

Supplementary Table 1. List of used primers for virus detection RT-PCR

Virus	Primer ^a	Sequence (5'→3')	Loci	Size (nt)
<u>Multiplex RT-PCR primer set 1</u>				
SPLCV	SPLC-u1	TCTGCCGTCGATCTGGAATC	2315–2335	507
	SPLC-d1	GTGCCCGCCTTTGGTGGAC	2821–2803	
SPFMV	SPFMV 1-F	TACACACTGCTAAAACTAGG	9073–9092	356
	SPFMV 1-R	AGTTCATCATAACCCCATGA	9428–9409	
SPVG	SPG 3-F	CAATGCCAAATGGAAGAATAG	9945–9965	286
	SPG 3-R	GCATGATCCAATAGAGGTTTTA	10230–10209	
SPLV	SPLV 1-F	GGAGTCAGTTCAATCAATGGTA	9340–9361	184
	SPLV 1-R	AGTGGCTTTATTGGGTATGAT'	9523–9503	
<u>Multiplex RT-PCR primer set 2</u>				
SPCFV	SPCFV 2F	AGCTGCTCAAACAAGCAAGAGG	8526–8547	579
	SPCFV 2R	GCTCAAAGTACTTTAAAACATGC	9104–9081	
SPVC	SPVC-F	ATTCTTGAATGGGATAGATCACATG	9353–9377	447
	SPVC-R	AGCTTCACGAAGCGCAGC	9799–9782	
SPV2	SPV2-F1	ATGTGTTGAACCATCAGCTGAA	9414–9435	369
	SPV2-R1	GTAACCTGCCTTGGGCTACG	9782–9763	
SPSMV-1	SPSMV-1 F1	ACCGTGTATTTGATGACGATGTAC	352–375	230
	SPSMV-1 R	GGGAAGTTCTGGTAGAACGTATC	581–559	

Supplementary Table 2. Virus infection status of cultivars from Yeosu-si Agricultural Technical Center

	Cultivars	No. Samples (Detected/Tested)	Virus			
			SPLCV	SPFMV	SPGV	SPLV
AA	Yeojubam	4/5	2	2	4	2
AB	70il	2/4	2	1	0	0
AC	Geon-mi	4/10	3	4	2	0
AD	Geonphung-mi	9/9	8	9	6	1
AE	Gogeon-mi	7/10	2	4	7	0
AF	Gongyu-mi	0/10	0	0	0	0
AG	Geum-si	1/1	1	1	0	1
AH	Gintoki	6/7	6	3	0	0
AI	Daeyu-mi	8/8	8	6	5	0
AJ	Matna-mi	7/10	7	4	6	0
AK	Myeongsoon-mi	1/8	1	1	0	0
AL	Backgoguma	3/5	3	2	2	1
AM	Benisatsuma	3/3	3	1	0	0
AN	Vietnam no. 1	3/4	3	3	0	0
AO	Vietnam no. 2	10/10	10	7	5	2
AP	Vietnam no. 3	3/6	1	3	0	0
AQ	Bora-mi	2/10	2	2	1	0
AR	Samhui-mi	3/5	3	2	2	0
AS	Sangja-mi	8/10	0	2	8	0
AT	Saeng-mi	6/10	4	6	5	0
AU	Singeon-mi	5/8	4	5	0	0
AV	Sinyeaju	1/10	0	1	0	0
AW	Sinyul-mi	0/9	0	0	0	0
AX	Sinja-mi	2/10	0	2	0	0
AY	New cultivar - Jsaek	7/16	0	6	6	0
AZ	New cultivar - Hobak	0/10	0	0	0	0
BA	Sinhwang-mi	6/16	4	6	0	0
BB	Yanghobak	7/8	5	7	0	0
BC	Yeoja-mi	7/8	6	7	3	2
BD	Yeosu no. 10	8/10	2	8	7	0
BE	Yeosu no. 11 – Borasaek	7/10	6	7	1	2
BF	Yeosu no. 12	4/10	1	4	2	1
BG	Yeosu no. 13	2/5	0	2	0	0
BH	Yeosu no. 14	7/9	7	5	0	2
BI	Yeosu no. 15	5/5	5	2	1	0
BJ	Yeosu no. 16	10/10	10	7	4	0
BK	Yeosu no. 17	9/10	9	7	4	0
BL	Yeosu no. 1 - Cheongsaeak	4/10	1	4	2	0
BM	Yeosu no. 4	3/8	0	3	2	1
BN	Yeosu no. 5	2/10	1	1	2	0
BO	Yeosu no. 6	1/10	0	1	1	0
BP	Yeosu no. 7	1/10	0	1	0	0

