

AICRP on Sugarcane (Plant Pathology)
Sugarcane Research Station, Buralikson
2012-13

Experiment No. PP 17. Evaluation of Zonal varieties for resistance to red rot.

The experiment was laid out to find out sources of resistance in sugarcane varieties / genotypes against red rot. For this purpose 20 varieties / genotypes including a local check was raised starting from last week of March, 2012. The canes were inoculated with spores of 7 day old cultures of red rot isolates 'Cf 08' and 'Cf 07'. Inoculation was done by both plug and nodal method during fourth week of August, 2012. Evaluation of the canes was done 60 days after inoculation. The findings are presented in Table 1.

The disease scoring of the inoculated cane genotypes revealed that no genotype showed resistant reaction to the red rot isolates when inoculated through plug method. Out of the 19 genotypes / varieties CoP 09437, CoB 7426 and CoBln 7503 showed moderately resistant reaction while CoP 9436, CoBln 7501, CoSe 8451, CoBln 8501, CoB 9301 and CoSe 92423 showed moderately susceptible reaction to CF08. Against CF07 the genotypes 19/04, CoB 7426 and CoBln 7503 showed moderately resistant reaction while CoP 9436, CoP 09437, CoSe 9454, CoSe 92423 and CoSe 92422, CoBln 8501, CoB 7430 and CoSe 8453 showed moderately susceptible reaction. Rest of the genotypes showed susceptible to highly susceptible reaction.

Table 1. Evaluation of sugarcane varieties/genotypes against red rot.

Sl. No.	Variety/ Genotype	Reaction to Red Rot					
		CF08			CF07		
		Plug method	Disease score	Nodal method	Plug method	Disease score	Nodal method
	IVT Entries						
1.	CoP 9436	7.49	MS	S	4.41	MS	R
2.	CoP 09437	5.52	MR	S	5.63	MS	S
3.	CoSe 9454	4.66	S	S	4.24	MS	S
4.	CoB 9301	5.95	MS	S	7.92	S	S
5.	CoSe 92423	5.98	MS	R	5.75	MS	S
6.	CoSe 95422	6.23	S	S	5.64	MS	R
	AVT Entries						
7.	CoB 7429	7.52	S	S	6.23	S	R
8.	19/04	2.52	S	R	2.83	MR	R
9.	CoBln 7501	7.33	MS	S	6.52	S	R
10.	Bo 91	7.55	S	S	7.52	S	S
11.	CoSe 8451	5.63	MS	R	6.45	S	R
12.	CoBln 8501	4.57	MS	S	4.71	MS	R
13.	CoBln 7502	6.71	S	S	8.20	HS	S
14.	CoB 7430	4.44	MS	R	4.63	MS	R
15.	CoB 8436	6.77	S	S	6.81	S	R
16.	CoB 7426	2.39	MR	R	3.82	MR	S
17.	CoB 8452	8.20	HS	S	8.15	HS	R
18.	CoSe 8453	6.75	S	S	4.32	MS	R
19.	CoBln 7503	3.90	MR	R	3.85	MR	R
20.	Akipura(Local Check)	9.00	HS	S	9.00	HS	S

PP 22. Survey of Sugarcane diseases naturally occurring on important sugarcane varieties

The survey programme was conducted in various locations of three sugarcane growing districts of Assam, viz., Golaghat, Jorhat, and Nagaon. The different cultivars/varieties were examined at random for infection of diseases like red rot, wilt, smut, grassy shoot, rust and other minor diseases like leaf spots. The incidences of diseases as observed are presented in Table 2.

The data on survey of sugarcane diseases revealed that there is no widespread occurrence of major diseases of the crop in the surveyed areas. However, leaf spots and mosaic disease was found to be very common in all the surveyed areas. Among the leaf spots, ring spot, eye spot and brown spots were common. Further, in another location in Golaghat district red rot was found to be occurring in very small number of plants. Among other diseases grassy shoot disease was found to be occurring in considerable proportions in Majuli sub-division of Jorhat district. Besides, all the districts surveyed showed the occurrence of Pokkah Boeng disease in small proportions .

Table 2. Survey of sugarcane diseases naturally occurring on important sugarcane varieties

Sl. No.	District	No. of locations	Disease Incidence (%)								
			Leaf spots	Rust	Red rot	Grassy shoot	Smut	Wilt	Pokkah Boeng	RSD	Mosaic
1.	Golaghat	11	70	-	0.5*	-	-	-	2	-	70
2.	Jorhat	11	50	-	-	20	-	-	3	-	60
3.	Nagaon	7	40	--	-	-	-	-	2	-	50

*Single location