

1 **Supplementary Material**

2 **Table S1.** Primer sequences used in RT-PCR (reverse transcription polymerase chain reaction) for
3 detection of BYDV-PAV-CP or RTD from leaf tissues collected in different regions of China and
4 the Czech Republic

Primers	Position	Nucleotide sequences (5' to 3')	Reference sequence
Primer for Chinese sequences			
BYDV-PAV-CP (Forward)	2856-2877	ATGAATTCAGTAGGCCGTAGGG	AY855920
BYDV-PAV-CP (Reverse)	3616-3593	CTATCAGTGTTTTCCCGAGTTGAT	
BYDV-PAV-ORF5 (Forward)	3374-3395	GTACAAGCAAATGGCACGAC	
BYDV-PAV-ORF5(Reverse)	4880-4860	GTTGACAGCCCACCCTCCAA	
Primer for Czech sequences			
BYDV-PAV-CP (Forward)	2914-2935	CGCCGTAGAGCAATTCGGCCAG	KU170668.1
BYDV-PAV-CP (Reverse)	3374-3396	AGTTGTCCCATTGCCTTGATA	

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6 **Table S2.** Location and description China and the Czech Republic isolates used in this study

No.	Abbreviation*	Country origin	Host Plant	Collection Date	Accession Number
1	YNKM17	China	Barley	18.02.2017	MN648421
2	YNKM18	China	Wheat	06.03.2018	MN648422
3	YNKM19	China	Wheat	24.03.2019	MN648423
4	SXYL17	China	Wheat	13.04.2017	MN648424
5	SXYL18	China	Wheat	18.04.2018	MN648425
6	SXYL19	China	Wheat	14.04.2019	MN648426
7	GSTS19	China	Wheat	14.04.2019	MN648427
8	SXHZ19	China	Wheat	26.03.2019	MN648428
9	SXDY19	China	Wheat	23.04.2019	MN648429
10	HBSJZ18	China	Wheat	28.04.2018	MN648430
11	HBSJZ19	China	Wheat	24.04.2019	MN648431
12	SXLF18	China	Wheat	19.04.2018	MN648432
13	SXLF19-2	China	Wheat	16.04.2019	MN648433
14	SDJN17-2	China	Wheat	17.04.2017	MN648434
15	SDJN18-2	China	Wheat	28.04.2018	MN648435
16	SDJN19-2	China	Wheat	23.04.2019	MN648436
17	HBWH17	China	Wheat	20.02.2017	MN648437
18	HNZZ18	China	Wheat	11.04.2018	MN648438
19	SCMY18	China	Wheat	09.04.2018	MN648439
20	HNY19	China	Wheat	10.05.2019	MN648440
21	SDJN18-1	China	Wheat	28.04.2018	MN648441
22	SDJN19-1	China	Wheat	23.04.2019	MN648442
23	SXLF19-1	China	Wheat	16.04.2019	MN648443
24	SDJN17-1	China	Wheat	17.04.2017	MN648444
25	P3-CZ(CP)	Czech Republic	Wheat	04.06.2015	MN807304
26	P7-CZ(CP)	Czech Republic	Grass	04.06.2015	MN780848
27	C12-CZ(CP)	Czech Republic	Wheat	17.05.2015	MN780849
28	C17-CZ(CP)	Czech Republic	Wheat	17.05.2015	MN780850
29	E14-CZ(CP)	Czech Republic	Wheat	27.05.2015	MN780851
30	E15-CZ(CP)	Czech Republic	Wheat	27.05.2015	MN807305
31	M12-CZ(CP)	Czech Republic	Wheat	10.10.2016	MN780852
32	AG1.3-CZ(CP)	Czech Republic	Wheat	01.05.2017	MN780853
33	AG1.4-CZ(CP)	Czech Republic	Wheat	01.05.2017	MN780854
34	BROU14.5-CZ(CP)	Czech Republic	Barley	06.05.2017	MN780855
35	BROU14.9-CZ(CP)	Czech Republic	Barley	04.05.2017	MN780856
36	BROU18.2-CZ(CP)	Czech Republic	Wheat	06.05.2017	MN780857
37	BROU18.3-CZ(CP)	Czech Republic	Wheat	06.05.2017	MN780858
38	BROU22.3-CZ(CP)	Czech Republic	Oat	30.05.2018	MN780859
39	M21-CZ(CP)	Czech Republic	Barley	10.10.2018	MN780860
40	CH3-CZ(CP)	Czech Republic	Barley	04.05.2019	MN780861
41	M12-CZ(RTP)	Czech Republic	Wheat	10.10.2016	MN833215

