

Disease resistance

Varietal resistance to *Xanthomonas campestris* pv. *oryzae* in Guangdong, China

S. Z. Wu, S. M. Hsu, F. K. Chen, L. C. Choi, and K. M. Liu, Guangdong Academy of Agricultural Sciences, Plant Protection Research Institute, Canton, China

Sixty isolates of *Xanthomonas campestris* pv. *oryzae* of different virulence were inoculated into 46 rice varieties. Results

showed that varietal resistance to bacterial blight may be grouped into three categories: broad spectrum, nonbroad spectrum, and no resistance.

Most introduced cultivars belonged to the broad spectrum group (see table). Varieties Tsai-Ye-Ching 8, Foo-Bao-Ai 22, Jiao-Jin-Fung 5, Qiu Er Ai 1-3, Teng Pu-Ai, Tetep, and Zenith belonged to the nonbroad spectrum group. Improved plant type and high-yielding

varieties such as IR8, Zhen-Zhu-Ai 11, Quang-Liu-Ai 4, Quang-Er-Ai No. 5-3, and Jing-Gong 30 belonged to the no resistance group.

To incorporate bacterial blight resistance into breeding materials, the most promising results will be obtained by using varieties with broad-spectrum resistance and virulent strains of the predominant pathogenic group 4 of Guangdong province for screening tests. ■

Rice varietal resistance to 60 isolates of *Xanthomonas campestris* pv. *oryzae* in China.^a

Type of resistance	Variety	Origin	Disease scale	Resistant (%)		Moderate (%)		Susceptible (%)	
				HR	R	MR	MS	S	HS
I	3303	China	HR	100.00					
	IR2161	Philippines	HR-R	98.33	1.67				
	IR2061-522-6-9	Philippines	HR-R	93.33	6.67				
	G.E. 456	USA	HR-R	93.33	6.67				
	VPR-70-3-7	—	HR-R	91.38	8.62				
	DV85	India	HR-R	86.67	13.33				
	IR26	Philippines	HR-R	64.41	35.59				
	BG-35-2	Sri Lanka	HR-MR	81.67	15.00	3.33			
	IR30	Philippines	HR-MR	28.37	70.00	1.67			
	Hai-ching 130	China	HR-MS	81.30	13.60	1.73	3.37		
	IR36	Philippines	HR-MS	73.37	23.33	1.67	1.67		
	IR32	Philippines	HR-MS	50.94	39.62	7.55	1.89		
	IR22	Philippines	HR-MS	68.33	25.00	1.67	3.33	1.67	
	IR1545	Philippines	HR-MS	23.33	68.33	3.33	5.00		
	IR28	Philippines	HR-MS	7.85	68.63	13.72	9.80		
	Hai 42	China	HR-MS	61.67	28.33	3.33	1.67	5.00	
II	Lan Xian 1	China	HR-HS	43.33	46.67	3.33	5.00	0	1.67
	1388	China	HR-HS	38.33	40.00	8.33	0	5.00	8.33
	74-105	China	HR-HS	33.33	46.67	5.00	8.33	1.67	5.00
	Fei-Yan (076)	Philippines	HR-HS	28.33	26.67	15.00	10.00	6.66	13.33
	Unnamed (Zhong San)	China	HR-HS	15.00	41.67	21.67	10.00	3.33	8.33
	2150	China	HR-HS	5.00	38.33	25.00	11.66	8.33	11.66
	IR661	Philippines	HR-HS	1.67	21.67	41.67	11.67	15.00	8.33
	Ai-Tong-Zhu	China	R-HS	25.00	48.33	15.00	5.00	6.67	6.67
	Xai-Tan-Gu 4882	Indonesia	R-HS	25.00	43.00	20.00	8.33	3.33	3.33
	Tsai-Ye-Ching 8	China	R-HS	23.73	40.68	16.95	10.17	8.47	15.55
	Foo-Bao-Ai 22	China	R-HS	23.73	28.81	30.51	3.39	13.55	10.00
	Tetep	IndoChina	R-MS	10.00	38.33	33.33	8.33	5.17	5.17
	BTO-MO-3-3		R-HS	18.97	41.38	29.31	5.17	8.33	8.33
	Teng-Pu-Ai	China	R-HS	8.33	18.33	46.67	18.33	11.86	11.86
	Jiao-Jin-Fung 5	China	R-HS	11.86	27.12	30.51	18.64	10.91	10.91
	IR24	Philippines	R-HS	9.09	38.18	30.91	16.67	5.00	5.00
	Qiu-Er-Ai 1-3	China	R-HS	5.00	31.67	38.33	20.00	15.00	15.00
	Guai-Chao-2	China	R-HS	5.00	20.00	40.00	20.00	13.33	13.33
	Er-Bai-Ai	China	R-HS	1.67	11.67	60.00	15.00	31.58	31.58
	co 22	India	R-HS	1.67	20.00	41.67	23.33	11.56	11.56
	Zenith (dwarf)	USA	R-HS	1.75	5.26	29.82	31.58		
	Zenith (purple)	USA	R-HS	1.67	11.66	36.67	38.33		
III	Tadukan	Philippines	MR-HS			17.24	46.55	20.69	15.51
	Bao-Tai-Ai	China	MR-HS			5.00	48.33	26.67	20.00
	9101	China	MR-HS			5.00	55.00	16.67	23.33
	Guang-Er-Ai 5-3	China	MR-HS			3.00	26.67	28.33	41.67
	Jing-Gong 30	China	MR-HS			1.67	23.33	46.67	28.33
	IR8	Philippines	MR-HS			3.33	33.34	43.33	20.00
	Zhen-Zhu-Ai 11	China	MS-HS				30.00	51.67	33.33
	Quang-Liu-Ai 4	China	MS-HS				3.33	30.00	66.67

^aHR = highly resistant, R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible, HS = highly susceptible.