

## Screening of Sesamum Germ-plasm for Resistance to Fusarium Wilt (*Fusarium vasinfectum* var. *sesami*.)

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Sesamum (*Sesamum indicum* L.), an important oilseeds crop, suffers heavy losses every year due to wilt disease caused by *Fusarium vasinfectum* Atk. var. *sesami* Zaprometoff. The exact loss caused by this disease has not been worked out but when this disease occurs with Phytophthora blight (*Phytophthora parasitica* var. *sesami*.), the loss may be as high as 90%. The disease is wide spread and occurs wherever sesamim is cultivated. In India this disease was first reported by Bulter (1926). As the disease is seed and soil borne, sowing of resistant varieties is the only alternative and hence a search for resistant material has been in progress, since long. This paper reports the result of screening of 206 local and wild cultivars of sesamum in a wilt sick plot for two years (1976-77 and 1977-78).

The material was sown in duplicate row plots having 5m length, with 45cm spacing between the rows and 15cm between plants. Germination count was made after final thinning and total mortality percentage was calculated by counting the surviving plants 45 days after germination. The disease intensity was determined on a 6 point scale as below :

0 = Immune (100% plants survived)

- 1 = Tolerant (90% and above plants survived)
- 2 = Moderately tolerant (75% to 89% plants survived)
- 3 = Moderately susceptible (45% to 74% plants survived)
- 4 = Susceptible (30% to 44% plants survived)
- 5 = Highly susceptible (below 30% plants survived)

None of the cultivars screened was found to be immune, while only three, viz., TC-25, TC-45 and Punjab til No. 1 were found to be tolerant.

The moderately tolerant 16 cultures were MT-67-18, Wild Dhandhuka, Wild Zhalawad, SI-1551, SI-1672, N-62-10, N-62-34, N-62-141, N-66-95, N-66-135, N-66-173, Type-2, Type-4, T-61-15-1, T-62-2-1 and Wil S.M.

The moderately susceptible cultures were Kundla 1-5, Kundla 1-8, Kalyanpur-3, Korisal-5-1, S-4-1, MT-67-13, MT-67-52, Nadiad-Talod, PBR, Patelka 1-6, SSM, Talod-11-9, U-2, Wild Dang E-8, RT-1, SI-858, SI-1225, N-62-32, N-62-38, N-62-39, N-66-276, TS-12-34, T-12, T-12-34, T-50-10, T-85, T-487-78, NP-6, NP-7, SS-white, DC-27, DC-28, P-33-1 and P-34-1.

Susceptible cultures were JR-16, JR-22, Kalyanpur-6-1, Kalyanpur-7, Limdi-9, Mansar-2, Malia-2-1, MT-67-25, MT-67-63, MT-67-72, U-3, U-4, U-8, EC-48-28, B-67, SI-968, SI-1929,

TMV-1, TC-66, TC-103, N-128, L-16, Type-13, T-26-12, T-49-3-156, T-52-7-37, T-70-1-1, S.S. Brown, N-58-2, Selection R, D-19-43-1 and M-3-2.

Rest of the 120 cultivars were found to be highly susceptible.

The varieties TC-20, TC-25, N-32 and No. 128 have been reported resistant to Fusarium wilt (Anonymous 1978) under field condition at Jabalpur. Similarly the varieties TC-25, Til No. 1 and N-66-173 have shown the incidence of Fusarium wilt below 3 per cent under field condition at Jalgaon (Anonymous 1978). Therefore, the variety TC-25 can be exploited as one of the parents for breeding varieties resistant to this disease.

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## REFERENCES

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