

Colorado State University
2011 Perennial Flower Trial
Performance Report

Department of Horticulture and Landscape Architecture
1401 Remington Street
Fort Collins, CO 80523

www.flowertrials.colostate.edu

(Click on “Trials” tab and select “Perennial Results”)

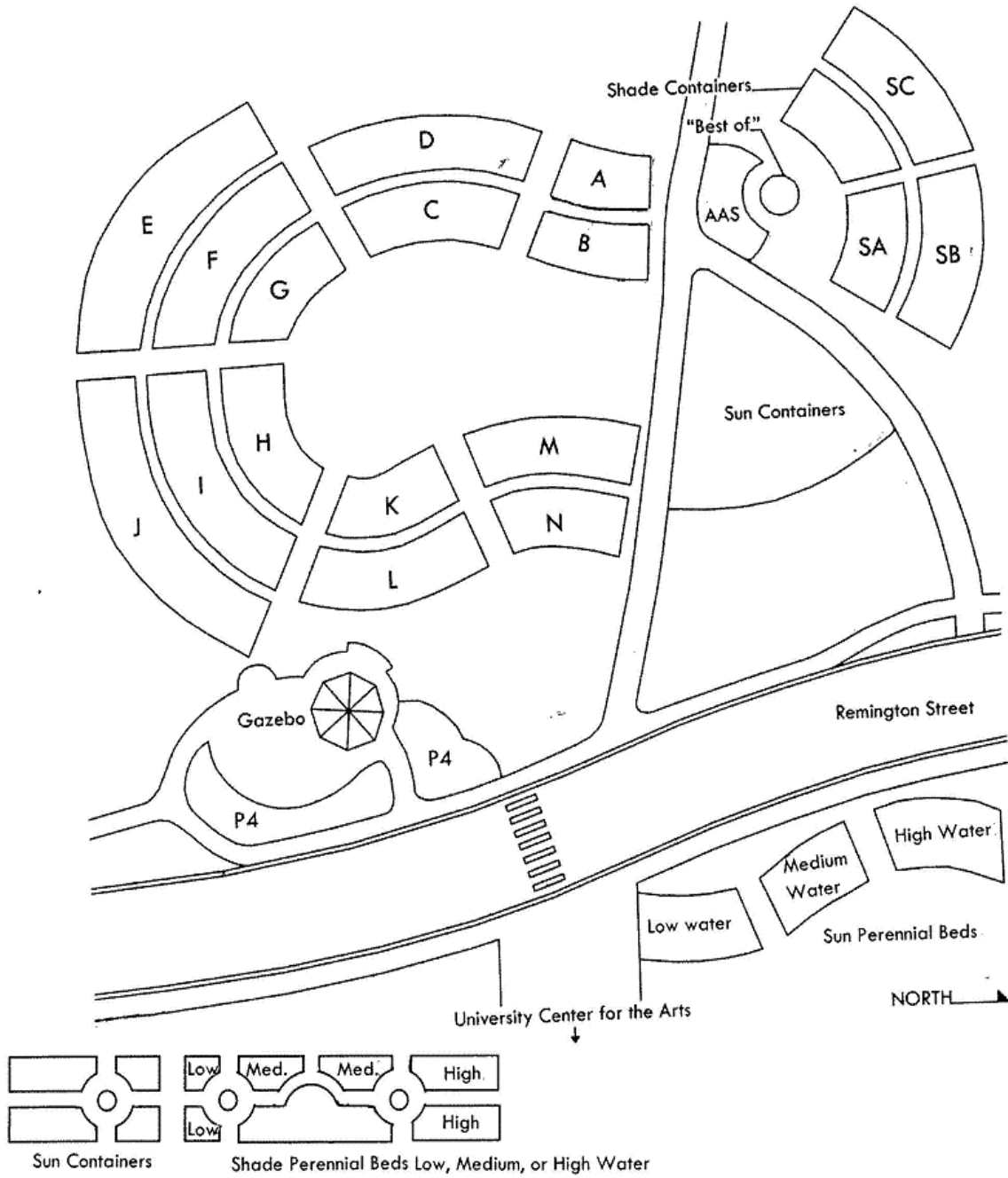
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GARDEN MAP



- Note: The Perennial Trials are part of the Annual Flower Trial Garden program and are located directly across the street in front of the new Center for the Arts.

