

DONOR FOR RESISTANCE IN CHICKPEA AGAINST *ALTERNARIA ALTERNATA* (FR) KEISSLAR

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The available 65 varieties/cultures of Chickpea were screened for varietal reaction against the disease under natural conditions during Rabi Season 2004-2005. It was clear from the results that out of 65 germ plasm screened, one was found to be immune, 14 resistant, 23 moderately resistant, 11 moderately susceptible, 12 susceptible and 4 highly susceptible.

Keywords : *Alternaria alternata*; Chick pea; Resistance.

Chickpea (*Cicer arietinum* L.) is a familiar pulse crop to many farmers and extensively cultivated in all major countries of the world including India. It is a winter crop (rabi crop) in the tropics and a summer or spring crop in the temperate regions of the world. This rabi crop generally grown with wheat, barley, linseed, sarson or pea. Majority of diseases attacking chickpea are caused by Fungi and these include blight, wilt and rust diseases. A new leaf spot and blight disease caused by *Alternaria alternata* (Fr) Keisslar has been observed on chick pea crop for the last few years in agricultural farms in many places of Uttar Pradesh including Kanpur. *Alternaria* blight (*Alternaria alternata* (Fr) Keisslar) is known to cause severe damage to various crops¹. There is no resistance source available against this disease even inward and related species on cicer. This envisaged the need for resistant cultivars to combat with this new problem which may pose threat to cicer cultivation. Therefore, the chickpea cultivars of indigeneous and exotic origins were screened against the disease for finding out the possible sources of resistance.

Sixty five germ accessions of chick pea were screened using susceptible check cultivars under natural epiphytotic conditions in the Rabi Season during 2004 and 2005. Seeds were sown in RBD with three replications in a paired row in plots of 2.5 m length and 3.0 meter width. One infector row after every fifth line of test germ-plasm was kept in order to buildup good inoculum potential. The plot was irrigated from time to time. Disease intensity was assessed visually on the basis of percentage leaf area affected by the leaf spot disease the time of harvest of crop by randomly selecting 50 leaves from each replication of 10 plants. The varieties and

cultures were graded in different categories based on standard evaluation system of Khurana *et al.*²

Among 65 genotypes evaluated, one was found to be immune, 14 resistant, 23 moderately resistant, 11 moderately susceptible, 12 susceptible and 4 highly susceptible. In earlier study, HMS-6, H 76-49, ICC-17 were found susceptible and highly susceptible respectively^{3,4}. Varieties exhibiting different disease reactions are listed as under :

Immune Highly resistant, (no infection) include ICC 13 *Resistant* (1-5% infection) C 235, F 496, G 543, G 588, GL-No. 89025, GL-No. 89027, GNG 146, GNG 469, (Samrat) GPF 2 (GF 89-36), JG 315 PB G1, PUSA 244 (BG 244) Pusa 261 (BG 261) Pusa 413 (BGM 413) *moderately resistant* (5.1-10% infection) Awarodhi, BG 256, BG 362, BGM 408, FG 22, FG 133, Gaurav, GG 575, GL 83055, GL 83103, GL 84297, GMG 737, GN 90062, GPF2, GPF70022, H 76-2, H 82-2, J G62, JG 317, JG 326, KBK 13, Pragati, Pusa 372. *Moderately susceptible* (10.1-20% infection) GG 1111, GN Gaurav, GNG 1103, GNG 1107, GNG 1166, ICC 166, KBK-1, KGD 1168, Pant 114, Pusa 209, WCG 10, *Susceptible* (20.1-30% infection) C104, C214, GL 76-9, H 208, Hare Chhole 1, ICC10, JG 79-29, JG 1265, K850, L 144 (Kabuli), L 550, RS G256, *Highly susceptible* (>30% infection) HMS 6, H 76-49), ICC 17, Radhey.

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References

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