

Research note :

Screening of germplasm for *Alternaria* leaf spot resistance in yellow sarson

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Accepted : August, 2008

Yellow sarson (*Brassica campestris* var. *yellow sarson*) is a major oleiferous crop grown in *rabi* season. The crop suffers greatly from *Alternaria* leaf spot caused by *Alternaria brassicae* (Berk.) Sacc. Among the disease management approaches, the use of resistant varieties is considered to be the best and the cheapest method but no resistant lines of the crop are available. Taking it into account, the studies were carried out to find out the sources of resistance against *Alternaria* leaf spot of yellow sarson. Yellow sarson germplasm were screened against the pathogen under natural condition in the field at C.S. Azad University of Agriculture and Technology, Kanpur during *rabi* season 1997-98. One hundred forty nine varieties/cultures were sown in R.B.D. with three replications. One infector row after every fifth line of the germplasm was kept in order to build up good inoculum potential. The field was irrigated from time to time to maintain sufficient moisture.

The varieties / culture found moderately resistant under natural conditions were further tested under conditions of artificial epiphytotic of the disease in fields during the crop season of 1998-99. After attaining the age of 50 days of crop, the plants were inoculated with spore-cum-mycelial suspension of the pathogen. Observations on the severity of the disease were recorded 15 days after inoculation as under natural conditions. The results obtained are presented in Table 1.

Disease intensity was recorded on the basis of percentage leaf area affected at the time of flowering and pod formation of the crop by randomly selected fifty leaves from each

replication. The germplasm were graded in 0-5 point scale as recommended by Hussain and Thakur (1963) and modified and adopted by All India Coordinated Rapeseed and Mustard Project.

Grade	Percentage leave area affected	Reaction
0	Nil	Immune (I)
1	1-10	Resistant (R)
2	10-25	Moderately resistant (MR)
3	25-50	Moderately susceptible (MS)
4	50-75	Susceptible (S)
5	75-100	Highly Susceptible (HS)

Out of 149 germplasm screened, none of the varieties/cultures were found to be immune and resistant. Only fifteen germplasm viz. YSK-6, YS-51, YS-78-17, YS-78-38, YS-80-5, YS-B-9, YS-78-44-1, YS-80-1, PYS-186-88, PYS-387, PYS-186-1, RH-4-345-1, RA-4-345-1, RA-4-345-2 and YS-78-44 were found to be moderately resistant, forty six were moderately susceptible and rest of varieties/culture were susceptible and highly susceptible in reaction. These fifteen germplasm found moderately resistant under natural conditions were further tested by artificial inoculation in pot culture in crop season 1998-99. The varietal reaction thus obtained are presented in Table 1.

Out of fifteen germplasm as presented in Table 1, none was found resistant and only two varieties/culture, YS-B-9 and YSK-6 were graded as moderately resistant and remaining 13 gave moderately susceptible reaction.

The results of the present findings are more or less similar to the observations made by several workers (Hussain and Thakur 1963; Tripathi *et al.*, 1978 and Kolte, 1986) on *Alternaria* leaf spot of

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Key words :

Germplasm, *Alternaria* leaf spot, Sarson, Screening.

Table 1: Germplasm reaction against *A. brassicae* under artificial conditions

Disease reaction	Number	Yellow sarson germplasm
Resistant	0	Nil
Moderately resistant	2	YS-B-9, YSK-6
Moderately susceptible	13	YS-80-5, YS-78-44-1, YS-78-41-2, YS-80-10-1, PYS-186-88, PYS-387, PYS-186-1, RH-4-345-1, RH-4-345-2, RA-4-345-2, YS-51, YS-78-17 and YS-78-38.

Brassica crops caused by *Alternaria brassicae*. Similar results were also observed by Khan *et al.* (1991) on 100 germplasm of sarson for evaluation for resistance to *Alternaria brassicae* in which one was resistant, four were moderately resistant, 16 moderately susceptible, 53 susceptible and 26 as highly susceptible lines but resistance was unstable under field conditions.

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