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Appendix I

FLOWER AND BUD COLOR

Flower color has traditionally been assessed by the hybridizer using the 7-selection 1942 Wister color code. This code has recently been given digital RGB equivalents (see Introductory Pages). Bud color has never been assessed before.

Numerous other color systems have been suggested over the years, as noted in the Registrar's article: DeBard ML. "Development of a Genus *Syringa* (lilac) New Color System", in LILACS 49(2):72-87, Spring 2019. The RHS and Munsell color systems are the best known.

The Registrar has digitally sampled the flower and bud colors from the over 1400 cultivars and 8000 photos in the first-ever attempt to objectively and digitally define these colors. There are obvious limitations in the accuracy of results in this first attempt, done by the indirect color-picker method. These results are available on the ILS Lilac Photo & Color Database, available on DVD and the ILS member website.

For the purposes of the Register, a new line will be added for the digital colors in the LCS and ISCC-NBS color systems, matched to measured colors by the mathematical algorithm of Delta E using the Euclidean distance formula, instead of by visual inspection. (The RHS and Munsell systems have 4 times as many colors as ISCC-NBS and have not yet been completed). Here is the LCS system with RGB assignments for each of the 11 color groups and the equivalent background cell colors:

I- White	255,255,255
II-Pink	250,195,205
III-Red	190,060,70
IV-Orange	250,175,130
V-Yellow	245,210,130
VI-Green	75,210,165
VII-Cyan	150,225,225
VIII-Blue	155,200,250
IX-Violet	200,185,245
X-Purple	230,185,245
XI-Magenta	245,130,205

Here is the ISCC-NBS color system with RGB and unique name assignments for each color and the equivalent background cell colors. Note that 213 of the 267 Level 3 colors are used, each

with a unique number, excluding gray, brown, and black shades. Unlike the RHS and Munsell systems, each color has a unique name, its primary advantage:

I-WHITE (1): 255,255,255

II-PINK (18)			III-RED (11)			IV-ORANGE (21)		
1	Vivid pink	253,121,146	11	Vivid red	213,28,60	34	Vivid reddish orange	232,59,27
2	Strong pink	244,143,160	12	Strong red	191,52,75	35	Strong reddish orange	219,93,59
3	Deep pink	230,105,128	13	Deep red	135,18,45	36	Deep reddish orange	175,51,24
4	Light pink	248,195,206	14	Very deep red	92,6,37	37	Moderate reddish orange	205,105,82
5	Moderate pink	226,163,174	15	Moderate red	177,73,85	38	Dark reddish orange	162,64,43
6	Dark pink	197,128,138	16	Dark red	116,36,52	39	Grayish reddish orange	185,117,101
7	Pale pink	239,209,220	17	Very dark red	72,17,39	48	Vivid orange	247,118,11
8	Grayish pink	203,173,183	18	Light grayish red	180,136,141	49	Brilliant orange	253,148,63
9	Pinkish white	239,221,229	19	Grayish red	152,93,98	50	Strong orange	234,129,39
25	Vivid yellowish pink	253,126,93	20	Dark grayish red	83,56,62	51	Deep orange	194,96,18
26	Strong yellowish pink	245,144,128	21	Blackish red	51,33,39	52	Light orange	251,175,130
27	Deep yellowish pink	239,99,102				53	Moderate orange	222,141,92
28	Light yellowish pink	248,196,182				54	Brownish orange	178,102,51
29	Moderate yellowish pink	226,166,152				66	Vivid orange yellow	246,166,0
30	Dark yellowish pink	201,128,126				67	Brilliant orange yellow	255,190,80
31	Pale yellowish pink	241,211,209				68	Strong orange yellow	240,161,33
32	Grayish yellowish pink	203,172,172				69	Deep orange yellow	208,133,17
33	Brownish pink	203,175,167				70	Light orange yellow	252,194,124
						71	Moderate orange yellow	231,167,93
						72	Dark orange yellow	195,134,57
						73	Pale orange yellow	238,198,166

V-YELLOW (20)			VI-GREEN (45)		
82	Vivid yellow	241,191,21	106	Light olive	139,125,46
83	Brilliant yellow	247,206,80	107	Moderate olive	100,89,26
84	Strong yellow	217,174,47	108	Dark olive	53,46,10
85	Deep yellow	184,143,22	109	Light grayish olive	142,133,111
86	Light yellow	244,210,132	110	Grayish olive	93,85,63
87	Moderate yellow	210,175,99	111	Dark grayish olive	53,48,28
88	Dark yellow	176,143,66	115	Vivid yellow green	167,220,38
89	Pale yellow	239,215,178	116	Brilliant yellow green	195,223,105
90	Grayish yellow	200,177,139	117	Strong yellow green	130,161,43
91	Dark grayish yellow	169,144,102	118	Deep yellow green	72,108,14
92	Yellowish white	238,223,218	119	Light yellow green	206,219,159
97	Vivid greenish yellow	235,221,33	120	Moderate yellow green	139,154,95

