

**Supplementary Table 2.** Growth and contamination of rose cultivars grown *in vitro*

No.	Cultivar	Shoot formation (%)	Contamination (%)	Mortality (%)	Callus formation (%)
1	11-305	96.2	19.2	0.0	0.0
2	12-376	80.4	7.8	0.0	18.8
3	13-251	97.7	2.3	43.2	0.0
4	A-Pink	93.8	21.9	21.9	6.3
5	G12-46	67.3	13.5	42.3	2.5
6	G13-194	49.0	30.0	24.0	0.0
7	G13-335	80.0	1.5	0.0	0.0
8	S-Pink	75.0	29.2	5.6	31.8
9	Green Beauty	78.0	21.0	2.0	5.0
10	Green Star	83.3	20.0	26.7	3.3
11	Deep Silver	90.4	12.0	6.0	8.4
12	Deep Purple	95.2	12.7	0.0	0.0
12-2 <sup>a</sup>	Deep Purple	86.1	20.8	6.9	8.3
12-3 <sup>b</sup>	Deep Purple	84.4	11.1	2.2	15.6
13	Rock Fire	95.0	2.5	2.5	0.0
13-2 <sup>a</sup>	Rock Fire	90.8	21.1	11.8	0.0
13-3 <sup>b</sup>	Rock Fire	57.9	5.3	5.3	26.3
14	Love Letter	91.7	4.2	2.1	0.0
15	Redliner	73.1	21.1	4.2	1.4
16	Redbi	33.3	28.3	25.0	1.7
16-2 <sup>a</sup>	Redbi	64.0	38.0	36.0	0.0
17	Red Square	97.5	20.0	0.0	0.0
18	Redwing	97.7	27.3	0.0	0.0
19	Red Pocket	91.2	12.3	24.1	0.0
19-2 <sup>a</sup>	Red Pocket	88.8	21.3	26.3	0.0
19-3 <sup>b</sup>	Red Pocket	84.1	3.2	3.2	1.6
20	Red Fit	79.2	22.9	4.2	8.3
21	Rich	72.9	20.8	0.0	4.2
22	Missha	78.6	25.0	7.1	0.0
23	Mystic Blue	97.7	20.9	20.9	0.0
24	Violetta	85.7	16.7	7.1	4.8
25	Bobos	83.1	8.5	5.6	0.0
25-2 <sup>a</sup>	Bobos	80.0	21.3	16.3	5.0
25-3 <sup>b</sup>	Bobos	76.7	0.0	2.3	44.2
26	Brocante <sup>c</sup>	75.0	6.0	46.0	0.0
27	Blondy	59.3	20.4	22.2	1.9
28	Beast	100.0	2.5	0.0	0.0
29	Sharbet	85.0	25.0	5.0	0.0
30	Show Girl	100.0	25.0	50.0	0.0
30-2 <sup>a</sup>	Show Girl	93.8	19.8	25.0	18.8
30-3 <sup>b</sup>	Show Girl	82.4	0.0	11.8	0.0
31	Show Flow <sup>c</sup>	68.1	23.6	13.9	1.4

32	Sugar Ball	80.4	11.8	13.7	9.8
32-2 <sup>a</sup>	Sugar Ball	100.0	27.8	0.0	2.8
32-3 <sup>b</sup>	Sugar Ball	70.8	0.0	16.7	16.7
33	Swai	30.3	36.4	48.5	0.0
34	Sweet Skin	72.9	20.8	21.9	0.0
35	Silver Shadow	73.1	9.0	77.8	0.0
36	Ice Bear	89.1	6.3	12.5	0.0
37	Ice Wing	90.0	2.5	2.5	84.6
38	Ever Spring	100.0	20.0	0.0	0.0
39	Antique Curl	88.6	45.5	9.1	0.0
40	Yellow Sun	85.0	25.0	7.5	27.5
41	Yellow Eye	94.0	28.0	10.0	0.0
42	Yellow Pop	75.0	26.7	5.0	0.0
43	Orange Eye	98.1	23.1	5.8	0.0
44	Ocean Song <sup>c</sup>	73.8	11.5	11.5	0.0
45	Wedding March	91.7	3.3	3.3	0.0
46	Wedding Cake	72.9	22.0	8.5	0.0
47	Jinii	93.0	2.3	2.3	92.3
48	Candy Party	92.3	7.7	7.7	0.0
49	Coral Natural <sup>c</sup>	75.0	21.4	3.6	0.0
50	Fascinar	72.7	20.5	29.5	0.0
51	Fuego <sup>c</sup>	97.6	2.4	12.2	9.8
52	Peach Valley	68.2	6.8	6.8	0.0
53	Feel Lip	83.3	9.5	4.8	0.0
54	Pink Baby	87.0	7.4	22.2	5.6
55	Pink Beauty	93.6	17.0	6.4	0.0
56	Pink Shine	68.8	16.7	4.2	8.3
57	Pink Yar	88.5	23.1	3.8	1.9
58	Pink Condor	95.0	6.7	5.0	0.0
59	Pink Fire	85.0	20.0	18.3	1.7
60	Pink Pop	91.7	19.4	5.6	5.6
61	Pink Heart	96.3	16.7	5.6	0.0
61-2 <sup>a</sup>	Pink Heart	81.5	20.4	1.9	1.9
61-3 <sup>b</sup>	Pink Heart	79.6	6.1	6.1	2.0
62	Henney Leon	100.0	17.5	0.0	0.0
63	Hera <sup>c</sup>	93.2	17.6	1.4	21.6
64	White Beauty	75.0	9.6	5.8	0.0
64-2 <sup>a</sup>	White Beauty	86.8	21.1	7.9	0.0
64-3 <sup>b</sup>	White Beauty	64.2	1.9	0.0	3.8
	Average	82.6	16.0	12.0	6.4

<sup>a</sup>Rose cultivars were cultured *in vitro* 3 months after the first experiment.

<sup>b</sup>Rose cultivars were cultured *in vitro* 2 months after the second experiment.

<sup>c</sup>Foreign cultivar.