Colorado State University

2011 Perennial Trial Garden

Performance Report

Dr. James E. Klett, Eric Hammond and David Staats

Introduction

The W. D. Holley Plant Environmental Research Center (PERC) on the Colorado State University campus has been in operation for 39 years. Dr. James E. Klett is the Director of PERC and the faculty coordinator for the Annual and Perennial Flower Trial Gardens. In 2000, the trial garden was moved from its site at PERC to the park located on Remington and Lake Streets. The relocation of the garden to this more spacious and visible site furthered its mission by more effectively extending education, research and outreach to students, home gardeners, Master Gardeners, community members and Green Industry personnel. In 2007, the Perennial Trials were created in response to increased interest in new perennial cultivars. The Perennial Trials are located directly across the street to the east from the Annual Trial Garden in front of the University Center for the Arts. It is managed by staff from the CSU Department of Horticulture and Landscape Architecture with substantial oversight from the Perennial Trial subcommittee which is part of the Annual Flower Trial Garden committee. Each entry must have been introduced within the past three years and is evaluated for two complete years to determine hardiness and consistent landscape performance.

The outdoor display and test areas at PERC were established to allow students, researchers, industry representatives, homeowners and extension personnel to learn, teach and evaluate horticultural research and demonstration projects in the Rocky Mountain/High Plains region. The gardens are open to students, industry personnel and the public for viewing, gathering ideas about new varieties, studying the different growth habits, tolerances and visual characteristics of many perennial plant cultivars.

The purpose of the trial garden is to evaluate the performance of perennial plant cultivars under our unique Rocky Mountain environmental conditions. Our growing conditions are characterized by high altitude, intense solar radiation, drying winds, severe hailstorms, large fluctuations between day and night temperatures and a season-long need for irrigation. Plants are evaluated for plant vigor, uniformity, floriferousness and tolerance to environmental and biotic stresses. Data (ratings and photos) were collected every two weeks (May to early October). Plants were evaluated once a month by members of the Perennial Trial subcommittee. The Perennial Trial subcommittee met in November to review data and photos to vote on which entries should be designated a "Top Performer".

The project is funded, in most part, by the entry fees collected from the plant breeding companies and perennial propagators who have chosen to participate in the trials. Additional financial assistance and supplies for the trial operations are donated by a number of sources. These sources include various foundations, nurseries, greenhouse growers and plant and seed production companies from across the

nation. The trial garden at Colorado State University receives no operating dollars directly allocated from state funds. Some operational and staff dollars have come from the Colorado State Agricultural Experiment Station, Extension, the College of Agricultural Sciences and the Department of Horticulture and Landscape Architecture.

Acknowledgements

The Department of Horticulture and Landscape Architecture at Colorado State University would first like to thank the many plant and seed companies who continue to participate in the trials year after year. Without their cooperation and support, the research done at the trial garden would not be possible. This year, the following 13 plant and seed companies participated in the trials, entering 114 varieties of herbaceous perennial plants:

American Takii	Kieft-Pro-Seeds
Blooms of Bressingham	McGregor Plant Sales
Center Greenhouse	Pacific Plug and Liner
Conard-Pyle Co.	Proven Winners
Creek Hill	Skagit Gardens
Darwin Perennials	Walters Gardens
Eason Horticultural Resources	

We would like to recognize several companies that have donated supplies to the program. Thanks are extended to Green Care Fertilizers, Inc. for donating the water soluble fertilizer used in both the greenhouses and the garden. We would like to thank Sun Gro Horticulture, Inc. for donating the potting media for all the vegetatively propagated plants grown in our greenhouses. And thank you to Scotts-Sierra for donating the slow release fertilizer that was also used in the ground beds.

We would like to thank our Annual Trial Garden Advisory Committee for their constant advice and feedback on the overall operation of the trials. We are fortunate to have such a diverse group of industry leaders that are willing to volunteer their time for the benefit of our program. Our committee is comprised of the following individuals:

Harvey Lang (Syngenta Flowers), Celia Tannehill, Danny Brooks (Benary Seed), Dan Gerace (Welby Gardens), Al Gerace (Welby Gardens), Diana Reavis (Eason Horticultural Resources Inc.), Duane Sinning, Eric Pitzen (Syngenta Flowers), Frank Yantorno (Center Greenhouse, Inc.), Galen Dokter (Syngenta), Gary Douglas (Denver City Park Greenhouse), Gene Pielin (Gulley Greenhouse), Jim Devereux (Michell's), John Williams (Tagawa Greenhouses), Karl Trellinger (Syngenta Flowers), Keith Stieduhar (City of Westminster), Maria Bumgarner (Denver Botanic Gardens), Mark Sanford (S&G Flowers), Mark Seguin (Sakata), Merle Moore (retired, Denver Zoological Gardens), Paul Hammer (Dummen USA), Ron Brum (Ball Horticultural Company), Ross Shrigley (Denver Botanic Gardens), Lida Sladkova (Fides NA), Luke Ellington, (Express Seed Company), Susan Stauber (Ball Horticultural Company), Wayne Pianta (PanAmerican Seed)

And a special thanks to those who served on the Perennial Trial Sub-Committee.

