

ESM 1. Symptom expression and symptom severity response of snap bean cultivars to inoculation with CMV-WI (n=217), BYMV-NY (n=217), and CIYVV-NY (n=94), and evaluated at the first trifoliolate growth stage (V1) under greenhouse conditions

Entry #	Cultivar	CMV-WI		BYMV-NY		CIYVV-NY	
		Response	Sev	Response	Sev	Response	Sev
1	Acclaim	Vb, sLd, sB	5	sS, Ld, Y	4.5	sS, Ld, Vn	4.5
2	Almaty	mVb, mLd	2	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
3	Amboto	NS	1	sS, Ld, Y	4.5	NT	-
4	Amy	mLd	1.5	sS, Ld, Ad	5	sS, Ld,Vn, Sn	5
5	Angers	Vb, Ld, mB	3.5	mS, M	2	NT	-
6	Astun	Vb, Ld, mB	3.5	mS, M	2	NT	-
7	Atlantic	mLd	1.5	mS, M	2	sS, Ld, Vn	4.5
8	B-28-R	NS	1	NS	1	NS	1
9	Baby Bop	mVb	1.5	mS, M	2	NS	1
10	Balsas	Vb, Ld, mB	3.5	mM, mLd	2	NT	-
11	Banga	mVb, mLd	2	sS, Ld, Y	4.5	sS, Ld, Vn	4.5
12	Barrier	Vb, Ld, mB	3.5	sS, Ld, Ad	5	sS, Ld, Vn	4.5
13	BBL 110	Vb, Ld, mB	3.5	sS, Ld, Y	4.5	sS, Ld	3.5
14	BBL 156	Vb, sLd, sB	5	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
15	BBL 274	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
16	Beany Baby	mLD	1.5	sS, Ld, Ad	5	sS, Ld,Vn, Sn	5
17	Benchmark	NS	1	mS, mLd, M	3	NT	-
18	Benton	mVb, mLd	2	sS, Ld, Y	4.5	sS, Ld, Vn	4.5
19	Black Valentine	Vb, mLd	2.5	sS, Ld, Ad	5	NT	-
20	Blue Crop	Vb, sLd, sB	5	sS, Ld, Y	4.5	sS, Ld, Vn	4.5
21	Blue Lake 274	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
22	Blue Lake Pole S7	NT	-	NT	-	NT	-
23	Bogey	mVb, mLd	2	mS, M	2	sS, Ld,Vn, Sn	5
24	Bogota	Vb, Ld	3	mS, M	2	NT	-
25	Bonanza	Vb, Ld, mB	3.5	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
26	Boone	NS	1	sS, Ld, Ad	5	NT	-
27	Booster	NS	1	mS, M	2	NT	-
28	Bountiful	NS	1	sS, Ld, Y	4.5	NT	-
29	Brio	Vb, Ld, mB	3.5	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
30	Brittle Wax	Vb	2	sS, Ld, Y	4.5	NT	-
31	Bronco	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
32	Cadillac	mVb, mLd, mB	2.5	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
33	Calgreen	mVb, mLd	2	sS, Ld, Y	4.5	sS, Ld, Vn	4.5
34	Cameron	mM	1.5	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
35	Caprice	mVb, mLd	2	sS, Ld, Ad	5	sS, Ld,Vn, Sn	5
36	Capricorn	mVb, mLd	2	sS, Ld, Ad	5	NT	-
37	Carlo	mVb, mLd	2	sS, Ld, Y	4.5	NT	-

38	Carson	Vb, Ld, mB	3.5	sS, Ld, Ad	5	sS, Ld,Vn, Sn	5
