
Petunia Cultivar Evaluation - 1999

~ Richard L. Harkess ~ Dept. of Plant and Soil Sciences ~ Mississippi State University ~
~ 117 Dorman, Box 9555 ~ Mississippi State, MS 39762 ~

Materials and Methods

Forty two cultivars of petunias and calibricoas were grown at the main campus of Mississippi State University to examine the performance of the cultivars in the mid south region. Twenty cultivars were obtained from The Paul Ecke Ranch, nineteen cultivars in the Proven Winners series from EuroAmerican Propagators, and four seed cultivars from PanAmerican Seed.

As the rooted cuttings arrived from different vendors, they were potted into 4 inch square pots in Sunshine Mix 1 (Sun Gro Horticulture, Bellevue, WA) with 50 g@t⁻³ Osmocote 15-11-13 (N-P₂O₅-K₂O) (The Scotts Co., Marysville, OH) . All cuttings were drenched with a fungicide (Subdue at 1 oz/100 gallons) after potting. Plants received a Subdue fungicide drench monthly until planting outside. During greenhouse production all plants received a continuous liquid feed of 200 mg@t⁻¹ N from 20-10-20 (N-P₂O₅-K₂O) Peters Peat Lite Special (The Scotts Co., Marysville, OH) until the plants were planted outside. On May 17, 1999, the plants were transplanted 3 plants to a 14" diameter (7 gal nursery) container and placed outside in a full sun location on a gravel nursery production slab. Each cultivar had 3 replications. The containers were watered using drip irrigation for 20 minutes every other day throughout the summer. Every three weeks after planting the plants were treated with chelated iron at 8 oz./100 gallons.

Data was collected every two weeks through the summer to determine the extent of foliar chlorosis and to evaluate plant form. Chlorosis was rated on a visual scale as follows: 1) 75% or more of the foliage showing chlorosis, 2) about 51 to 75% of the foliage chlorotic, 3) about 21 to 50% of the foliage chlorotic, 4) about 5 to 20% of the foliage chlorotic, 5) no visible chlorosis. Plant form and growth was also evaluated on a visual scale of 1 to 5 as follows: 1) plants almost dead or dead, no flowers; 2) soil visible in the container around the plants, little canopy cover, reduced flowering; 3) good canopy cover but plants not larger than the diameter of the container, average flower cover; 4) plants larger than the diameter of the container and showing good general form, very floriferous, may have developed a hollow center or open, loose shape; 5) plants growing vigorously, they were larger than the container, and the was container hidden by the plants, very floriferous.

Visual ratings of foliar chlorosis and plant form were averaged by month and then an average of all the months was calculated (Table 1). In addition, foliar chlorosis and plant form ratings were added together and averaged to determine an overall rating for each cultivar by month and also an average for the entire summer growing season (Table 2).

Table 1. Visual ratings of foliar chlorosis and overall plant form for petunia cultivars grown in 14 inch patio containers the summer of 1999 were tabulated. Rating was on a scale of 1 to 5 with 5 = no chlorosis or best plant form. Each monthly rating is an average of two evaluations, one evaluation the first week of the month and the second the third week of the month. Each cultivar was replicated three times.