Celia Tannehill, Dan Gerace (Welby Gardens), Diana Reavis (Eason Horticultural Resources Inc.), Galen Dokter (Syngenta), Gary Douglas (Denver City Park Greenhouse), Gene Pielin (Gulley Greenhouse), Maria Bumgarner (Denver Botanic Gardens) Merle Moore (retired, Denver Zoological Gardens), Ron Brum (Ball Horticultural Company) and Ross Shrigley (Denver Botanic Gardens).

Perhaps most importantly, much thanks and appreciation goes to the PERC staff at the university that has worked diligently to prepare and maintain the garden. These people include:

Horticulture Research Associate	David Staats
Graduate Trial Garden Staff	Eric Hammond
Undergraduate Trial Garden Staff	Jaclyn Salts Cullen McGovern Sarah Shaub Patrick Sorteberg Tanner Williams Caitlin Nase
Undergraduate PERC Staff	Sean Powell

For further information on the Annual and Perennial Flower Trial Garden at Colorado State University, feel free to write, call or e-mail:

Dr. James E. Klett
PERC Director and Annual and Perennial Flower Trial Garden Coordinator
Colorado State University
Department of Horticulture and Landscape Architecture
Fort Collins, CO 80523
Office Phone: (970) 491-7179 Mobile Phone: (970) 218-0104
Fax: (970) 491-7745
E-mail: jim.klett@colostate.edu

This report is also available online at:

www.flowertrials.colostate.edu

(Click on "Trials" tab and select "Perennial Results")

Cultural Data¹

Growing

All perennial seeds were sent to Welby Gardens in Denver, CO in January and February 2011 for germination and growing-on in their greenhouses in 3.5" jumbo 4-cell packs. Seed grown varieties were all received on June 7th and planted in the garden shortly thereafter. Vegetative propagated plants did not arrive all at the same time or the same growth stage. Most of the new entries were planted in the garden in early June although one company sent a second shipment that was planted in August (noted in the comment section for the appropriate plant). Some vegetative varieties were received as plugs and transplanted into 4.5" pots shortly after arriving at Colorado State University. They were planted into the garden when they filled a 4.5" pot. Some entries arrived in larger containers and were planted directly into the garden.

Fertilization in the Greenhouses

Dosatron[®] fertilizer injectors rated at 7 GPM were used in the greenhouses to fertilize plants each day they were watered, with the exception of being watered every weekend with clear water. Greencare 14-4-14 water soluble fertilizer was used. All plants were grown in the greenhouses at PERC. They received fertilization at a rate of 200ppm.

Chemicals Used in the Greenhouses

Banrot[®] (6 oz/gallon) and Rootshield[®] (0.5 tsp/gallon) was applied to all plugs immediately after arrival and prior to potting. A drench of 6 oz/gallon was delivered to each variety.

Other chemical treatments that were applied in the greenhouse are as follows:

May 4th: Insecticidal soap was applied for aphids.

Soil Amendments and Preparation

All beds were raked clean of old mulch, dead plant material and weeds prior to planting.

Planting

Plants are grown in highly amended beds (see soil analysis table). Entries were planted in beds that corresponded with their preferred moisture and sun or shade requirements. Beds are fertilized (see fertilization section for details) and tilled prior to planting new varieties.

Bed Spacing

Entries were planted in the ground based on estimated mature plant size and how many were sent. Generally, plants were spaced at one foot centers with two rows of ten plants each. If fewer plants

¹ No endorsement of products named is intended nor is criticism of products not mentioned.

were sent they may have been planted at wider spacing or in just one row instead of two. There were approximately two feet between entries.

Watering

All beds in the garden were zoned according to weekly water-use requirements of 0.5", 1.0" and 1.5" of water per week. Plants were placed in beds that matched their relative water needs. An irrigation audit was conducted at the beginning of the season to determine the irrigation rate per bed. This rate, along with the bed's water-use rating, was used to calculate the total length of time to irrigate each bed. Because of variable precipitation and the need to establish newly planted varieties, the irrigation was sometimes adjusted as needed to make sure plants were not stressed. During the winter, plants are watered by hose and sprinkler as needed during dry spells

Fertilization in the Garden

After planting, Osmocote® (14-14-14) was applied to all beds at the rate of 10 grams/sq. ft. (suggested medium rate on label). Greencare water soluble fertilizer (20-10-20) was dispensed through a 100 GPM Dosatron® twice a week at a rate of 150 ppm.