39	Cartagena	mVb, mLd	2	sS, Ld, Ad	5	NT	-
40	Castano	mVb, mLd	2	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
41	Catania	Vb, mLd	2.5	mS, mLd, M	3	NT	-
42	Celtic	Vcl, Ld	3	sS, Ld, Ad	5	sS, Ld,Vn, Sn	5
43	Charon	M, Ld	3	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
44	Cherokee	Vb, Ld, mB	3.5	sS, Ld, Ad	5	NT	-
45	Coloma	mVb, mLd	2	mS, mLd, M	3	NT	-
46	Conella	Vb, Ld	3	sS, Ld, Y	4.5	NT	-
47	Contender	Vb, sLd, sB	5	sS, Ld, Ad	5	sS, Ld, Vn	4.5
48	Crest	Vb, sLd, sB	5	sS, Ld, Ad	5	sS, Ld,Vn, Sn	5
49	Cruiser	mVb, mLd	2	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
50	Cupidon	mVb, mLd	2	mS, M	2	sS, Ld,Vn, Sn	5
51	Cyclone	mVcl, mLd	2	sS, Ld, Y	4.5	NT	-
52	Dandy	mVcl, mLd	2	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
53	Daytona	Vb, sLd, sB	5	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
54	Derby	Vb, Ld, mB	3.5	sS, Ld, Y	4.5	NT	-
55	Doral	Vb, Ld, mB	3.5	sS, Ld, Ad	5	NT	-
56	Dubbele Witte	NT	-	NT	-	NT	-
57	Dusky	mLd	1.5	sS, Ld, Ad	5	NT	-
58	Dynsasty	Vcl, mM	2.5	mS, mLd, M	3	sS, Ld,Vn, Sn	5
59	Eagle	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
60	Early Bird	Vcl, mM	2.5	sS, Ld, Y	4.5	sS, Ld, Vn	4.5
61	Ebro	Vb, Ld, mB	3.5	mS, M	2.5	NT	-
62	Embassy	Vb, Ld, mB	3.5	sS, Ld, Ad	5	NT	-
63	Envy	Vb, Ld	3	sS, Ld, Ad	5	NT	-
64	Erin	Vb, mLd, B	4.5	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
65	Espada	NS	1	mS, mM	2	NT	-
66	Esquire	NS	1	mS, M	2.5	NT	-
67	EZ Pick	M, Ld	3	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
68	Ferrari	Vb, Ld, mB	3.5	mS, M	2.5	NT	-
69	Festina	Vb, mLd, B	3.5	mS, mLd, M	3	NT	-
70	Flavio	mVb, mLd	2	sS, Ld, Y	4.5	NT	-
71	Flavor Sweet	mVb, mLd	2	sS, Ld, Ad	5	NT	-
72	Flevoro	mVb, mLd	2	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5
73	Flo	mLd	1.5	sS, Ld, Ad	5	sS, Ld,Vn, Sn	5
74	Foremost	mVb, M	2.5	mS, mLd, M	3.5	NT	-
75	FR266	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
76	Fresh Pick	Vcl, mLd, mM	3	sS, Ld, Y	4.5	sS, Ld, Vn	4.5
77	Frontier	mVb, mLd	2	sS, Ld, Ad	5	NT	-
78	Fury	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
79	Gallatin 50	Vcl, mM	2.5	sS, Ld, Y	4.5	NT	-
80	Galveston	Vb, Ld, mB	3.5	sS, Ld, Y	4.5	sS, Ld,Vn, Sn	5

81	Gator Green	Vcl, mM	2.5	mS, mLd, M	3	sS, Ld, Vn	4.5