98	Brilliant greenish yellow	233,220,85	121	Pale yellow green	215,215,193
99	Strong greenish yellow	196,184,39	122	Grayish yellow green	151,154,133
100	Deep greenish yellow	162,152,18	123	Strong olive green	44,85,6
101	Light greenish yellow	233,221,138	124	Deep olive green	35,47,0
102	Moderate greenish yellow	192,181,94	125	Moderate olive green	73,91,34
103	Dark greenish yellow	158,149,60	126	Dark olive green	32,52,11
104	Pale greenish yellow	230,220,171	127	Grayish olive green	84,89,71
105	Grayish greenish yellow	190,181,132	128	Dark grayish olive green	47,51,38
			129	Vivid yellowish green	63,215,64
			130	Brilliant yellowish green	135,217,137
			131	Strong yellowish green	57,150,74
			132	Deep yellowish green	23,106,30
			133	Very deep yellowish green	5,66,8
			134	Very light yellowish green	197,237,196
			135	Light yellowish green	156,198,156
			136	Moderate yellowish green	102,144,105
			137	Dark yellowish green	47,93,58
			138	Very dark yellowish green	16,54,26
			139	Vivid green	35,234,165
			140	Brilliant green	73,208,163
			141	Strong green	21,138,102
			142	Deep green	0,84,61
			143	Very light green	166,226,202
			144	Light green	111,172,149
			145	Moderate green	51,119,98
			146	Dark green	22,78,61
			147	Very dark green	12,46,36
			148	Very pale green	199,217,214
			149	Pale green	148,166,163
			150	Grayish green	97,113,110
			151	Dark grayish green	57,71,70
			152	Blackish green	31,42,42
			153	Greenish white	224,226,229

VII-CYAN (9)			VIII-BLUE (23)		
158	Vivid bluish green	19,252,213	167	Vivid greenish blue	0,133,161
159	Brilliant bluish green	53,215,206	168	Brilliant greenish blue	45,188,226
160	Strong bluish green	13,143,130	169	Strong greenish blue	19,133,175
161	Deep bluish green	0,68,63	170	Deep greenish blue	46,132,149
162	Very light bluish green	152,225,224	171	Very light greenish blue	148,214,239
163	Light bluish green	95,171,171	172	Light greenish blue	101,168,195
164	Moderate bluish green	41,122,123	173	Moderate greenish blue	42,118,145
165	Dark bluish green	21,75,77	174	Dark greenish blue	19,74,96
166	Very dark bluish green	10,45,46	175	Very dark greenish blue	11,44,59

	176	Vivid blue	27,92,215		
	177	Brilliant blue	65,157,237		
	178	Strong blue	39,108,189		
	179	Deep blue	17,48,116		
	180	Very light blue	153,198,249		
	181	Light blue	115,164,220		
	182	Moderate blue	52,104,158		
	183	Dark blue	23,52,89		
	184	Very pale blue	194,210,236		
	185	Pale blue	145,162,187		
	186	Grayish blue	84,104,127		
	187	Dark grayish blue	50,63,78		
	188	Blackish blue	30,37,49		
	189	Bluish white	225,225,241		
IX-VIOLET (LAVENDER) (22)			X-PURPLE (LILAC) (25)		
194	Vivid purplish blue	68,54,209	216	Vivid purple	185,53,213
195	Brilliant purplish blue	128,136,226	217	Brilliant purple	206,140,227
196	Strong purplish blue	83,89,181	218	Strong purple	147,82,168
197	Deep purplish blue	42,40,111	219	Deep purple	101,34,119
198	Very light purplish blue	183,192,248	220	Very deep purple	70,10,85
199	Light purplish blue	137,145,203	221	Very light purple	228,185,243
200	Moderate purplish blue	77,78,135	222	Light purple	188,147,204
201	Dark purplish blue	34,34,72	223	Moderate purple	135,94,150
202	Very pale purplish blue	197,201,240	224	Dark purple	86,55,98
203	Pale purplish blue	142,146,183	225	Very dark purple	55,27,65
204	Grayish purplish blue	73,77,113	226	Very pale purple	224,203,235
205	Vivid violet	121,49,211	227	Pale purple	173,151,179
206	Brilliant violet	152,127,220	228	Grayish purple	123,102,126
207	Strong violet	97,65,156	229	Dark grayish purple	81,63,81
208	Deep violet	60,22,104	230	Blackish purple	47,34,49
209	Very light violet	201,186,248	231	Purplish white	235,223,239
210	Light violet	155,140,202	236	Vivid reddish purple	212,41,185
211	Moderate violet	92,73,133	237	Strong reddish purple	167,73,148
212	Dark violet	52,37,77	238	Deep reddish purple	118,26,106
213	Very pale violet	208,198,239	239	Very deep reddish purple	79,9,74
214	Pale violet	154,144,181	240	Light reddish purple	189,128,174
215	Grayish violet	88,78,114	241	Moderate reddish purple	150,88,136
			242	Dark reddish purple	95,52,88
			243	Very dark reddish purple	63,24,60
			244	Pale reddish purple	173,137,165
XI-MAGENTA (18)					
245	Grayish reddish purple	134,98,126			

246	Brilliant purplish pink	252,161,231
247	Strong purplish pink	244,131,205
248	Deep purplish pink	223,106,172
249	Light purplish pink	245,178,219
250	Moderate purplish pink	222,152,191
251	Dark purplish pink	198,125,157
252	Pale purplish pink	235,200,223
253	Grayish purplish pink	199,163,185
254	Vivid purplish red	221,35,136
255	Strong purplish red	184,55,115
256	Deep purplish red	136,16,85
257	Very deep purplish red	84,6,60
258	Moderate purplish red	171,75,116
259	Dark purplish red	110,41,76
260	Very dark purplish red	67,20,50
261	Light grayish purplish red	178,135,155
262	Grayish purplish red	148,92,115