Cultivar	Foliar Chorois					Plant Form				
	June	July	Aug.	Sept.	Ave.	June	July	Aug.	Sept.	Ave.
Cascadias Blue Spark	5.00	5.00	5.00	5.00	5.00	4.67	4.83	4.50	4.50	4.63
Cascadias Champagne	4.00	3.50	4.83	4.83	4.29	4.83	4.67	4.50	4.67	4.67
Cascadias Charlie Imp.	4.17	4.17	4.83	4.17	4.34	4.67	5.00	4.50	3.67	4.46
Cascadias Charme	2.83	2.83	2.50	2.00	2.54	2.50	3.00	3.17	2.50	2.79
Cascadias Cherie	4.00	5.00	4.67	4.67	4.59	3.83	4.17	4.00	3.67	3.92
Cascadias Chipper	5.00	4.67	5.00	5.00	4.92	4.17	4.67	5.00	4.67	4.63
Cascadias Choice	4.50	5.00	5.00	5.00	4.88	5.00	4.67	4.67	4.83	4.79
Cascadias Pink	4.33	4.17	4.00	4.33	4.21	4.33	4.00	4.00	3.83	4.04
Cascadias Pink Spark	5.00	5.00	4.83	4.83	4.92	4.50	4.33	4.67	4.00	4.38
Cascadias Red	5.00	4.00	3.67	3.00	3.92	4.50	4.00	3.17	3.50	3.79
Cascadias Yellow Eye	5.00	5.00	5.00	5.00	5.00	4.83	4.67	4.83	4.50	4.71
Doubloon Blue Star	4.83	5.00	4.33	5.00	4.79	4.17	3.83	3.50	3.00	3.63
Doubloon Pink	3.33	3.17	4.83	5.00	4.08	4.17	3.83	3.83	4.00	3.96
Doubloon Pink Star	5.00	5.00	4.50	5.00	4.88	5.00	4.50	4.33	4.17	4.50
Marco Polo Adventurer	4.00	3.50	3.83	3.67	3.75	3.17	3.33	3.50	3.17	3.29
Marco Polo Odyssey	5.00	5.00	5.00	5.00	5.00	4.83	4.33	3.83	3.83	4.21
Marco Polo Silk Road	5.00	4.83	5.00	5.00	4.96	4.00	4.17	3.67	4.00	3.96
Marco Polo Traveller	5.00	4.67	5.00	4.00	4.67	4.00	4.00	3.50	3.17	3.67
Petitunia Bright Dream	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Petitunia Happy Dream	5.00	5.00	5.00	5.00	5.00	5.00	4.67	4.83	4.67	4.79
Million Bells Cherry Pink	5.00	5.00	5.00	4.83	4.96	4.67	4.83	4.67	4.50	4.67
Million Bells Trailing Blue	4.50	4.33	5.00	4.83	4.67	4.50	4.83	5.00	4.83	4.79
Million Bells Trailing Pink	5.00	4.83	5.00	5.00	4.96	4.50	5.00	4.50	4.50	4.63
Million Bells Trailing White	4.67	3.83	4.17	3.50	4.04	3.50	3.67	4.00	3.33	3.63
Supertunia Pampas Fire	3.33	2.33	2.00	1.67	2.33	4.33	3.83	2.67	1.83	3.17
Supertunia Purple Sunspot	3.67	3.33	4.50	5.00	4.13	4.17	4.33	4.83	4.50	4.46
Supertunia Sun Lace	3.17	2.50	2.67	1.67	2.50	4.50	3.83	3.00	2.33	3.42
Supertunia Sun Snow	3.33	2.50	2.83	2.33	2.75	4.00	3.83	3.50	2.50	3.46
Supertunia Sun Striker	2.67	2.00	1.83	1.67	2.04	3.00	2.67	1.83	1.00	2.13
Supertunia Sun Vale	4.83	4.83	4.67	4.83	4.79	3.83	3.83	4.67	4.00	4.08
Supertunia Sun Wine	3.17	3.00	3.33	3.75	3.31	4.83	4.00	3.17	3.25	3.81
Surfinia Blue	3.83	3.00	2.50	1.50	2.71	3.50	3.17	2.50	1.83	2.75
Surfinia Blue Vein	4.67	4.83	4.83	5.00	4.83	4.50	4.17	4.17	3.83	4.17
Surfinia Brilliant Mini Pink	4.50	4.50	5.00	5.00	4.75	4.50	4.17	5.00	5.00	4.67
Surfinia Pink Vein	5.00	4.83	4.83	4.83	4.87	5.00	4.17	4.17	3.67	4.25
Surfinia Purple	4.50	3.50	4.17	4.33	4.13	4.33	4.00	4.67	4.33	4.33
Surfinia Purple Vein	3.50	3.17	4.33	4.83	3.96	4.50	3.83	4.00	3.33	3.92
Surfinia White	2.83	2.67	3.33	3.33	3.04	3.83	4.00	3.83	3.17	3.71
Misty Lilac Wave	5.00	5.00	5.00	5.00	5.00	4.83	5.00	5.00	4.50	4.83
Pink Wave	5.00	5.00	4.83	5.00	4.96	5.00	4.83	4.00	3.67	4.38
Purple Wave	4.67	4.83	5.00	4.83	4.83	5.00	4.67	5.00	4.50	4.79
Rose Wave	5.00	5.00	5.00	4.67	4.92	4.83	4.00	3.67	3.83	4.08
LSD _{0.05}	0.46	0.56	0.83	1.09	0.46	0.53	0.57	0.70	1.10	0.45

Table 2. Combined visual ratings of foliar chlorosis and plant form for each summer month plus an average of the entire summers ratings are tabulated. Combined rating is an average of the chlorosis and plant form ratings. Ratings were from 1 to 5 with 5 being the best rating.

