

Evaluation of Vinca Cultivars as Bedding Plants – Spring 2001

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Summary. We evaluated 36 cultivars of vinca (Madagascar periwinkle or rose periwinkle) [*Catharanthus roseus* (L.) G. Don], in replicated class tests at the University of Florida Gulf Coast Research and Education Center at Bradenton, Fla. [lat. 27.4 N, long. 82.5 W; AHS Heat Zone 10; USDA (American Horticultural Society, 1999); USDA Cold Hardiness Zone 9b (U. S. National Arboretum, 1990) in the spring of 2001. In this report we provided objective plant measurements of vegetative and flower characteristics, earliness of flowering, flower divergence (Table 1), as well as 3 subjective ratings (late Apr., mid May, and early June) that permit readers to evaluate foliage and flower characteristics (Table 2, sprayed field) and the affects of pests (Table 3, unsprayed field) at different times during the season, and to evaluate performance over time. Subjective ratings were on a scale from 1 to 7 with the highest rating of 7 for excellent. Cultivar performance in this trial was generally good in most classes. As a result, cultivar performance standards were high in this trial, with all vegetative and floral ratings > 5.3 being considered outstanding, 4.6 – 5.2 as good performers, and < 4.5 – 1.0 as fair to poor. Cultivars were grouped into classes based on plant habit and flower color.

Outstanding cultivars (adjusted overall performance rating > 5.3) were: ‘Cooler Blush’, ‘Cooler Icy Pink’, ‘Cooler Strawberry’, ‘SunStorm Blush’, ‘SunStorm Rose’*, and ‘SunStorm Rose w/Eye’(pinks class); ‘SunStorm Lilac’ (purples, dark – violet red class), ‘Blue Pearl’ (purples, light – violet blue class); ‘Cooler Grape’ (purples, light – violet red class); ‘SunStorm Bright Red’ (reds class); ‘Cooler Coconut’ and ‘SunStorm White w/Eye’ (white class); ‘Cascade Appleblossom’ (trailing; purples, light – violet blue class). **Good** performers were: ‘Cooler Mix’, ‘Merlot Mix’, ‘Stardust Mix’ and ‘Tutti Frutti Mix’ (mixes class); ‘Cooler Pink’, ‘Heatwave Pink’, ‘Stardust Pink’ (pinks class); ‘Heatwave Blue W/Eye’ (purples, dark – violet blue class); ‘Cooler Raspberry Red’, ‘Cooler Orchid’, ‘SunStorm Orchid’ and ‘Stardust Orchid’ (purples, dark – violet red class); ‘Cooler Red’, ‘Heatwave Cherry’ and ‘Sunsplash Cherry’ (reds class); ‘Cooler Rose’ and ‘Heatwave Deep Rose’ (*roses class*); ‘Cooler Peppermint’, ‘Heatwave Peppermint’ and ‘Heatwave White’ (whites class); **Fair to poor** performers were: ‘Heatwave Raspberry’ (purples, dark – violet red class); ‘Cooler Apricot’ and ‘SunStorm Apricot’ (salmons class).

*Only available in the SunStorm Mix.

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Introduction

The United States wholesale value of floricultural crops was \$4.6 billion in 2000, estimated from growers with sales = \$10,000. (United States Department of Agriculture, 2001). Bedding and garden plants comprise 50% of the floriculture value at \$2.12 billion. Florida (\$107.4 million) ranks fifth behind California, Michigan, Texas and Ohio, who together generate 42% of the bedding/garden plant wholesale value. Vinca is ranked sixth (\$20.3 million) and eighth (\$6.7 million) in the United States for wholesale value in flat and pot culture, respectively (United States Department of Agriculture, 1998).

Most of the bedding plant variety trials currently conducted in the United States are performed without multiple experimental units replicated in an appropriate experimental design that allows statistical analysis, thus these variety trials provide results that are of questionable scientific merit. This study was conducted to evaluate vinca performance in a seasonal replicated trial in order to provide timely evaluations that may be used by growers, landscapers, consumers and seed companies as well as the scientific community.

