

Varietal Susceptibility of Sesamum (*Sesamum Indicum* L.) To Leaf Curl Disease

S. M. Jani and R. K. Bharodia

Main Oilseeds Research Station, Gujarat Agricultural University, Junagadh.

ABSTRACT

Varietal susceptibility of sesamum to leaf curl disease was studied during 1976-77 and 1977-78 at the Main Oilseeds Research Station, Junagadh (Gujarat). The varieties Patan-64, B-90 and M.T. 67-52 were found tolerant to the disease under field conditions, while T-4 was the most susceptible. (Received on September 7, '77)

INTRODUCTION

SESAMUM (*Sesamum indicum* L.) is one of the major oilseed crops in India. It suffers from a number of diseases of which phyllody, leaf curl, cercospora leaf spot and root and stem rot are the most important. The leaf curl is a serious disease of sesamum and is responsible for heavy losses. Wallace (1933) stated that one of the most destructive diseases of sesamum in Tanganyika is leaf curl caused by virus. The disease is characterised by severe downward curling of the leaves and marked thickening of the veins on the underside. The affected leaves may be reduced in size, become somewhat thick and brittle and are generally dark green in colour. The disease is graft-transmissible and spreads in nature through the agency of the white-fly *Bemisia tabaci* Gen. No information is available about the susceptibility of these recently developed varieties and hence the present findings will be useful for the breeders as well as cultivators.

MATERIAL AND METHODS

The experiment was laid out in randomised block design with ten varieties during 1976-77 and 1977-78 at the Main Oilseeds Research Station, Junagadh (Gujarat). Each variety was replicated four times. Plot size was 6×2.70 m. There were six rows, 45 cm apart in each plot. Fertilizers were applied uniformly in all varieties at the rate of 50 kg N and 50 kg P_2O_5 /ha. During both the years observations on the incidence of the disease were recorded 68 days after sowing the crop. To record the incidence of the disease, total number of plants and number of infected plants showing the disease symptoms were counted in each plot. The data on percentage incidence were subjected to angular transformation and analysed by variance to test the significance of differences between varieties.

RESULTS AND DISCUSSION

The data on the percentage inci-

dence in different varieties are summarized in Table 1. None of the varieties

TABLE 1

Percentage plants infected with leaf curl disease of sesamum.

Variety	Plants infected (%)	
	1976-77	1977-78
Patan-64	3.21 (10.19)*	4.71 (12.45)*
B-90	3.34 (10.37)	3.08 (9.66)
M.T-67-52	4.92 (12.38)	5.31 (13.04)
Anand-13	10.68 (19.01)	10.32 (17.74)
J. H. S. 7	11.25 (19.29)	8.81 (16.80)
K-4	13.64 (20.56)	12.22 (20.36)
M.T-67-13	14.96 (21.63)	15.39 (22.81)
M.T-67-76	16.04 (22.79)	17.25 (24.05)
Mrug-1	21.99 (27.49)	25.84 (29.52)
T-4	46.34 (42.82)	28.32 (31.77)
S.Em ±	(3.13)	(3.09)
C.D. 5%	(9.06)	(8.92)
C.V. %	(30.30)	(31.18)

* After angular transformations.

was found resistant to the disease but there were significant varietal differences in susceptibility. The varieties Patan-64, B-90 and M.T-67-52 did not differ

significantly in both the years and were found tolerant to the disease. The most susceptible variety was T-4. Thus these three varieties viz., Patan-64, B-90 and M.T-67-52 may be utilized in hybridization programme to produce resistant varieties of sesamum against leaf curl disease and so also for commercial cultivation.

ACKNOWLEDGEMENT

The authors are grateful to Shri P. K. Patel, Oilseeds Specialist, Gujarat Agricultural University, Junagadh for kind permission to record the observations from State Coordinated Varietal Trial of Sesamum.

REFERENCE

- Wallace, G. B. 1933. Report of the Mycologist, *Ann. Rept. Agric. Tanganyika Territory*, 1932; 76-80 (Source: Sesamum monograph-1961-published by R. Sankaran, Secretary, Indian Central Oilseeds Committee, Hyderabad-1.)