Cultivar	Supplier	June	July	August	September	Season Average
Cascadias Blue Spark	Paul Ecke Ranch	4.83	4.92	4.75	4.75	4.81
Cascadias Champagne	Paul Ecke Ranch	4.42	4.08	4.67	4.75	4.48
Cascadias Charlie Improved	Paul Ecke Ranch	4.42	4.58	4.67	3.92	4.40
Cascadias Charme	Paul Ecke Ranch	2.67	2.92	2.83	2.25	2.67
Cascadias Cherie	Paul Ecke Ranch	3.92	4.58	4.33	4.17	4.25
Cascadias Chipper	Paul Ecke Ranch	4.58	4.67	5.00	4.83	4.77
Cascadias Choice	Paul Ecke Ranch	4.75	4.83	4.83	4.92	4.83
Cascadias Pink	Paul Ecke Ranch	4.33	4.08	4.00	4.08	4.13
Cascadias Pink Spark	Paul Ecke Ranch	4.75	4.67	4.75	4.42	4.65
Cascadias Red	Paul Ecke Ranch	4.75	4.00	3.42	3.25	3.85
Cascadias Yellow Eye	Paul Ecke Ranch	4.92	4.83	4.92	4.75	4.85
Doubloon Blue Star	Paul Ecke Ranch	4.50	4.42	3.92	4.00	4.21
Doubloon Pink	Paul Ecke Ranch	3.75	3.50	4.33	4.50	4.02
Doubloon Pink Star	Paul Ecke Ranch	5.00	4.75	4.42	4.58	4.69
Marco Polo Adventurer	Paul Ecke Ranch	3.58	3.42	3.67	3.42	3.52
Marco Polo Odyssey	Paul Ecke Ranch	4.92	4.67	4.42	4.42	4.60
Marco Polo Silk Road	Paul Ecke Ranch	4.50	4.50	4.33	4.50	4.46
Marco Polo Traveller	Paul Ecke Ranch	4.50	4.33	4.25	3.58	4.17
Petitunia Bright Dream	Paul Ecke Ranch	5.00	5.00	5.00	5.00	5.00
Petitunia Happy Dream	Paul Ecke Ranch	5.00	4.83	4.92	4.83	4.90
Million Bells Cherry Pink	EuroAmerican Prop.	4.83	4.92	4.83	4.67	4.81
Million Bells Trailing Blue	EuroAmerican Prop.	4.50	4.58	5.00	4.83	4.73
Million Bells Trailing Pink	EuroAmerican Prop.	4.75	4.92	4.75	4.75	4.79
Million Bells Trailing White	EuroAmerican Prop.	4.08	3.75	4.08	3.42	3.83
Supertunia Pampas Fire	EuroAmerican Prop.	3.83	3.08	2.33	1.50	2.69
Supertunia Purple Sunspot	EuroAmerican Prop.	3.92	3.83	4.67	4.75	4.29
Supertunia Sun Lace	EuroAmerican Prop.	3.83	3.17	2.83	2.00	2.96
Supertunia Sun Snow	EuroAmerican Prop.	3.67	3.17	3.17	2.42	3.10
Supertunia Sun Striker	EuroAmerican Prop.	2.83	2.33	1.83	1.33	2.08
Supertunia Sun Vale	EuroAmerican Prop.	4.33	4.33	4.67	4.42	4.44
Supertunia Sun Wine	EuroAmerican Prop.	4.00	3.50	3.25	2.33	3.27
Surfinia Blue	EuroAmerican Prop.	3.67	3.08	2.50	1.67	2.73
Surfinia Blue Vein	EuroAmerican Prop.	4.58	4.50	4.50	4.42	4.50
Surfinia Brilliant Mini Pink	EuroAmerican Prop.	4.50	4.33	5.00	5.00	4.71
Surfinia Pink Vein	EuroAmerican Prop.	5.00	4.50	4.50	4.25	4.56
Surfinia Purple	EuroAmerican Prop.	4.42	3.75	4.42	4.33	4.23
Surfinia Purple Vein	EuroAmerican Prop.	4.00	3.50	4.17	4.08	3.94
Surfinia White	EuroAmerican Prop.	3.33	3.33	3.58	3.25	3.38
Misty Lilac Wave	PanAmerican Seed	4.92	5.00	5.00	4.75	4.92
Pink Wave	PanAmerican Seed	5.00	4.92	4.42	4.33	4.67
Purple Wave	PanAmerican Seed	4.83	4.75	5.00	4.67	4.81
Rose Wave	PanAmerican Seed	4.92	4.50	4.33	4.25	4.50
LSD _{0.05}		0.33	0.46	0.64	1.00	0.46