Maintenance of Flowers

All flowers were deadheaded as needed. After a killing frost in the fall, plants are cut back to the ground unless they have winter interest.

Weed Control

RoundUp® was applied as a spot treatment to control encroaching grass around the edges of the beds on June 22nd and July 11th. Otherwise, all weeding was done by hand throughout the season.

Pest Control in Garden

Malathion at a rate of 8 tblsp/gallon was applied to control leafhoppers on June 28th and July 7th.

Disease Control in Garden

Powdery mildew was a problem on several varieties late in the summer and it was noted in the comment section of the following tables. Rust was also an issue on some *Phlox* varieties. No chemical control was used in either case since it was important to evaluate the entries in garden conditions typically found in this region.

Entries That Failed to Overwinter

There are a couple of entries that had extreme winter losses but if any plants emerged in the Spring it was included in the data even if it died out later. Some entries that completely failed to survive the winter of 2010/2011 are listed here instead of in the following tables. The entry from 2009 that failed to survive the 2010/2011 winter is: *Antirrhinum* 'Eternal'. The entries from 2010 that failed to survive the 2010/2011 winter are: *Alcea rosea annua* 'Spring Celebrities™ Carmine-Rose', *Alcea rosea annua* 'Spring Celebrities™ Lemon', *Coreopsis* 'Sweet Marmalade', *Hebe hybrid* 'Raspberry Ripple', *Hebe hybrid* 'Strawberries and Cream', *Phygelius* 'Pheeges™ Lemon Frost', and *Salvia buchanani* 'Wendy's Wish'.

Dates of Severe Weather

This summer consisted of a mild May with regular rains in June and July. June 8th, the garden suffered a moderate hail storm (pea size) causing moderate damage to the trials. Varieties damaged by hail are noted as such in a column next to their name in the inventory that follows in this book. This past August was also one of the hottest Augusts on record for Colorado due to a couple of weeks with highs reaching into the 90s.

Monthly Temperatures and Precipitation for Summer 2011

Month	Avg. Maximum Temperature	Avg. Minimum Temperature	Precipitation (Inches)
May (24 th – 31 st)	66.3° F	46.6° F	0.55
June	82.4° F	52.5° F	2.78
July	89.2° F	60.4° F	1.70
August	89.8° F	58.8° F	1.60
September	76.8° F	48.6° F	1.33

*Weather information for the Annual Flower Trial Garden area provided by the Department of Atmospheric Science at Colorado State University: <http://ccc.atmos.colostate.edu/>

Data Collection Methods

Plant Size

Height and width measurements were taken once in September, toward the end of the growing season. This was done to get a feel for the average size of the mature plants and each variety's growth performance. For consistency in bed data collection, the third plant from the front of the left row was measured; however, if that plant was noticeably smaller or larger than average, an alternate plant was selected for measurement. Measurements were taken at the highest and widest parts of the plant, including any flowers.

Soil Samples

Soil samples were taken from individual ground beds on June 20th, July 20th and August 23th and were combined into a single sample per category for each bed.

Soil Analysis

Month	PH	E.C. mmhos/ cm	Lime Estimate	% O.M.	NO ₃ - N	P	K	Zn	Fe	Mn	Cu	Texture
Sun 6/20/11	6.6	0.5	Low	15.0	50.9	232	581	33.2	194	8.2	5.0	Sandy Loam
Sun 7/20/11	7.2	0.7	High	12.4	78.3	153	338	21.3	116	5.3	8.4	Loam
Sun 8/23/11	6.8	1.4	Low	13.5	236	120	207	12.3	75.4	5.5	3.2	Sandy Loam
Shade 6/20/11	7.0	0.7	Very High	13.2	75.9	224	646	41.4	136	18.0	10.0	Sandy Loam
Shade 7/20/11	7.4	0.8	Very High	10.0	171	202	733	31.9	104	9.8	9.6	Loam
Shade 8/23/11	7.3	0.8	Very High	13.0	48.6	200	353	20.6	81.1	10.2	5.2	Sandy Loam