42	AG1.3- CZ(RTP)	Czech Republic	Wheat	01.05.2017	MN833216
43	AG1.4- CZ(RTP)	Czech Republic	Wheat	01.05.2017	MN833217
44	BROU14.5- CZ(RTP)	Czech Republic	Barley	06.05.2017	MN833218
45	BROU14.9- CZ(RTP)	Czech Republic	Barley	04.05.2017	MN833219
46	BROU18.2- CZ(RTP)	Czech Republic	Wheat	06.05.2017	MN833220
47	BROU18.3- CZ(RTP)	Czech Republic	Wheat	06.05.2017	MN833221
48	BROU22.3- CZ(RTP)	Czech Republic	Oat	30.05.2018	MN833222

7 *YNKM: Kunming, Yunnan; SCMY: Mianyang, Sichuan; HNZK: Zhoukou, Henan; HNZZ: Zhengzhou, Henan;
8 HNY Y: Yuanyang, Henan; HBWH: Wuhan, Hubei; HBSJZ: Shijiazhuang, Hebei; SDJN: Jinan, Shandong; GSTS:
9 Tianshui, Gansu; SXYL: Yangling, Shaanxi; SXHZ: Hanzhong, Shaanxi; SXLF: Linfen, Shanxi; SXDY: Dongyang,
10 Shanxi.

11 **Table S3.** Description of NCBI sequences used in this study

No.	Sequences Description	Country	Host	Collection Date	GenBank Accession No.
1	BYDV-PAV	Czech Republic	Barley	1985	FJ645745
2	BYDV-PAV	Czech Republic	Ryegrass	2007	FJ645761
3	BYDV-PAV	Czech Republic	winter wheat	2007	EF371061
4	BYDV-PAV	Czech Republic	winter wheat	2007	EF371062
5	BYDV-PAV	Czech Republic	winter wheat	2007	EF371063
6	BYDV-PAV	Czech Republic	Oat	2007	EF371064
7	BYDV-PAV	France	Barley	1998	AJ007491
8	BYDV-PAV	France	Aphid	2001	AF391101
9	BYDV-PAV	France	Barley	1998	AJ007492
10	BYDV-PAV	France	Wheat	2005	DQ079611
11	BYDV-PAV	USA	Oat	2011	KU170668
12	BYDV-PAV	USA	Unknown	2000	AF235167
13	BYDV-PAV	USA	Wheat	2006	EF043235
14	BYDV-PAV	USA	Unknown	2007	EF521836
15	BYDV-PAV	Australia	Wheat	2019	MK962883
16	BYDV-PAV	Australia	Unknown	1988	X07653
17	BYDV-PAV	Pakistan	Wheat	2013	KT252978
18	BYDV-PAV	Pakistan	Wheat	2011	HE985229
19	BYDV-PAV	Germany	<i>Hordeum vulgare</i>	2004	AJ810418
20	BYDV-PAV	Iran	<i>Hordeum vulgare</i>	2010	KP771878
21	BYDV-PAV	Japan	<i>Hordeum vulgare</i>	1996	D85783
22	BYDV-PAV	China	Wheat	2004	AY855920
23	BYDV-GAV	China	Wheat	2003	AY220739
24	BYDV-GPV	China	Wheat	2007	FM865413