

Screening of Mesta (*Hibiscus sabdariffa* L.) Germplasm Against Foot and Stem Rot Caused by *Phytophthora parasitica*

Key words : Foot & stem Rot, Mesta, Screening.

Foot and stem rot incited by *Phytophthora parasitica* is one of the serious disease in reducing the fibre yield of mesta (*Hibiscus sabdariffa* L.) (Anonymous, 1986c). Considering the impact of disease, experiments were conducted at Agricultural Research Station, Amadalavalasa during kharif-2008-09 and 2009-10, a total of 42 and 58 entries in respective seasons were tested for their reaction

Table 1. Reaction of genotypes to Foot and stem rot of Mesta.

Entry	Kharif-2008-09	Reaction
	Foot & Stem Rot (%)	
AR-11	23.54(*29.0)	Moderately susceptible
ER-60	39.54(38.94)	Highly Susceptible
ER-79	19.85(26.42)	Moderately susceptible
ER-23	0.24(2.81)	Highly Resistant
AR-35	24.89(29.87)	Moderately susceptible
AR-46	20.69(26.99)	Moderately susceptible
AR-47	42.57(40.69)	Highly Susceptible
AR-48	24.97(29.93)	Moderately susceptible
AR-50	22.74(28.45)	Moderately susceptible
AR-53	0.87(5.35)	Highly Resistant
AR-55	19.69(26.28)	Moderately susceptible
AR-66	44.71(41.96)	Highly Susceptible
AR-71	25.64(30.40)	Moderately susceptible
AR-77	20.72(27.06)	Moderately susceptible
AR-80	39.42(38.88)	Highly Susceptible
AR-81	52.98(46.66)	Highly Susceptible
AR-88	19.61(26.28)	Moderately susceptible
R-43	24.00(29.33)	Moderately susceptible
R-67	0.77(5.03)	Highly Resistant
R-83	42.36(40.57)	Highly Susceptible
R-88	20.85(27.13)	Moderately susceptible
R-101	48.21(43.97)	Highly Susceptible
R-118	20.89(27.13)	Moderately susceptible
R-127	0.92(5.50)	Highly Resistant
R-144	0.39(3.58)	Highly Resistant
R-318	0.76(5.00)	Highly Resistant
R-322	3.64(10.94)	Moderately Resistant
AMV-1	23.54(29.00)	Moderately susceptible
AMV-2	20.31(26.78)	Moderately susceptible
AMV-3	0.47(3.93)	Highly Resistant
AMV-4	40.31(39.41)	Highly Susceptible
AMV-RED	16.24 (23.73)	Moderately susceptible
AMV-PINK	18.84(25.70)	Moderately susceptible
HS-4288	24.26(29.47)	Moderately susceptible
HS-4239	22.31(28.18)	Moderately susceptible
AHS-103	18.65(25.55)	Moderately susceptible
AHS-106	23.12(28.73)	Moderately susceptible
8434-8438	40.15(39.29)	Highly Susceptible
6294-4078	39.11(38.70)	Highly Susceptible
AS-81-22	0.69(4.76)	Highly Resistant
AS-80-31	38.15(38.12)	Highly Susceptible
ER-04	23.32(28.86)	Moderately susceptible
AMV-5(Check)	40.21(39.35)	Highly Susceptible
SEd =	2.120	
CD(.005)=	4.216	

