Table 1. Reactions of Peking x CNS F_2 soybean populations inoculated with PMV in 1994 and $F_{2:3}$ lines in 1995 in the greenhouse tests.

(A) F_2 data

Cross/Parent	No. of plants			Ratio tested	X^2	P-value
	Total	Res.	Sus.			
Peking x CNS	176	148	28	13R:3S	0.93	0.25-0.5
Peking	18	18	0			
CNS	22	22	0			
Lee 68	25	0	25			

(B) $F_{2:3}$ data

Cross/Parent	No. of lines/Plants				Ratio tested	X^2	P-value
	Homo.R	13R:3S*	1R:3S	Homo.S			
Peking x CNS	47	40	9	3	7:6:2:1**	3.13	0.25-0.5
Peking	30			0			
CNS	25			0			
Lee 68	0			26			

* Also includes 3R:1S

** 7(Homo.R):6(13R:3S + 3R:1S):2(1R:3S):1(Homo.S)

Table 2. Inheritance of PMV resistance in PI 486355 soybean.

(A) F_2 data

Cross/Parent	No. of Plants			Ratio tested	X^2	P-value
	Total	Res.	Sus.			
PI 486355 x Lee 68♣	345	319	26	15R:1S	0.96	0.25-0.5
PI 486355	22	22	0			
Lee 68	19	0	19			

(B) $F_{2:3}$ data

Cross/Parent	No. of lines/plants				Ratio tested	X^2	P-value
	Homo.R	15R:3S	3R:1S	Homo.S			
PI 486355 x Essex*	21	14	14	6	7:4:4:1	2.32	0.5-0.75
PI 486355 x Essex**	18	8	12	2	7:4:4:1	0.91	0.75-0.9
Pooled	39	22	26	8	7:4:4:1	1.27	0.5-0.75
PI 486355	25			0			
Essex	0			18			
Lee 68	0			29			

♣ Inoculated in the greenhouse during 1994.
* Inoculated in the field during 1993.
** Inoculated in the greenhouse during spring 1994.

Table 3. Tests for allelism of PMV resistance genes in PI 486355 soybean.

(A) F_2 data

Cross/Parent	No. of plants		
	Total	Res.	Sus.
PI 486355 x York♣	254	254	0
PI 486355	26	26	0
York	18	18	0
Lee 68	26	0	26

(B) $F_{2:3}$ data

Cross/Parent	No. of lines/plants				Ratio tested	X^2	P-value
	Homo.R*	15R:3S	3R:1S	Homo.S			
PI 486355 x York**	165	2	0	0			
PI 486355	23			0			
York	27			0			
Lee 68	0			21			
PI 486355 x CNS#	167	38	19	1	45:12:6:1***	2.90	0.25-0.50
PI 486355	16			0			
CNS	27			0			
Lee 68	0			29			
					15R:1S (pooled)	10.52	<0.005
					Homogeneity (37df)	10.08	>0.995
					3R:1S (pooled)	4.38	0.025-0.05
					Homogeneity (18df)	4.36	>0.995

♣ Inoculated in the greenhouse during 1994.
* Also includes 63R:1S.
** Inoculated in the field during 1995 and greenhouse during 1994.
# Inoculated in the greenhouse during 1996.
*** 45(Homo.R+63R:1S):12(15R:1S):6(3R:1S):1(Homo.S)

Table 4. F_2 data involving crosses with soybean PI 398593 inoculated with PMV in the greenhouse during spring 1994.

Cross/Parent	No. of plants			Ratio tested	X^2	P-value
	Total	Res.	Sus.			
PI 398593 x Lee 68	198	55	143	1R:3S	0.81	0.25-0.5
PI 398593 x Peking	186	14	172	7R:9S	98.9	<0.005
PI 398593 x York	193	159	34	13R:3S	0.16	0.50-0.75
PI 398593 x CNS	190	161	29	13R:3S	1.52	0.10-0.25
PI 398593	27	27	0			
Peking	18	18	0			
York	23	23	0			
CNS	26	26	0			
Lee 68	19	0	19			

Table 5. $F_{2:3}$ data involving crosses with soybean PI 398593 inoculated with PMV.