Performance Evaluation

Photos and data on plants and flowers were collected on a bi-weekly basis from May to early October. Dead plants in the trial were not considered in the bi-weekly evaluation; thus, the ratings given only reflect the live plants. Members from the Perennial Trial subcommittee also came and wrote comments for each plant on at the end of June, July, August and September. Plants and flowers were rated 1-5 using the following scale:

0 = Dead

1 = Poor: Plants are very sick or dying, no flowering

2 = Below Average: Plants are unattractive in some form, i.e. – leggy growth habit, chlorotic or low vigor, flowers are extremely few and occurring sporadically

3 = Average: Plant appearance with growth characteristics that would be expected for the time of season; flowers would be few but uniform across the plants

4 = Good: Plants look attractive (foliage, growth habit, etc.); flowers are blooming strong and showy

5 = Excellent: Plants are very healthy and uniform; flowering is impressive

Selection of “Top Performers”

On November 21, 2011 a conference call was convened with CSU staff and the Perennial Trial Garden Subcommittee. Pictures of entries from 2009 and 2010 were posted to the Perennial Trial website for review. Data from the growing season was compiled and emailed to each evaluator prior to the conference call for review. After discussion and looking at the pictures taken throughout the season, each plant was voted on by each member of the committee as to whether it should be awarded the designation as a “Top Performer”.

“Top Performers” for the 2011 Season

***Echinacea* ‘Mistral’** ^{PP #20498} (**Mistral Coneflower**) – from Pacific Plug and Liner

This floriferous, compact coneflower is a sport of the very popular 'Kim's Knee High'. Growth habit and flowering is very uniform. Its unique flowers open bright pink but mature to an antique shade and lasted for a long season of bloom. Planted in 2009.

***Penstemon* ‘Prairie Twilight’** ^{PP #19893}, (**Prairie Twilight Beard Tongue**) – from Blooms of Bressingham

Strong burgundy stems support lasting tubular lavender flowers with shades of white that contrast excellently with dark green foliage. It made an impressive display of flowers while growing in a low water area. Planted in 2009.

***Penstemon* ‘Red Riding Hood’** ^{PP #18950} (**Red Riding Hood Beard Tongue**) – from Pacific Plug and Liner

This variety had prolific flowering that was a dazzling display of red tubular flowers on long stems. This impressive variety looked good early in the season and the plants had a vigorous and uniform growth habit. Planted in 2009.

***Buddleia davidii* ‘Buzz™’** ^{PPAF} series, (**Buzz™ Butterfly Bush series**) - from Pacific Plug and Liner

The entire ‘Buzz’ series was noted for continual blooming throughout the summer and the compact plants which were about 36”x36”. The range of colors (Blue Violet, Ivory, Pink Purple, Violet and Magenta) was impressive but judges commented that ‘Buzz™ Magenta’ was the most unusual and striking. It was noted that there were no seedlings and didn’t seem invasive. Bred by Thompson & Morgan. Planted in 2010.

***Echinacea* ‘Conekim’** ^{PPAF}, (**Panther Pink™ Coneflower**) - from Conard-Pyle Co.

Floriferous and long lasting blooms provide impressive display of color. Bright pink flowers were 3-4” across and were very showy. Another attractive feature was the compact growth habit (height: 1-2’, width: 2’). Planted in 2010.

***Helenium* ‘Double Trouble’** ^{PP# 18206}, (**Double Trouble Sneezeweed**) - from McGregor Plant Sales

Bright yellow flowers were prolific with a long period of bloom. Blooms were double with 2-3 rows of petals. Evaluators were also impressed that plants had strong stems which didn’t flop despite overhead irrigation. This tall, clump forming perennial would be a good choice for a sunny border. It was bred by Pieter Damen in Hillegom, The Netherlands. Planted 2010.

***Phlox paniculata* ‘Pina Colada’** ^{PP 19968}, (**Pina Colada Perennial Phlox**) - from McGregor Plant Sales

Flowering is robust from early July to early October and the showy blooms have overlapping, pure white petals. Plants were impressive with exceptional dark green foliage and uniform growth habit. It was bred by Jan Verschoor, Holland. Planted in 2010.

***Veronica longifolia* 'First Love'^{PPAF}, (First Love Speedwell)** - from McGregor Plant Sales

Vibrant pink flower spikes are abundant and make a very attractive display. It is an easy to grow perennial with clean green foliage. It was noted for being a good plant for attracting hummingbirds and butterflies. Deadhead for rebloom. Planted in 2010.