Entry	Kahrif-2009-10	Reaction
	Foot& Stem Rot(%)	
AR-4	22.26(28.15)	Highly Susceptible
AR-8	31.0(33.83)	Susceptible
AR-19	38.54(38.37)	Highly susceptible
AR-10	29.81(30.95)	Highly Susceptible
AR-11	30.18(33.71)	Highly susceptible
AR-12	18.98(25.82)	Moderately Susceptible
AR-13	17.14(24.45)	Moderately Susceptible
AR-13A	25.69(30.45)	Moderately Susceptible
AR-14	22.53(28.33)	Moderately Susceptible
AR-16	20.38(26.83)	Moderately Susceptible
AR-20	25.47(30.31)	Moderately Susceptible
AR-30	23.87(29.24)	Moderately Susceptible
AR-34	31.19(33.95)	Highly Susceptible
AR-35	29.22(32.72)	Highly Susceptible
AR-40	30.70(33.64)	Highly Susceptible
AR-87	41.34(40.01)	Highly Susceptible
AR-88	28.97(32.56)	Highly Susceptible
AR-90	29.87(33.13)	Highly Susceptible
AR-95	32.36(34.67)	Highly Susceptible
AR-98	29.67(33.00)	Highly Susceptible
AR-104	28.88(32.50)	Highly Susceptible
AR-115	31.41(34.08)	Highly Susceptible
AR-128	32.74(34.90)	Highly Susceptible
AR-45	23.38(28.91)	Moderately Susceptible
AR-42	32.47(34.73)	Highly Susceptible
AR-46	26.57(31.02)	Highly Susceptible
AR-48	27.14(31.39)	Highly Susceptible
AR-47	18.24(25.28)	Moderately Susceptible
AR-51	22.54(28.34)	Moderately Susceptible
AR-53	30.78(33.65)	Highly Susceptible
AR-54	24.57(29.71)	Moderately Susceptible
AR-55	26.36(30.89)	Highly Susceptible
AR-59	27.84(31.84)	Highly Susceptible
AR-85	22.14(28.06)	Moderately susceptible
AR-81	27.47(31.60)	Highly Susceptible
AR-77	20.14(26.65)	Moderately Susceptible
AR-76	30.18(33.32)	Highly Susceptible
AR-72	27.41(31.57)	Highly Susceptible
AR-71	33.20(35.18)	Highly Susceptible
AR-66	28.41(32.21)	Highly Susceptible
AS-80-1	21.12(27.35)	Moderately Susceptible
AS-80-15	22.84(28.54)	Moderately Susceptible
AS-80-11	26.54(31.00)	Highly Susceptible
AS-80-17	32.21(27.35)	Highly Susceptible
AS-80-19	36.54(28.54)	Highly Susceptible
AS-80-22	28.47(31.00)	Highly Susceptible
AS-80-10	33.33(34.57)	Highly Susceptible
AS-80-23	25.69(37.19)	Moderately Susceptible
AS-80-9	21.21(32.24)	Moderately Susceptible
AS-80-29	25.87(35.26)	Moderately Susceptible
AS-80-3	13.65(30.45)	Moderately Susceptible
AS-80-14	14.57(27.42)	Moderately Susceptible
AS-80-7	6.87(15.12)	Moderately Susceptible
AS-80-12	7.54(15.89)	Moderately Susceptible
AS-80-22	8.67(17.05)	Moderately Susceptible
AS-80-31	16.34(23.81)	Moderately Susceptible
AS-80-26	36.14(36.39)	Highly Susceptible
AS-80-26	28.47(32.20)	Highly Susceptible
AMV-5(Check)	56.15(48.50)	Highly Susceptible
SEd = 1.2183		
CD(.005)= 3.755		

along with susceptible check AMV-5. Each genotype was sown in 5mts length altered with a single row of susceptible check(AMV-5) and were replicated thrice in Randomized Block Design. Two infector rows of susceptible check (AMV-5) were maintained around the experimental trial, per cent disease incidence was recorded before harvesting. The reaction of genotypes was categorized as 0% - Immune(I), <1% Highly Resistant (HR), 1-5% Moderately Resistant(MR), 6-25% Moderately Susceptible(MS), 26 & Above Highly Susceptible(HS)(All India Net work Programme on Jute and Allied fibres, technical programme of work, 2007-2008) and the data was analyzed as per Gomez and Gomez(1984).

During kharif-2008-09, out of 42 entries, eight entries viz., ER-23, AR-53, R-127, R-318, AMV-3, R-67, R-144 and AS-81-22 were highly Resistant to foot & stem rot (Table.1) and were statistically at par with each other. All the aforementioned resistant entries were significantly superior than moderately resistant entry R-322 (10.94%). During kharif-2009-10, out of 58 entries evaluated, none of them was resistant and twenty four entries viz., AR-12, AR13, AR-13A, AR-14, AR-16, AR-20, AR-30, AR-45, AR-47, AR-51, AR-54, AR-77, AR-85, AS-80-1, AS-80-15, AS-80-23, AS-80-9, AS-80-29, AS-80-3, AS-80-14, AS-80-7, AS-80-12, AS-80-22 and AS-80-31 were moderately susceptible (Table.1.).

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