82	Gina	Vb, Ld, mB	3.5	mS, M	2.5	NT	-
83	Gold Mine	Vb, sLd, sB	5	sS, Ld, Y	4.5	sS, Ld	3.5
84	Gold Ribbon	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
85	Golden Child	Vb, Ld, mB	3.5	sS, Ld, Ad	5	NT	-
86	Golden Rod Wax	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
87	Goldrush	NT	-	NT	-	NT	-
88	Green Arrow	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
89	Grenoble	Vcl	2	sS, Ld, Y	4.5	NT	-
90	Hayden	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
91	Hercules	Vcl	2	sS, Ld, Ad	5	NT	-
92	Hialeah	Vb, sLd, sB	5	sS, Ld, Y	4.5	sS, Ld, Vn	4.5
93	Hickok	Vb, mLd	2.5	sS, Ld, Y	4.5	NT	-
94	Huntington	NS	1	mS, M	2.5	sS, Ld, Vn	4.5
95	Hystyle	Vb, sLd, sB	5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
96	Idaho Refugee	Vcl, mM	2.5	sS, Ld, Ad	5	NT	-
97	Igloo	Vcl	2	sS, Ld, Y	4.5	sS, Ld, Vn, Sn	5
98	Impact	mVb, mLd	2	sS, Ld, Y	4.5	NT	-
99	Imuna	Vcl, mM	2.5	mM	1.5	NS	1
100	Indy Gold	mVb, Ld	2.5	sS, Ld, Ad	5	NT	-
101	Inspiration	Vb, Ld	3	sS, Ld, Ad	5	NT	-
102	Isar	Vcl, mLd	2.5	mS, mLd, M	3.5	NT	-
103	Jade	Vcl, mM	2.5	mS, M	2.5	sS, Ld	3.5
104	Juliet	Vb, Ld, mB	3.5	sS, Ld, Y	4.5	sS, Ld, Vn, Sn	5
105	Kentucky Wonder Pole	NT	-	NT	-	NT	-
106	Koala	Vcl, mLd, M	3.5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
107	Kylian	NS	1	sS, Ld, Y	4.5	sS, Ld, Vn, Sn	5
108	Labrador	Vcl	2	sS, Ld, M	4	NT	-
109	Landmark	Vcl	2	sS, Ld, M	4	NT	-
110	Landreth's Stringless	Vb, mLd	2.5	sS, Ld, Ad	5	NT	-
111	Laureat	Vcl	2	mS, mLd, M	3	NS	1
112	Leon	Vcl	2	mS, mLd, M	3	sS, Ld, Vn	4.5
113	Lewis	mVb, mLd	2	sS, Ld, Y	4.5	NT	-
114	Lynx	Vb, mLd	2.5	sS, Ld, Y	4.5	NT	-
115	Magnum	Vb, mLd	2.5	sS, Ld, Y	4.5	NT	-
116	Majestic	Vb, sLd, sB	5	sS, Ld, Ad	5	sS, Ld, Vn	4.5
117	Mancayo	NS	1	mS, mLd, M	3	NT	-
118	Marseille	Vcl, mLd	2.5	mS, Ld, M	3.5	sS, Ld, Vn, Sn	5
119	Masai	NS	1	sS, Ld, Y	4.5	NT	-
120	Matador	Vb, Ld, mB	3.5	sS, Ld, Ad	5	sS, Ld, Vn	4.5
121	Maxibel	Vcl, mLd	2.5	mS, M	2	Ld, mM	2.5
122	Medinah	Vcl, mLd, M	3.5	sS, Ld, Y	4.5	sS, Ld, Vn, Sn	5

123	Mercury	Vcl, mM	2.5	sS, Ld, Y	4.5	sS, Ld, Vn, Sn	5
124	Minuette	Vcl, mLd, M	3.5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
125	Mirada	Vcl, Ld	3	sS, Ld, Y	4.5	sS, Ld, Vn	4.5
126	Molly	Vcl, mM	2.5	mS, mM	2	S, Ld, Vn	4