Materials and methods

Seeds of 36 cultivars of vinca were sown between 7-13 Feb. into Vergro Poly Mix A (Verlite Co. Inc., Tampa, FL), and used for seed germination at 72 to 75 °F (22 to 24 °C) in a growth room with a photosynthetic photon flux (PPF) of 30 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ for 12 h from cool-white fluorescent lamps. Immediately after germination, seedlings were transplanted into a soil mix containing peat and vermiculite (1:1, volumetric) prepared and amended with dolomite [452 g/m³ (1 lb/yd³)], superphosphate, hydrated lime [85 g/m³ (0.25 lb/yd³)] and Micro Max[®] [15 g/m³ (0.04 lb/ yd³)] in Todd[®] planter flats [model 128: 1.5 inches x 1.5 inches x 2.5 inches (3.8 cm x 3.8 cm x 6.4 cm) cells; Speedling Incorporated, P. O. Box 7220, Sun City, Florida] and placed into a screen-sided, fiberglass-covered greenhouse. Seedlings were fertilized with a 15N-0.87P-16.5K water soluble fertilizer [15-2-20 (5%NH₄)] solution applied at the rate of 250 mg·L⁻¹ twice weekly. Vinca transplants were treated in the flats with Banrot[®] (14 Mar.) and Heritage[®] (19 Mar.) prior to planting.

On 20 Mar., plugs were transplanted into raised ground beds with six plants per plot spaced 12 inches (30.5 cm) apart in a staggered layout in. Beds were 32 inches wide x 8 inches high (81.3 cm x 20.3 cm), spaced 5 ft. apart from center. Irrigation water was supplied from lateral subsurface irrigation ditches 42 ft apart. Nutricote[®] 13N-5.7P-10.8 K fertilizer (13-13-13 100-d slow release type with micronutrients; Florikan, Sarasota, Florida) was applied by hand to each plant on the soil surface approximately an inch from the plant stem under the plastic mulch at 262 lb/row acre (294 kg·ha⁻¹) of nitrogen. Beds were fumigated > 14 d prior to planting with a mixture of 66% methyl bromide and 33%

chloropicrin at 392 kg·ha⁻¹ (350 lb/acre) and covered with white-on-black polyethylene film. Subsurface seepage irrigation water was supplied from lateral ditches spaced 12.8 m (42 ft) apart (Howe and Waters, 1997).

Integrated pest management was employed to determine when pesticide applications were needed to control arthropod pests and plant pathogens. Temperature @ 2ft (61.0 cm) during the remainder of the experiment ranged from a low of 3.8 °C (39 °F) to a high of 34.2 °C (94 °F) for the ratings period in the sprayed lands. Total rainfall of 35.1 cm (13.8 inches) occurred through 6 June. Only 0.02 cm (0.01 inches) fell in April.

Three plants per plot were selected (20 April) from the center and edge of each plot, and the plant height (from the stem base to the inflorescence tip) and plant width were recorded for each plot. Plants in each plot were selected from the same positions in that plot. Days from sowing to first open flower and flower divergence⁴ were recorded. Subjective ratings for foliage and flower quality⁵ were made for each cultivar on 27 Apr., 12 May and 3 June, and for pest symptoms⁶ on 28 Apr., May 22 and 8 June. Each cultivar was rated on a 1 to 7 scale with the highest rating of 7 for excellent. Plant characteristics that merited a 7 were: (1) all plants in a plot had full and uniform foliage; (2) foliage and flowers were free of pest symptoms; (3) plants were free of abnormalities or weaknesses such as lodging; and (4) flowers were numerous and uniformly distributed over the plant.

In order to provide meaningful performance comparisons, cultivars were divided into classes based on color and plant growth habit. Color hues with similar shades and tints were grouped together into one class.

The choice of best of class for 2001 was conducted in the following manner. The cultivar with the highest adjusted overall performance⁷ received best of class honors.