(A)	Cross/Parent		Observed	Expected (7:6:2:1)	X^2	P-value
	York x PI 398593*	Homo.R	40	42	0.09	
		13R:3S#	44	36	1.18	
		3S:1R	8	12	1.33	
		Homo.S	4	6	0.67	
		Total			3.27	0.25-0.50
	Lee 68	Sus.	71 of 74			
	York	Res.	84 of 84			
	PI 398593	Res.	57 of 57			
(B)	Cross/Parent		Observed	Expected (7:6:2:1)	X^2	P-value
	PI 398593 x CNS**	Homo.R	50	43.75		
		13R:3S#	49	37.5		
		3S:1R	0	12.5		
		Homo.S	1	6.25		
		Total			---	---
	Lee 68	Sus.	63 of 64			
	CNS	Res.	53 of 53			
	PI 398593	Res.	59 of 59			
(C)	Cross/Parent		Observed			
	Peking x PI 398593**	Homo.R	52			
		Segregating♣	41			
		Homo.S	7			
	Lee 68	Sus.	58 of 61			
	Peking	Res.	48 of 48			
	PI 398593	Res.	60 of 63			

* Inoculated in the field during 1993.
# Also includes 3R:1S
** Inoculated in the field during 1995.
♣ Was not possible to assign any segregation ratios as they did not fit any expected ratios.

Table 6. PMV reactions of individual plants of soybean PI 398593 in the field during 1994 and of their progenies in the field and greenhouse during 1995.

94 Row # - Plant #	94 field reaction	95 GH reaction	95 field reaction
4-1	R*	R	R
4-2	S	R	R
104-1	S	R	R
104-2	R	R	R
104-3	R	R	R
154-1	S	R	R
154-2	R	R	26R:1S
154-3	R	R	R
254-1	R	R	R
254-2	S	R	R
254-3	S	R	23R:1S
254-4	R	R	R
254-5	S	R	25R:1S
254-6	S	R	seeds not available
254-7	S	R	R
254-8	R	R	21R:1S
254-9	S	R	R
254-10	S	R	27R:1S
404-1	S	R	R
404-2	S	R	R
404-3	S	R	24R:3S
404-4	S	R	R
404-5	R	R	R
404-6	R	R	R
404-7	S	R	21R:3S
% Sus. plants in Lee 68	90	100	95

* R - Resistant; S - Susceptible.

Table 7. Inheritance of resistance to PMV in four resistant soybean parents using F_2 populations.

(A) 1993 field inoculations

Cross/Parent	No. of plants			Ratio tested	X^2	P-value
	Total	Res.	Sus.			
PI 96983 x Lee 68	181	130*	51	3R:1S	0.97	0.25-0.50
Kwanggyo x Lee 68	177	132	45	3R:1S	0.02	0.75-0.90
PI 96983	23	23	0			
Kwanggyo	24	24	0			
Lee 68	22	0	22			

(B) 1994 GH inoculations

Cross/Parent	No. of plants			Ratio tested	X^2	P-value
	Total	Res.	Sus.			
Toano x Lee 68	253	193	60	3R:1S	0.23	0.50-0.75
Toano	25	25	0			
Lee 68	22	0	22			

(C) 1994 field inoculations

Cross/Parent	No. of plants			Ratio tested	X^2	P-value
	Total	Res.	Sus.			
Jizuka x Lee 68	73	53	20	3R:1S	0.23	0.50-0.75
Jizuka	23	23	0			
Lee 68	22	0	22			

* Inlcudes ten necrotic plants.

Table 8. Inheritance of resistance to PMV in three resistant x susceptible soybean crosses using F_2 lines.

(A) 1993 field inoculations

Cross/Parent	No. of lines			Ratio tested	X^2	P-value
	Homo.R	Seg.	Sus.			
Raiden x Ogden	14	21	13	1:2:1*	0.79	0.50-0.75
Suweon 97 x Essex	4	21	11	1:2:1*		
Raiden	17		0			
Ogden	0		17			
Suweon 97	0**		0			
Lee 68	0		22			
Essex	0		19			

(B) 1994 field inoculations

Cross/Parent	No. of lines			Ratio tested	X^2	P-value
	Homo. R	Seg.	Sus.			
PI 96983 x Lee 68	48	110*	43	1:2:1	2.04	0.25-0.50
PI 96983	25		0			
Lee 68	0		23			

* 1(Homo.R):2(3R:1S):1(Homo.S)
** No plants available
# Includes 43 rows with necrotic which were classified as resistant

Table 9. Tests of allelism for PMV resistance of some of the soybean parents studied using F_2 populations.

(A) 1993 GH inoculations

Cross/Parent	No. of plants			Gene symbol
	Total	Res.	Sus.	
PI 96983 x York	251	251	0	Rpv1
PI 96983	22	22	0	
York	26	26	0	
Lee 68	21	0	21	

(B) 1994 field inoculations

Cross/Parent	No. of plants			Gene symbol
	Total	Res.	Sus.	
Toano x York	109	109	0	Rpv1
Jizuka x York	128	128	0	Rpv1
York x Suweon 97	58	58	0	Rpv1
Toano	19	19	0	
Jizuka	15	15	0	
Suweon 97	11	11	0	
York	24	24	0	
Lee 68	24	0	24	