

RESEARCH NOTE

Effect of source of varietal resistance against of *Macrophomina phaseolina* on groundnut

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ABSTRACT

A pot experiment was conducted to assess the varietal resistant of seventy one groundnut varieties against dry root rot disease (*Macrophomina phaseolina*). Out of seventy one varieties, 28 varieties were found resistant which was spreading type, 6 varieties were moderately resistant and rest 37 varieties were found susceptible to *M. phaseolina* which were bunch type of varieties.

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Groundnut crop is affected by several soil borne destructive diseases. Among them, dry root rot caused by *Macrophomina phaseolina* (Tassi.) Goid. has been noticed 33.33 per cent seed rotting and 23.80 per cent post emergence. Mathur *et al.* (1967), Sundararaman (1931) and Thomas (1941) observed that bunch varieties were more susceptible compared to spreading varieties. Mathukia (1982) reported that out of fifty varieties only nineteen varieties were found moderately susceptible to *M. phaseolina*. Gopal *et al.* (1994) screened 21 Spanish type groundnut entries against pod rot caused by *M. phaseolina* and found that ICGV 86885 and R 8972 were resistant and 6 varieties were tolerant. Javed *et al.* (1998) also observed that BC 10, BC 12, BC 21 and Valencia varieties had less pathogen infection.

Seventy one varieties were screened against *M. phaseolina*. One hundred forty two sterilized pots were filled with sterilized soil. Ten seeds of each groundnut variety were sown after surface sterilization with 0.1% HgCl₂ solution for 1 minute. In one set of 71 pots were kept as control. The mass culture of *M. phaseolina* was mixed (@ 1:9 proportion) in upper 4-5" layer of sterilized soil in each of another set of seventy one pots. Then ten seeds of each variety were sown after surface sterilization in each pot containing *M. phaseolina* culture. All the pots including checks were brought to green

house conditions. Regular irrigations were given to each pot. Observations were recorded upto 60 days of sowing and the varieties were grouped according to pathological reaction as given by Raj and Prasad (1975).

Root rot (%)	Pathological reaction	
1-10	Resistant	(R)
11-25	Moderately resistant	(MR)
26-50	Susceptible	(S)
51-100	Highly susceptible	(HS)

The perusal of data tabulated in Table 1 revealed that 28 varieties found resistant, which were spreading type, 6 varieties were moderately resistant and rest 37 varieties were found susceptible to *M. phaseolina* which were of bunch types varieties According to. Gopal *et al.* (1994), out of 21 Spanish type groundnut, entries ICGV 86885 and R 8972 were resistant and 6 varieties were tolerant against pod rot caused by *M. phaseolina*. Mathur *et al.* (1967) also mentioned that the spreading groundnut entries were resistant compared to bunch type against root rot disease. Javed *et al.* (1998) reported that some valencia groundnut varieties have less root rot disease.

Table 1 : Screening of groundnut varieties against *M. phaseolina* under *in vivo* conditions

Sr. No.	Disease reaction	Varieties
1.	R	BAU-13, GG-10, GG-11, GG-12, GG-13, CSMG-9510, ICGS-5, ICGS-76, ICGV-86325, JSP-11, JSP-12, JSP-13, JSP-14, JSP-26, JSP-27, JSP-28, JSP-29, JSP-30, JSP-32, JSP-33, JSP-34, JSP-35, Kadiri-3, M-13, M-335, RG-383, RG-388 and Somanath (Total 28)
2.	MR	GG-20, GG-5, GG-6, GG-7, JL-24, MH-34 (Total 6)
3.	S	AK-265, AK-267, AK-12-24, AK-107, AK-135, CSMG-9618, DH-57, DH-87, DH-88, DH-(S)-102, GG-2, GG-4, ISK-I-2002-7, 8, 9, 10, 11, 13, ICGS-37, ICGS-44, ICGV-86590, J-11,45, 46, 47, 54, 55, 59, PBS-29017, TAG-24, TG-26, TG-37, TG-38, TMV-2,7, 10 and VG-9816 (Total 37)

R = Resistant (1 to 10% root rot), MR = Moderately resistant (11 to 25% root rot), S = Susceptible (26 to 50% root rot)

Looking to conclusion of screening or varietal reaction, out of seventy one promising groundnut entries, twenty eight varieties showed resistant reaction against *M. phaseolina* which belonged to spreading type. Six varieties were considered as moderately resistant and rest thirty seven varieties showed susceptible reaction.

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