⁴ Flower divergence represents the number of days required for the first plant in a plot to unfurl the first flower to the last plant to unfurl its first flower in that plot. Average foliage and flower ratings represent relative cultivar quality, and average foliage and flower pest ratings represent the relative level of symptoms observed.

⁵ Average foliage and flower ratings represent relative cultivar quality within a class measured in a field sprayed on demand, following pest scouting. ⁶ Pest symptoms were rated in an unsprayed field (simulating a homeowner environment). Where necessary, the causal agents were confirmed by plant a pathologist or entomologist. ⁷ The formula for overall performance (OP) = [overall (foliage and flower) ratings (Table 2) + overall pest ratings (Table 3)]/2. $OP_{adj} = OP - [OP (dp \times dpf)]$, where OP_{adj} is the adjusted overall performance and dpf = dead plant factor (0.86). Dpf is derived from dividing the highest possible plot rating into the number of plants per plot. That value is 0.86 for six plants/plot, the number planted/plot for vinca. The highest value (whether or not it is significantly higher than that of another cultivar) was selected as best of class. Best of class may have an overall performance that is fair to poor for a class by our standards, indicating that the class does not do well, based on.

Differences in these ratings may not be statistically significant. If two or more cultivars had equal overall ratings, another rating category, such as overall foliage/flower ratings (Table 2) was used to make the choice, and so forth, until a better performer was selected. This type of choice is necessary in order to select a single cultivar every season as the standard by which all others in the class may be compared in future seasons, thus limiting the number of cultivars necessary in a trial. If a class only contains one cultivar, that cultivar becomes the uncontested best of class.

Each class was analyzed as a separate experiment. A randomized complete block experimental design was used with three blocks each containing six plants that represented the experimental unit. All data were analyzed by analysis of variance (ANOVA) methods, and means of dependent variables significant at the 0.05 level of probability were separated using Duncan's multiple range test (PROC ANOVA, SAS Institute, Cary, North Carolina).

Results and Discussion

Mixes class. Plant height was 15 cm (5.9 inches) for 'Cooler Mix', 'Merlot Mix', 'Stardust Mix' and 'Tutti Frutti Mix'. Plant width ranged from 16 cm (6.3 inches) for 'Merlot Mix' and 'Tutti Frutti Mix' to 18 cm (7.1 inches) for 'Cooler Mix'. Flower diameter ranged from 4.0 cm (1.6 inches) for 'Cooler Mix' to 4.8 cm (1.9 inches) for 'Merlot Mix'. The first open flower ranged from 51 d for 'Tutti Frutti Mix' to 58 d for 'Cooler Mix'. Flower divergence ranged from 5.0 d for 'Stardust Mix' to 7.3 d for 'Merlot Mix'. Average foliage ratings ranged from 4.4 for 'Stardust Mix' to 5.8 for 'Merlot Mix'. Average flower ratings ranged from 4.3 for 'Cooler Mix' to 5.2 for 'Merlot Mix'. Overall foliage/flower ratings ranged from 4.5 for 'Stardust Mix' to 5.5 for 'Merlot Mix'. Average arthropod ratings ranged from 4.1 for 'Merlot Mix' to 4.9 for 'Cooler Mix' and 'Stardust Mix'. Average disease ratings ranged from 4.1 for 'Merlot Mix' to 5.9 for 'Cooler Mix'. Overall pest ratings ranged from 5.4 for 'Merlot Mix' to 6.2 for 'Cooler Mix'. Adjusted overall performance ratings ranged from 4.8 for 'Merlot Mix' to 5.2 for 'Stardust Mix'. 'Stardust Mix' (Ball Seed) was best of class.