127	Navarro	Vb, Ld, mB	3.5	sS, Ld, Ad	5	NT	-
128	Nicelo	Vb, sLd, sB	5	sS, Ld, Y	4.5	sS, Ld, Vn, Sn	5
129	Nomad	Vcl	2	sS, Ld, Ad	5	NT	-
130	Normandie	Vcl, mLd, M	3.5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
131	NY6020-5	Vb, mLd	2.5	sS, Ld, Ad	5	NT	-
132	Opus	Vb, Ld, mB	3.5	sS, Ld, Y	4.5	sS, Ld, Vn, Sn	5
133	Oregon 1604M	Vcl, mLd, mM	3	sS, Ld, Ad	5	NT	-
134	Oregon 2065	Vcl, mLd, mM	3	sS, Ld, Ad	5	NT	-
135	Oregon 5402	NS	1	mS, M	2.5	NT	-
136	Oregon 5630	Vcl, mM	2.5	mS, M	2.5	NT	-
137	Oregon 91G	Vcl, mM	2.5	mS, sM	3	NT	-
138	Orient	Vcl, mM	2.5	sS, Ld, M	4.5	S, Ld, Y	4
139	Palati	Vcl, mM	2.5	sS, Ld, Y	4.5	sS, Ld, Vn, Sn	5
140	Paloma	mVb	1.5	mM	1.5	NS	1
141	Panama	mVb, mLd	2	mM	1.5	NT	-
142	Paulista	Vcl, mM	2.5	mM	1.5	NT	-
143	Pix	Vcl, mM	2.5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
144	Podsquad	Vcl, mLd, mM	3	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
145	Polder	Vcl, mLd, mM	3	mS, mLd, M	3	NS	1
146	Pretoria	Vcl, mLd, M	3.5	mS, mLd, M	3	NT	-
147	Prevail	mVb, mLd	2	sS, sLd, Y	4.5	NT	-
148	Probe	Vb, Ld, mB	3.5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
149	Producer	Vb, Ld, mB	3.5	sS, Ld, Ad	5	sS, Ld, Vn	4.5
150	Profit	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
151	Prosperity	Vcl, mLd	2.5	mS, Vcl, M	3.5	sS, Ld, Vn	4.5
152	Provider	Vcl	2	mM	1.5	Ld, M	3
153	Puncher	NS	1	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
154	Redon	Vb, Ld, mB	3.5	mS, Vcl, M	3.5	NT	-
155	Renegade	Vb, Ld, mB	3.5	sS, Ld, Ad	5	NT	-
156	Rhapsody	Vb, sLd, sB	5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
157	Rocdor	Vcl	2	mS, mLd, M	3	NT	-
158	Rockport	Vb, Ld	3	sS, sLd, Y	4.5	NT	-
159	Roller	Vb, Ld, mB	3.5	mS, mLd, M	3	NT	-
160	Roma II	NS	1	mM	1.5	NT	-
161	Romano 118	NT	-	NT	-	NT	-
162	Romano 942	NS	1	mS, mM	2	NT	-
163	Romano Gold	NT	-	NT	-	NT	-
164	Royal Burgundy	NS	1	mS, Ld, M	3.5	NT	-
165	Sapporo	Vcl, mM	2.5	NT	-	NT	-

166	Savannah	NS	1	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
167	Scorpio	Vcl, mM	2.5	sS, Ld, Ad	5	NT	-
168	Seabiscuit	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
169	Secretariat	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
170	Selecta	Vcl, mM	2.5	mM	1.5	NT	-
171	Serengeti	Vb, Ld, mB	3.5	mM	1.5	NT	-
