - transfer from wild species.(TMV 4)



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Breeding Methods :

1. **Introduction** : African lines.

2. **Pure line selection.**

TMV6 - Andhra local.

3. **Hybridization and selection.**

a) **Inter varietal**

b) **Inter specific** : Male sterile lines evolved by crossing with *S.malabaricum*.

4. **Population improvement**

5. **Poly ploidy breeding**

6. **Heterosis breeding**

Epipetalous nature makes emasculation and crossing easier

Use of CMS lines is also being attempted.

7. **Embryo rescue technique.**

Varieties Gouri, Madhavi, Rajeshwari, Swetha



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THANK YOU