Pinks class. Plant height ranged from 10 cm (3.9 inches) for 'Cooler Blush' to 14 cm (5.5 inches) for 'Cooler Icy Pink'. Plant width ranged from 12 cm (4.7 inches) for 'Cooler Blush' and 'Heatwave Pink' to 17 cm (6.7 inches) for 'Cooler Icy Pink'. Flower diameter ranged from 3.6 cm (1.4 inches) for 'Cooler Strawberry' to 4.4 cm (1.7 inches) for 'SunStorm Blush'. The first open flower ranged from 53 d for 'SunStorm Blush' to 60 d for 'Cooler Pink' and 'Cooler Strawberry'. Flower divergence ranged from 3.3 d for 'Cooler Icy Pink', 'Cooler Strawberry' and 'SunStorm Rose w/Eye' to 12 d for 'Stardust Pink'. Average foliage ratings ranged from 4.5 for 'Stardust Pink' to 6.3 for 'Cooler Icy Pink'. Average flower ratings ranged from 3.6 for 'Heatwave Pink' to 5.4 for 'SunStorm Rose w/Eye'. Overall foliage/flower ratings ranged from 4.3 for 'Heatwave Pink' to 5.5 for 'SunStorm Rose w/Eye'. Average arthropod ratings ranged from 4.4 for 'Cooler Pink' to 5.9 for 'SunStorm Blush'. Average disease ratings ranged from 4.8 for 'Cooler Icy Pink' to 6.4 for 'Stardust Pink'. Overall pest ratings ranged from 6.0 for 'Cooler Pink' to 6.5 for 'Stardust Pink'. Adjusted overall performance ratings ranged from 4.6 for 'Stardust Pink' to 5.8 for 'SunStorm Rose w/Eye'. 'SunStorm Rose w/Eye' (Syngenta Seeds) was best of class.

Purples, dark – violet blue class. Plant height was 9.8 cm (3.9 inches) for ‘Heatwave Blue W/Eye’, plant width was 13 cm (5.1 inches), and flower diameter was 3.5 cm (1.4 inches). The first open flower was 57 d, and flower divergence was 6.3 d. The average foliage rating was 5.1, and the average flower rating was 3.6. The overall foliage/flower rating was 4.3. The average arthropod rating was 3.8, and the average disease rating was 5.7. The overall pest rating was 5.9. The adjusted overall performance rating was 4.6. ‘Heatwave Blue W/Eye’ (Bodger) was uncontested best of class.

Purples, dark – violet red class. Plant height ranged from 9.6 cm (3.7 inches) for ‘Heatwave Raspberry’ to 15 cm (5.9 inches) for ‘SunStorm Orchid’. Plant width ranged from 12 cm (4.7 inches) for ‘Heatwave Raspberry’ and ‘Stardust Orchid’ to 18 cm (7.1 inches) for ‘SunStorm Orchid’. Flower diameter ranged from 3.7 cm (1.5 inches) for ‘Cooler Orchid’ to 4.0 cm (1.6 inches) for ‘Heatwave Raspberry’ and ‘Stardust Orchid’. The first open flower ranged from 56 d for ‘SunStorm Lilac’ to 61 d for ‘Cooler Raspberry Red’. Flower divergence ranged from 3.3 d for ‘Cooler Orchid’ to 7.3 d for ‘SunStorm Lilac’. Average foliage ratings ranged from 4.6 for ‘Stardust Orchid’ to 6.2 for ‘Cooler Orchid’. Average flower ratings ranged from 3.4 for ‘Heatwave Raspberry’ to 4.7 for ‘SunStorm Lilac’. Overall foliage/flower ratings ranged from 4.1 for ‘Heatwave Raspberry’ to 5.3 for ‘SunStorm Orchid’. Average arthropod ratings ranged from 2.8 for ‘Heatwave Raspberry’ to 5.3 for ‘Stardust Orchid’. Average disease ratings ranged from 4.5 for ‘SunStorm Orchid’ to 6.6 for ‘Stardust Orchid’. Overall pest ratings ranged from 5.6 for ‘Heatwave Raspberry’ to 6.5 for ‘Stardust Orchid’. Adjusted overall performance ratings ranged from 4.4 for ‘Heatwave Raspberry’ to 5.2 for ‘Cooler Raspberry Red’ and ‘SunStorm Lilac’. ‘SunStorm Lilac’ (Syngenta Seeds) was best of class.