BQ	Yeosu no. 8	7/8	7	2	0	0
BR	Yeosu no. 9	10/10	10	5	3	1
BS	Yeojung-mi	10/10	10	4	3	0
BT	Yeon-mi	7/8	6	7	0	0
BU	Yeonja-mi	7/10	0	3	7	0
BV	Yeonhwang-mi	7/10	3	7	3	0
BW	Oja-mi	3/9	2	3	3	0
BX	Ja-mi	2/7	0	1	2	0
BY	Korean wild cultivar	8/8	2	6	8	0
BZ	Jengae-mi	1/10	1	0	1	0
CA	Jonghobak	3/3	3	1	0	0
CB	Juhwang-mi	0/4	0	0	0	0
CC	Jeung-mi	2/3	1	1	2	0
CD	Jinhong-mi	5/10	3	5	1	0
CE	Palgeum-si	6/10	6	3	0	0
CF	Palpal	2/10	2	2	1	0
CG	Happy-mi	3/10	3	0	0	0
CH	Healthy-mi	7/10	7	1	0	0
CI	Hyeonghaetan	8/9	0	8	0	3
CJ	Hobak	5/7	5	4	4	1
CK	Hwanggeum	4/5	4	2	3	0
CL	Huija-mi	3/9	1	4	3	0

Supplementary Table 3. Mixed infection type of eight sweet potato viruses from sweet potato growing fields of Korea in 2013

Mixed infection status	Detected Virus								Sub-total	Total (%)
	SPFMV	SPVC	SPVG	SPV2	SPLV	SPCFV	SPLCV	SPSMV-1		
Septuple	0	0	0	0	0		0	0	1	1 (0.11)
Sextuple	0	0	0		0		0	0	1	1 (0.11)
Quintuple	0	0	0	0	0				1	17 (2.09)
	0	0	0	0				0	2	
	0	0	0	0			0		4	
	0	0		0	0			0	1	
	0	0		0			0	0	3	
	0	0			0		0	0	3	
	0		0	0	0		0		2	
		0	0	0			0	0	1	
Quadruple	0	0	0	0					1	55 (6.77)
	0	0	0				0		2	
	0	0		0			0		5	
	0	0		0	0				1	
	0	0		0				0	1	
	0	0			0			0	1	
	0	0					0	0	12	
	0		0	0	0				1	
	0		0		0		0		7	
	0		0		0			0	2	
	0		0				0	0	2	
	0		0	0			0		5	
	0			0	0		0		1	
	0			0	0		0	0	2	
	0				0		0	0	2	
		0		0	0		0		1	
	0		0	0		0	0	1		
	0		0	0		0		1		
	0		0	0	0			2		
		0	0			0	0	1		
		0		0		0	0	1		
			0	0		0	0	3		
Triple	0	0	0						1	83 (10.21)
	0	0		0					1	
	0	0					0		5	
	0	0						0	3	
	0		0	0					4	
	0		0		0				3	
	0		0				0		5	
	0		0					0	5	
	0			0			0		4	
	0				0			0	2	

Triple	O					O	O	11	83 (10.21)
		O			O	O		1	
		O			O		O	3	
		O					O	9	
			O		O		O	1	
			O		O		O	3	
			O			O		3	
			O				O	2	
				O		O		4	
				O		O		2	
				O		O		5	
				O		O	6		
Double	O	O						1	228 (28.04)
	O		O					6	
	O			O				1	
	O				O			3	
	O					O		18	
	O						O	18	
		O		O				1	
		O					O	4	
		O					O	10	
			O		O			6	
			O			O		1	
			O				O	7	
			O				O	11	
				O		O		2	
				O			O	17	
			O			O	14		
				O		O	42		
					O	O	2		
					O	O	64		
Single	O							14	284 (34.93)
		O						4	
			O					10	
				O				10	
					O			4	
No detection						O		42	146 (17.96)
							O	200	
Total								146	813

Supplementary Table 4. Mixed infection type of eight sweet potato viruses from sweet potato growing fields of Korea in 2014

Mixed Infection status	Detected virus								Sub-total	Total (%)
	SPFMV	SPVC	SPVG	SPV2	SPLV	SPCFV	SPLCV	SPSMV-1		
Septuple	○	○	○	○	○	○	○		2	3(0.24)
	○	○	○	○		○	○	○	1	
Sextuple	○	○	○	○	○		○		5	16(1.30)
	○	○	○	○	○			○	3	
	○	○	○	○		○	○		3	
	○	○	○	○			○	○	2	
	○	○		○	○		○	○	1	
	○	○			○	○	○	○	1	
	○		○	○	○		○	○	1	
Quintuple	○	○	○	○	○				8	51(4.15)
	○	○	○	○		○			1	
	○	○	○	○			○		10	
	○	○	○	○				○	4	
	○	○	○		○			○	2	
	○	○	○				○	○	2	
	○	○		○	○		○		3	
	○	○		○	○			○	1	
	○	○		○			○	○	4	
	○	○			○		○	○	2	
	○		○	○	○	○		○	1	
	○		○	○	○		○	○	3	
	○		○	○	○	○	○		3	
	○		○		○		○	○	1	
	○			○	○	○	○	○	1	
	○			○	○		○	○	2	
Quadruple	○	○	○	○					9	120(9.77)
	○	○	○				○		2	
	○	○	○					○	6	
	○	○		○	○				4	
	○	○		○			○		8	
	○	○		○		○			1	
	○	○		○				○	8	
	○	○			○	○			1	
	○	○			○		○		3	
	○	○			○			○	4	

