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Evaluation of Chickpea (*Cicer arietinum* L.) Genotypes Against Blight Caused by *Colletotrichum dematium*

Key words : Blight, Chickpea, *Colletotrichum dematium*, Genotypes, Resistance

Blight caused by *Colletotrichum dematium* is one of the important diseases of chickpea, in northern parts of Karnataka. The disease incidence was recorded up to 91% in the Gulbarga, Bijapur and Dharwad districts. There is lack of information about resistant sources against blight disease. Considering the potentiality of the fungus to cause major damage in chickpea, different genotypes were evaluated in search of resistant sources.

An attempt was made to identify the resistant sources to *Colletotrichum* blight by screening chickpea genotypes procured from All India Co-ordinated Research Project on Pulses, Agricultural Research Station, Aland Road, Gulbarga. The genotypes were evaluated under glass house conditions using spray inoculation of *Colletotrichum dematium*. Forty five chickpea genotypes were raised in pots and two weeks old seedlings were spray inoculated with conidial suspension of $2.3x10^6$ conidia / ml.The genotypes were evaluated based on per cent disease index (PDI) using 0-4 scale developed based on the scale given by Mayee and Datar (1986).

Out of forty five genotypes tested in glass house conditions, none of the entries showed immune reaction. Two genotypes ICCV-860190 and PG-97-6 showed resistant reactions with PDI of 8 and 9 per cent, respectively. Six genotypes *viz*., IPC-49-5 (PDI 18%), JAKI-9266 (PDI 20%), A-38 (PDI20%), BGD-103 (PDI-20%), RSG-964(PDI 14%) and FG-712 (PDI20%) reacted moderately resistant and rest of the genotypes shown susceptible or highly susceptible reactions to blight.

Onsirosan and Baker (1971) conducted host plant resistant studies on *Colletotrichum dematium* causing cowpea stem anthracnose under glass house conditions. The cowpea varieties were scored based on type of lesion produced on the host plant. Khare and Chacko (1983) screened twenty six soybean varieties against *Colletotrichum truncatum* causing anthracnose. They reported that the disease index ranged from 0-58.2 per cent. Four varieties, Kalitur, EC-14437, Lee and EC-2586 were completely free from disease. There was no much literature available on screening of chickpea genotypes against *Colletotrichum* blight disease. The resistant sources identified in the present study may be used by the breeders to evolve high yielding and disease free chickpea varieties.

Grade	Reaction	Symptoms	P DI (%)
0	Immune (I)	No disease	Nil
1	Resistant (R)	Black lesions at the basal portion of the stem	1-10
2	Moderately resistant (MR)	Black lesions appearing in all branches	11-25
3	Susceptible (S)	Drying of leaves on lower branches or canopy	26-50
4	Highly susceptible (HS)	Black lesions on all branches of the plant and 75 percent drying of the plant from base to top or complete drying of the plant.	> 50

The percent disease index (PDI) was calculated by using the formula given by Wheeler (1969).

Table 1.Evaluation of chickpea(*Cicer arietinum* L.) genotypes against blight caused by *Colletotrichum dematium*

Genotype	PDI (%)*	Reaction
A-1	42	S
A-38	19	MR
A60	43	S
A69	64	HS
B-65	42	S
BCP-17	46	S
BDN-9-3	37	S
BG-1065	28	S
BG-1080	4	S
BG-391	41	S
BGD-103	20	MR
BGD-112	61	S
BGM-524	44	S
C-235	49	S
CSJD-869	45	S
FG-712	20	MR
GBS-961	71	HS
GBS-9703	26	S
GCP-9516	49	S
GCP-9610	71	HS
GL-96004	32	S
H-95-122	67	HS
H-95-123	44	S
H-95-124	42	S
ICCV-10	28	S
ICCV-860190	19	R
ICCV-90093	34	S
ICCV-92934	62	HS
ICVV-94917	54	S
IG-248	50	S
IG-338	37	S
IG-339	29	S
IPC-49-5	18	MR
IPC-96-47	38	S
IPC-971	34	S
JAKI-926	20	MR
JSC-1	31	S
JSC-1-3	44	HS
KGD-117	50	S
KGDM-1180	30	S
KGDP-1178	38	S
PG-97-6	8	R
PHWCG-9516	68	HS
RSG-964	14	MR
RSG-966	60	HS

* Means of fifteen plants

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