Purples, light – violet blue class. Plant height was 17 cm (6.7 inches) for ‘Blue Pearl’, plant width was 18 cm (7.1 inches), and flower diameter was 4.0 cm (1.6 inches). The first open flower was 56 d, and flower divergence was 3.5 d. The average foliage rating was 6.5, and the average flower rating was 4.3. The overall foliage/flower rating was 5.4. The average arthropod rating was 5.7, and the average disease rating was 6.4. The overall pest rating was 6.5. The adjusted overall performance rating was 5.9. ‘Blue Pearl’ (PanAmerican Seed) was uncontested best of class.

Purples, light – violet red class. Plant height was 16 cm (6.3 inches) for ‘Cooler Grape’, plant width was 18 cm (7.1 inches), and flower diameter was 4.0 cm (1.6 inches). The first open flower was 59 d, and flower divergence was 4.0 d. The average foliage rating was 6.0, and the average flower rating was 4.1. The overall foliage/flower rating was 5.1. The average arthropod rating was 4.8, and the average disease rating was 6.3. The overall pest rating was 6.3. The adjusted overall performance rating was 5.3. ‘Cooler Grape’ (PanAmerican Seed) was uncontested best of class..6

Reds class. Plant height ranged from 11 cm (4.3 inches) for ‘SunStorm Bright Red’ and ‘Sunsplash Cherry’ to 13 cm (5.1 inches) for ‘Cooler Red’. Plant width ranged from 14 cm (5.5 inches) for ‘Cooler Red’ and ‘Sunsplash Cherry’ to 16 cm (6.3 inches) for ‘Heatwave Cherry’. Flower diameter ranged from 3.9 cm (1.5 inches) for ‘Sunsplash

Cherry' to 4.3 cm (1.7 inches) for 'SunStorm Bright Red' and 'Heatwave Cherry'. The first open flower ranged from 55 d for 'Sunsplash Cherry' to 58 d for 'Cooler Red' and 'Heatwave Cherry'. Flower divergence ranged from 4.0 d for 'SunStorm Bright Red' to 7.3 d for 'Sunsplash Cherry'. Average foliage ratings ranged from 4.8 for 'Cooler Red' to 5.7 for 'Sunsplash Cherry'. Average flower ratings ranged from 3.9 for 'Sunsplash Cherry' to 4.4 for 'SunStorm Bright Red'. Overall foliage/flower ratings ranged from 4.4 for 'Heatwave Cherry' to 5.1 for 'SunStorm Bright Red'. Average arthropod ratings ranged from 4.4 for 'SunStorm Bright Red' to 5.3 for 'Cooler Red'. Average disease ratings ranged from 5.4 for 'Heatwave Cherry' and 'Sunsplash Cherry' to 6.0 for 'SunStorm Bright Red'. Overall pest ratings ranged from 6.0 for 'Heatwave Cherry' and 'Sunsplash Cherry' to 6.3 for 'Cooler Red'. Adjusted overall performance ratings ranged from 4.5 for 'Cooler Red' to 5.3 for 'SunStorm Bright Red'. 'SunStorm Bright Red' (Syngenta Seeds) was best of class.

Roses class. Plant height was 12 cm (4.7 inches) for 'Cooler Rose' and 'Heatwave Deep Rose'. Plant width ranged from 12 cm (4.7 inches) for 'Heatwave Deep Rose' to 14 cm (5.5 inches) for 'Cooler Rose'. Flower diameter ranged from 3.9 cm (1.5 inches) for 'Cooler Rose' to 4.1 cm (1.6 inches) for 'Heatwave Deep Rose'. The first open flower ranged from 54 d for 'Heatwave Deep Rose' to 59 d for 'Cooler Rose'. Flower divergence ranged from 3.5 d for 'Heatwave Deep Rose' to 6.0 d for 'Cooler Rose'. Average foliage ratings ranged from 4.4 for 'Cooler Rose' to 5.1 for 'Heatwave Deep Rose'. Average flower ratings ranged from 4.2 for 'Heatwave Deep Rose' to 4.3 for 'Cooler Rose'. Overall foliage/flower ratings ranged from 4.4 for 'Cooler Rose' to 4.6 for 'Heatwave Deep Rose'. Average arthropod ratings ranged from 4.2 for 'Cooler Rose' to 4.9 for 'Heatwave Deep Rose'. Average disease ratings ranged from 4.7 for 'Cooler Rose' to 5.6 for 'Heatwave Deep Rose'. Overall pest ratings ranged from 5.7 for 'Cooler Rose' to 6.1 for 'Heatwave Deep Rose'. Adjusted overall performance ratings ranged from 4.8 for 'Cooler Rose' to 4.9 for 'Heatwave Deep Rose'. 'Heatwave Deep Rose' (Bodger Seeds) was best of class.