Seasonal Data 2011: Overwintering of 2009 Planting (Winter of 2010-2011)

Genus	Cultivar	Survived 2010-2011 winter
Achillea	Apricot Delight	Yes
Comments:	Plants had severe lodging. Flowers were attractive.	
Achillea	Pineapple Mango	Yes
Comments:	Plants had severe lodging. Flowers were attractive.	
Antirrhinum	Eternal	No
Comments:	Only one plant emerged after the winter of 2009-2010 and it eventually died by 7/12/10.	
Aster	Raspberry Swirl	Yes
Comments:	Growth habit was fairly open and not very uniform. Plant was susceptible to severe powdery mildew which led to poor flowering. Plants had good vigor for the first part of the summer.	
Coreopsis	Rt. 66	Yes
Comments:	Plants were vigorous but had some lodging. One plant died from unknown cause during summer. Flowers were showy with attractive coloring and numerous blooms.	
Coreopsis	Sienna Sunset	Yes
Comments:	Unique flower color was very attractive. One plant died from unknown cause during summer. Most plants were healthy but only okay for uniformity.	
Dianthus	Scent First Passion	Yes
Comments:	Very attractive at peak bloom. Plants had good vigor and uniformity.	
Echinacea	Mistral	Yes
Comments:	Impressive flowering and long bloom time. Flowers came out an attractive bright pink and matured into an attractive "dusty/antique" pink. Plants were very uniform and dwarf. One plant had double white flowers.	
Euphorbia	Blackbird	No
Comments:	Only 1 survived winter. Surviving plant foliage is not as dark in 2010 when compared to 2009 but may have been due to being transplanted to a partial shade location in 2010. Plant did not survive 2010-2011 winter.	
Lavandula	Oxford Gem	Yes
Comments:	Only 4 survived 2009-2010 winter conditions but managed to look good throughout the 2010 season with strong flowering. Plants were healthy and vigorous in appearance. Remaining 4 plants over wintered in 2010-2011	
Oenothera	Shimmer	Yes
Comments:	Flowering was moderate even at its peak but flowers were still showy. Attractive foliage keeps interest throughout the season.	
Penstemon	Prairie Twilite	Yes
Comments:	Peak flowering was very impressive. Plants were very strong and had good uniformity.	
Penstemon	Red Riding Hood	Yes
Comments:	Plants were vigorous and uniform. Flowering was prolific and a dazzling display of red.	
Phlox paniculata	Swizzle	Yes
Comments:	Growth habit was irregular and plants had good vigor although they had some powdery mildew late in season. Flowering was good with a bright bicolor shading on the petals.	

Seasonal Data 2011: Overwintering of 2009 Planting (Winter of 2010-2011)

Genus	Cultivar	Survived 2010-2011 winter
Sedum	Zi Juan Pink Sundae™	Yes
Comments:	Plants had good vigor but growth habit lacked uniformity. Seemed to be in bud stage forever and bloom period was very brief and not showy.	
Silene	Rolly's Favorite	Yes
Comments:	Looked great early in year with a stunning display of pink. Leaf miners moved in after bloom and made foliage unattractive although plants outgrew the problem by September.	
Tiarella cordifolia	Susquehanna	Yes
Comments:	Moved to shade in 2010 and it thrived. Flowers were attractive and had a moderate number of blooms. Plants were vigorous and began covering area by end of season.	

2011 Data: 2010 Planting Size, Hardiness Data and Comments

Genus	Cultivar	Company	Color	Height and Width on 9/20		Year Planted
Achillea millefolium	Summer Berries	akii	Dark rose, salmon, yellow	H: 68	W: 91	2010
	Rating July: 2	Comments: Weak steams. Lodging.				
	Rating Aug.: 2	Comments: Falling apart.				
	Rating Sept.: 2.6	Comments: Looks better after being cut back.				
	# Planted: 24	% Survived: 100				
	Coordinator Comments: Flowers were ok. Plants lodged and become very open mid summer.					
Aquilegia	Winky™ Double Rose-White	eds	n/a	H: -	W: -	2010
	Rating July: 2	Comments: Dying from unknown cause.				
	Rating Aug.: 1	Comments: Dying from unknown cause.				
	Rating Sept.: 0	Comments: Dead				
	# Planted: 24	% Survived: 100				
	Coordinator Comments: Plants all died due to unknown issue (not related to plants but to soil or possible herbicide damage).					
Aquilegia	Winky™ Early Sky Blue	eds	Blue	H: -	W: -	2010
	Rating July: 1	Comments: Dying from unknown cause.				
	Rating Aug.: 1	Comments: Dying from unknown cause.				
	Rating Sept.: 0	Comments: Dead				
	# Planted: 24	% Survived: 96				
	Coordinator Comments: Plants all died due to unknown issue (not related to plants but to soil or possible herbicide damage).					
Buddleia	Buzz™ Blue Violet	and Liner	Dark violet	H: 110	W: 70	2010
	Rating July: 3	Comments: Uniform. Blooms just beginning.				
	Rating Aug.: 3.5	Comments: Not as much branching. Good color.				
	Rating Sept.: 3.4	Comments: Less color than mid-summer				
	# Planted: 5	% Survived: 100				
	Coordinator Comments: Uniform and more dwarf habit. Showy blooms over long period. Great flower color.					
Buddleia	Buzz™ Ivory	and Liner	Ivory	H: 144	W: 130	2010
	Rating July: 4	Comments: Tallest. Uniform. Blooms just beginning, good color.				
	Rating Aug.: 3.5	Comments: Nice color. Most vigorous.				
	Rating Sept.: 4	Comments: Taller. Lots of color.				
	# Planted: 10	% Survived: 100				
	Coordinator Comments: Uniform habit but slightly larger than others of the Buzz series. Showy blooms over long period. Great flower color.					

