

DV85 and Kogyoku were only relatively less susceptible than the rest.

Isolates 2, 26, and 36 were relatively highly virulent on all cultivars. Rasi seemed most susceptible; Kogyoku and DV85 were relatively less susceptible under our experimental conditions.

Pathogen groups IA, IB, II, IIIA, IIIB, IV, and V were differentiated in Japan on Kinmaze, Kogyoku, Rantai Emas, Wase Aikoku 3, Java 14, and IR8. Kogyoku was resistant to IA, IB, and V; Wase Aikoku 3 was resistant to IA, IB, II, IIIA, and IIIB; Java 14 was resistant to V.

Sayaphal has been reported resistant to Ia, Ib, and III; BJ and DV85 to Ia and Ib. DV85 is said to carry resistance genes *xa-5*, *Xa-7* and *xa-13*.

These results indicate that all 17 rices are highly susceptible to BB. The pathogen shows variable virulence on different cultivars. An isolate is not stable; on reisolation from different inoculated cultivars, it gives rise to variants, as indicated by isolates Xoo-1 to 35 derived from one isolate. The isolates we have probably represent a new virulent group. This indicates the need to look for resistance to the Indian pathogen in other sources. ■

Reaction of rice cultures and varieties to rice tungro disease

I. Yesuraja and V. Mariappan, Tamil Nadu Agricultural University, Coimbatore, India

We screened 62 rice cultures and varieties for their reaction to tungro by exposing them to viruliferous green leafhoppers (GLH) *Nephotettix virescens*. Ten-day-old seedlings (100/cultivar) were exposed to different numbers of GLH/seedling.

IR72, IR33043-46-1-3, IR50404-57-2-2-3, IR52431-60-1-2-1, IR34686-56-2-2-2, CRM25, TNAU LFR 842718, and AS33773 showed 20-30% infection with one viruliferous GLW seedling (see table). With two GLH/seedling, only IR72 and IR33043-46-1-3 had <30% infection. For the same cultivars, infection was 35-50% with five GLH/seedling. ■

Tungro disease infection symptoms of rice varieties/cultures exposed to 1, 2, and 5 viruliferous GLH/seedling.

Variety or culture	Tungro infection ^a					
	1 GLH		2 GLH		5 GLH	
	%	Score	%	Score	%	Score
IR72	20	3	25	3	35	5
IR33043-46-1-3	22	3	28	3	40	5
IR50404-57-2-2-3	25	3	30	3	40	5
IR52431-60-1-2-1	25	3	30	3	42	5
IR34686-56-2-2-2	25	3	35	5	45	5
CRM25	27	3	35	5	45	5
TNAU LFR 84271	27	3	35	5	40	5
AS33773	30	3	40	5	50	5
IR44761-27-1-3-6	35	5	45	5	58	7
IR45131-45-2-2-1-3	35	5	42	5	57	7
IR45912-9-1-2-2	38	5	45	5	63	7
IR50363-8-1-1-3	40	5	43	5	62	7
IR44538-131-3-1-3	40	5	45	5	68	7
CH404-14-1	40	5	57	7	73	9
IR50363-27-3-2-3	42	5	57	5	65	5
IR39485-151-2-1-3	42	5	50	5	65	7
CR491-1553	42	5	55	7	73	9
CR30-26-1	43	5	58	7	75	9
CR544-1-7	43	5	58	7	75	9
TNAU801793	43	5	55	7	68	7
TNAU (AC) 88115	45	5	55	7	70	7
AS34011	47	5	55	7	72	9
IR44530-41-12-1	48	5	53	7	75	9
TNAU BPHR 831293	48	5	58	7	70	7
IR35346-28-3-3-1	50	5	62	7	77	9
CR544-1-6	50	5	68	7	82	9
IR50363-61-1-2-2	52	7	63	7	78	9
IR32809-314-2-3-1	52	7	62	7	75	9
IR32822-94-3-3-2-2	52	7	62	7	78	9
IR34686-179-1-2-1	52	7	63	7	80	9
AS25370	52	7	63	7	78	9
IR34583-22-1-2	53	7	68	7	83	9
IR47903-151-3-2-3-2	53	7	65	7	78	9
IR44482-9-3-1-3	55	7	65	7	80	9
IR52289	55	7	65	7	80	9
AS24717	55	7	65	7	75	9
TNAU BPHR831305	55	7	65	7	78	9
IR42029-38-1-3-3-2	55	7	65	7	80	9
IR49517-23-2-2-3-3	58	7	63	7	83	9
IR39323-182-2-3-3-2	58	7	63	7	80	9
ET9762	58	7	65	7	80	9
IR37721-16-3-1-3-2	62	7	68	7	83	9
IR45131-59-2-3-2-3	63	7	70	7	85	9
CR544-1-2	63	7	75	9	83	9
IET9757	63	7	73	9	80	9
CR380-26-39	65	7	78	9	85	9
IET98 19	65	7	70	7	87	9
BR153-2B-10-1-3	65	7	72	9	80	9
AS37800	68	7	80	9	88	9
TNAU85 1979	70	7	83	9	90	9
IR32809-26-3-9	72	9	85	9	90	9
BG380-2	72	9	83	9	90	9
AD85358	73	9	80	9	88	9
TM4309	73	9	83	9	90	9
AD85361	75	9	82	9	92	9
IR44482-49-2-2-2	78	9	83	9	90	9
AD85469	78	9	83	9	90	9
IET8059	78	9	88	9	93	9
IET9286 (TNAU BFHRB 71390)	78	9	83	9	90	9
AD86465	80	9	85	9	93	9
AD86749	83	9	90	9	93	9
TN1 (susceptible check)	90	9	100	9	100	9

^a Mean of 3 replications. Score is by the *Standard evaluation system for rice* scale of 0-9.