Salmons class. Plant height was 12 cm (4.7 inches), and plant width was 14 cm (5.5 inches) for 'Cooler Apricot' and 'SunStorm Apricot'. Flower diameter ranged from 3.8 cm (1.5 inches) for 'Cooler Apricot' to 3.9 cm (1.5 inches) for 'SunStorm Apricot'. The first open flower was 56 d for 'Cooler Apricot' and 'SunStorm Apricot'. Flower divergence ranged from 2.3 d for 'SunStorm Apricot' to 4.0 d for 'Cooler Apricot'. Average foliage ratings ranged from 5.1 for 'Cooler Apricot' to 5.2 for 'SunStorm Apricot'. Average flower ratings ranged from 4.5 for 'Cooler Apricot' to 4.6 for 'SunStorm Apricot'. Overall foliage/flower ratings ranged from 4.8 for 'Cooler Apricot' to 4.9 for 'SunStorm Apricot'. Average arthropod ratings ranged from 5.2 for 'SunStorm Apricot' to 5.5 for 'Cooler Apricot' and 'SunStorm Apricot'. Average disease ratings were 4.2 for 'SunStorm Apricot' to 5.5 for 'Cooler Apricot'. Overall pest ratings ranged from 5.9 for 'SunStorm Apricot' to 6.0 for 'Cooler Apricot'. Adjusted overall performance ratings ranged from 3.9 for 'Cooler Apricot' to 4.5 for 'SunStorm Apricot'. 'SunStorm Apricot' (Syngenta Seeds) was best of class.

Whites class. Plant height ranged from 11 cm (4.3 inches) for ‘Heatwave Peppermint’ and ‘Heatwave White’ to 14 cm (5.5 inches) for ‘Experimental K162’. Plant width ranged from 13 cm (5.1 inches) for ‘Heatwave Peppermint’ and ‘Heatwave White’ to 17 cm (6.7 inches) for ‘Cooler Peppermint’. Flower diameter ranged from 3.5 cm (1.4 inches) for ‘Cooler Coconut’ to 4.1 cm (1.6 inches) for ‘Heatwave White’. The first open flower ranged from 53 d for ‘Heatwave White’ to 59 d for ‘Cooler Coconut’. Flower divergence ranged from 3.5 d for ‘Cooler Peppermint’ to 6.0 d for ‘Experimental K162’ and ‘Heatwave Peppermint’. Average foliage ratings ranged from 4.9 for ‘Heatwave White’ to 5.8 for ‘Cooler Coconut’. Average flower ratings ranged from 4.0 for ‘Cooler Peppermint’ to 4.8 for ‘Experimental K162’. Overall foliage/flower ratings ranged from 4.7 for ‘Heatwave White’ to 5.2 for ‘Experimental K162’. Average arthropod ratings ranged from 6.1 for ‘Cooler Peppermint’ to 6.7 for ‘Heatwave White’. Average disease ratings ranged from 4.1 for ‘Heatwave Peppermint’ to 5.3 for ‘Cooler Coconut’. Overall pest ratings ranged from 6.2 for ‘Heatwave Peppermint’ to 6.4 for ‘Cooler Coconut’. Adjusted overall performance ratings ranged from 5.0 for ‘Heatwave White’ to 5.5 for ‘Cooler Coconut’. ‘Cooler Coconut’ (PanAmerican Seed) was best of class.