*Height and width measurements in centimeters.

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None.

Average ratings based on evaluations by Perennial subcommittee members.

2011 Data: 2010 Planting Size, Hardiness Data and Comments

Genus	Cultivar	Company	Color	Height and Width on 9/20	Year Planted
Buddleia	Buzz™ Magenta	and Liner	Magenta	H: 140 W: 135	2010
	Rating July:	4	Comments:	Uniform. Blooms just beginning, good color.	
	Rating Aug.:	3.5	Comments:	Great color.	
	Rating Sept.:	4.1	Comments:	Big and bold. Uniform.	
	# Planted:	10	% Survived:	100	
	Coordinator Comments: Uniform and more dwarf habit. Showy blooms over long period. Great flower color.				
Buddleia	Buzz™ Pink Purple	and Liner	Lavendar	H: 100 W: 105	2010
	Rating July:	4	Comments:	Uniform. Blooms just beginning, ok color no pink.	
	Rating Aug.:	3	Comments:	Only see the purple color not the pink.	
	Rating Sept.:	4.2	Comments:	Still good color.	
	# Planted:	10	% Survived:	100	
	Coordinator Comments: Uniform and more dwarf habit. Showy blooms over long period. Great flower color.				
Buddleia	Buzz™ Violet	and Liner	Violet	H: 110 W: 105	2010
	Rating July:	4	Comments:	Uniform. Blooms just beginning, good color.	
	Rating Aug.:	4	Comments:	Good color some fading.	
	Rating Sept.:	3.9	Comments:	Color fading to blue- nice.	
	# Planted:	10	% Survived:	100	
	Coordinator Comments: Uniform and more dwarf habit. Showy blooms over long period. Great flower color.				
Campanula	Blue Rivulet	ressingham	Blue	H: 16 W: 30	2010
	Rating July:	3	Comments:	Compact habit. Stays in bloom.	
	Rating Aug.:	2.5	Comments:	Somewhat overgrown. Still in bloom.	
	Rating Sept.:	3.4	Comments:	Still blooming but modest color.	
	# Planted:	24	% Survived:	12	
	Coordinator Comments: Compact plant. Did not overwinter well.				
Coreopsis	Big Bang™ Cosmic Eye	ens	Yellow, dark magenta	H: 35 W: 40	2010
	Rating July:		Comments:	Chlorotic. Slow growing.	
	Rating Aug.:	2	Comments:	Few surviving.	
	Rating Sept.:	2.3	Comments:	Few but large blooms. Low vigor.	
	# Planted:	24	% Survived:	50	
	Coordinator Comments: Attractive flowers with dark centers but did not overwinter well.				

*Height and width measurements in centimeters.

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None.

Average ratings based on evaluations by Perennial subcommittee members.