172	Serin	NS	1	sS, Ld, Y	4.5	sS, Ld, Vn, Sn	5
173	Seville	Vcl, mLd, M	3.5	mS, Ld, M	3.5	sS, Ld, Vn	4.5
174	Shade	Vb, Ld, mB	3.5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
175	Sirio	NS	1	mM	1.5	NT	-
176	Slenderella	Vb, Ld, mB	3.5	mS, Ld, M	3.5	NT	-
177	Slenderette	Vb, sLd, sB	5	sS, sLd, Y	4.5	NT	-
178	Slenderpack	Vcl, mLd, mM	3	sS, sLd, Y	4.5	sS, Ld, Vn	4.5
179	Slimgym	Vcl, mLd, mM	3	sS, sLd, Y	4.5	sS, Ld, Vn	4.5
180	Soleil	NT	-	NT	-	NT	-
181	Sonata	Vb, Ld, mB	3.5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
182	Sonesta	Vb, mLd	2.5	NS	1	NS	1
183	Spartacus	Vb, Ld, mB	3.5	sS, sLd, Y	4.5	NT	-
184	Speedy	Vcl	2	mS, Ld, M	3.5	sS, Ld, Vn, Sn	5
185	Sprite	Vcl, mM	2.5	sS, sLd, Y	4.5	sS, Ld	3.5
186	Stallion	Vb, mLd	2.5	sS, sLd, Y	4.5	NT	-
187	Stayton	Vcl, mM	2.5	mS, M	2.5	NT	-
188	Storm	Vcl, mM	2.5	sS, Ld, Ad	5	NT	-
189	Strike	Vb, Ld, mB	3.5	sS, sLd, Y	4.5	NT	-
190	Stringless Frech Filet	Vcl, mLd	2.5	mM	1.5	NT	-
191	Summit	Vcl, mM	2.5	sS, sLd, Y	4.5	sS, Ld, Vn	4.5
192	Sunburst	Vb, sLd, sB	5	sS, sLd, Y	4.5	NT	-
193	Symphony	Vcl, mLd	2.5	sS, sLd, Y	4.5	sS, Ld, Vn	4.5
194	Tapia	Vcl, mLd	2.5	mM	1.5	NT	-
195	Tavera	mLd	1.5	sS, sLd, Y	4.5	NT	-
196	Tendercrop	Vb, Ld, mB	3.5	mS, Ld, M	3.5	NT	-
197	Tendergreen	Vb, mLd	2.5	sS, Ld, Ad	5	NT	-
198	Tenderlake	Vb, Ld, mB	3.5	sS, sLd, Y	4.5	NT	-
199	Teseo	Vcl, mLd	2.5	sS, Ld, Ad	5	sS, Ld, Vn, Sn	5
200	Thoroughbred	Vb, Ld, mB	3.5	sS, Ld, Ad	5	NT	-
201	Titan	Vb, Ld, mB	3.5	sS, sLd, Y	4.5	NT	-
202	Top Crop	NT	-	NT	-	NT	-
203	Trail of Tears	NT	-	NT	-	NT	-
204	True Blue	Vb, sLd, sB	5	sS, sLd, Y	4.5	sS, Ld, Vn	4.5
205	Ulysses	Vb, sLd, sB	5	sS, sLd, Y	4.5	NT	-
206	Unidor	NS	1	sS, sLd, Y	4.5	NT	-
207	US Refugee #5	NT	-	NT	-	NT	-
208	Valentino	mVb, mLd, mB	2.5	sS, sLd, Y	4.5	NT	-

209	Venice	Vcl, mLd, mM	3	sS, sLd, Y	4.5	sS, Ld, Vn, Sn	5
210	Venture	Vb, sLd, sB	5	sS, sLd, Y	4.5	sS, Ld, Vn, Sn	5
211	Venture	Vb, sLd, sB	5	sS, Ld, Ad	5	NT	-
212	Volta	Vcl, mLd, M	3.5	sS, sLd, Y	4.5	sS, Ld, Vn	4.5
213	Warrior	Vb, sLd, sB	5	sS, sLd, Y	4.5	sS, Ld, Vn	4.5
214	Weapon	Vcl, mLd, M	3.5	sS, sLd, Y	4.5	sS, Ld, Vn	4.5
215	Widusa	Vcl, mLd, M	3.5	mS, Ld, M	3.5	NT	-
216	Zeus	Vb, sLd, sB	5	sS, sLd, Y	4.5	NT	-
217	Zodiac	Vcl, M	3	sS, sLd, Y	4.5	NT	-