Trailing; purples, light – violet blue class. Plant height was 15 cm (5.9 inches) for ‘Cascade Appleblossom’, plant width was 21 cm (8.3 inches), and flower diameter was 3.5 cm (1.4 inches). The first open flower was 55 d, and flower divergence was 7.0 d. The average foliage rating was 5.7, and the average flower rating was 5.5. The overall foliage/flower rating was 5.5. The average arthropod rating was 5.7, and the average disease rating was 5.6. The overall pest rating was 6.3. The adjusted overall performance rating was 5.5. ‘Cascade Appleblossom’ (Ball Seed) was uncontested best of class.

Conclusions and comments

Overall Performance and Best of Class Cultivars

While early or late season performance, a particular plant height, or shade of the same color may be a selection criteria outweighing seasonal performance, the combined foliage and flower ratings represent an overall view of performance for each cultivar in its class over the entire season. We consider cultivars with a combined rating average > 5.3 as outstanding, 4.6 to 5.2 as good performers, and < 4.5 to 1.0 as fair to poor. This is a summary of cultivar performance and our best of class selections: **Outstanding** cultivars were: ‘Cooler Blush’, ‘Cooler Icy Pink’, ‘Cooler Strawberry’, ‘SunStorm Blush’, ‘SunStorm Rose’, and ‘SunStorm Rose w/Eye’ – **best of class** (pinks class); ‘SunStorm Lilac’ – **best of class** (purples, dark – violet red class), ‘Blue Pearl’ – **best of class, uncontested** (purples, light – violet blue class); ‘Cooler Grape’ – **best of class, uncontested** (purples, light – violet red class); ‘SunStorm Bright Red – **best of class** (reds class); ‘Cooler Coconut’ – **best of class** and ‘SunStorm White w/Eye’ (white class); ‘Cascade Appleblossom’ (trailing; purples, light – violet blue class). **Good**.8 performers were: ‘Cooler Mix’, ‘Merlot Mix’, ‘Stardust Mix’ – **best of class** and ‘Tutti Frutti Mix’ (mixes class); ‘Cooler Pink’, ‘Heatwave Pink’, ‘Stardust Pink’ (pinks class); ‘Heatwave Blue W/Eye’ – **best of class, uncontested** (purples, dark – violet blue class); ‘Cooler Raspberry Red’, ‘Cooler Orchid’, ‘SunStorm Orchid’ and

‘Stardust Orchid’ (purples, dark – violet red class); **‘Cooler Red’**, **‘Heatwave Cherry’** and **‘Sunsplash Cherry’** (reds class); **‘Cooler Rose’** and **‘Heatwave Deep Rose’** – **best of class** (roses class); **‘Cooler Peppermint’**, **‘Heatwave Peppermint’** and **‘Heatwave White’** (whites class); **Fair to poor** performers were: **‘Heatwave Raspberry’** (purples, dark – violet red class); **‘Cooler Apricot’** and **‘SunStorm Apricot’** – **best of class** (salmons class).

Pest evaluations in the unsprayed field

Plant pests – arthropods. Symptoms were very minor, and foliage quality remained good to excellent all season. However, flower quality was affected by thrips feeding, the primary arthropod pest on vinca flowers this season.

Plant pests – disease. Foliage was not affected by disease, with only a few minor spots being detected, and no primary pathogen being isolated. Fusarium crown rot caused the death of many plants. The disease was isolated from all the samples submitted, however, high salts probably increased ingress of the pathogen during April, when we suffered from lack of rain during a record drought. As noted earlier, vinca transplants were treated in the flats with Banrot ® and Heritage ® prior to planting. Flowers were infested with botrytis, the primary flower plant pathogen on vinca this season, causing the most damage in May.

Note

The information in this report is a summary of experimental results and does not provide recommendations for crop production. Where trade names are used, no discrimination is intended or endorsement implied.

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