2011 Data: 2010 Planting Size, Hardiness Data and Comments

Genus	Cultivar	Company	Color	Height and Width on 9/20	Year Planted
Coreopsis	Crème Caramel™	Co.	Dark Salmon	H: 30 W: 39	2010
	Rating July:	3	Comments:	Many flowers.	
	Rating Aug.:	2.5	Comments:	Somewhat overgrown still in bloom.	
	Rating Sept.:	2.5	Comments:	Past peak, compact.	
	# Planted:	24	% Survived:	12	
	Coordinator Comments: Unique flower color. Compact growth habit. Did not overwinter well.				
Echinacea	Panther Pink	Co.	Pink/purple	H: 70 W: 45	2010
	Rating July:	4	Comments:	Uniform habit. Vigorous. Many Flower with good color.	
	Rating Aug.:	4.5	Comments:	Lots of color. Strong plants.	
	Rating Sept.:	3.6	Comments:	Color still good but "muddy" by end of the month.	
	# Planted:	22	% Survived:	82	
	Coordinator Comments: Great show of color which faded slower than some other Echinacea. Uniform dense habit.				
Echinacea purpurea	Amado	akii	White	H: 80 W: 40	2010
	Rating July:	3	Comments:	Large and numerous flowers. Deep green foliage.	
	Rating Aug.:	3.7	Comments:	Nice.	
	Rating Sept.:	3.8	Comments:	Color still nice white	
	# Planted:	22	% Survived:	86	
	Coordinator Comments: Nice show of white flowers. More uniform in second year.				
Echinacea purpurea	Bravado	akii	Rose/purple	H: 100 W: 45	2010
	Rating July:	4	Comments:	Large, numerous and nicely colored flowers. Deep green foliage.	
	Rating Aug.:	3.7	Comments:	Attractive.	
	Rating Sept.:	3.6	Comments:	Color ok but fading	
	# Planted:	22	% Survived:	95	
	Coordinator Comments: Nice show of pink flowers. Tall but relatively uniform plants.				
Euphorbia	Ruby Glow	ans	Dark red/green foliage	H: 40 W: 45	2010
	Rating July:	2	Comments:	Modest foliage impact. Vanilla new growth.	
	Rating Aug.:	2.5	Comments:	Looking better	
	Rating Sept.:	2.5	Comments:	Nice foliage.	
	# Planted:	24	% Survived:	50	
	Coordinator Comments: Attractive foliage even late into the season. Uniform habit. Did not overwinter well. Potential as an annual?				

*Height and width measurements in centimeters.

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None.
Average ratings based on evaluations by Perennial subcommittee members.

2011 Data: 2010 Planting Size, Hardiness Data and Comments

Genus	Cultivar	Company	Color	Height and Width on 9/20	Year Planted
Euphorbia amygdaloides	Ascot Rainbow	ens	Green/blue, cream, red foliage	H: 30 W: 40	2010
	Rating July:	3	Comments: Modest foliage impact. Vanilla growth.		
	Rating Aug.:	3.5	Comments: Smaller		
	Rating Sept.:	3.3	Comments: Chlorotic?		
	# Planted:	24	% Survived: 33		
	Coordinator Comments:	Very attractive foliage even late into the season. Uniform habit. Did not overwinter well. Potential as an annual?			
Helenium	Double Trouble	ant Sales	Yellow	H: 67 W: 40	2010
	Rating July:	3	Comments: Heavily budded. Uniform.		
	Rating Aug.:	2.7	Comments: Lots of color by end of month.		
	Rating Sept.:	3.3	Comments: Bold yellow color. Good vigor. Strong plants.		
	# Planted:	24	% Survived: 88		
	Coordinator Comments:	Bright flowers with double petals. Plants had a uniform height the second year and did not lodge.			
Helenium	Ruby Tuesday	ant Sales	Dark magenta	H: 40 W: 32	2010
	Rating July:	2	Comments: Small and non-uniform.		
	Rating Aug.:	2.5	Comments: Some rouge or reverting.		
	Rating Sept.:	2	Comments: Lack uniformity, vigor and color impact.		
	# Planted:	24	% Survived: 75		
	Coordinator Comments:	Almost fifty percent of plants reverted to yellow. Irregular growth habit.			
Helleborus	Gold Collection™ Cinnamon Snow	ens	Green/Pink	H: 32 W: 34	2010
	Rating July:	4	Comments: Semi-glossy foliage. Dense and uniform		
	Rating Aug.:	3	Comments: Uniform		
	Rating Sept.:	3.6	Comments: Not much growth but uniform and dense.		
	# Planted:	24	% Survived: 100		
	Coordinator Comments:	Many darker pink-green flowers early in the season. Uniform dense foliage made nice groundcover when not flowering			
Helleborus	Gold Collection™ Pink Frost	ens	Green/Pink	H: 33 W: 33	2010
	Rating July:	4	Comments: Semi-glossy foliage. Dense and uniform		
	Rating Aug.:	3	Comments: Uniform		
	Rating Sept.:	3.6	Comments: Not much growth but uniform and dense.		
	# Planted:	24	% Survived: 100		
	Coordinator Comments:	Light pink-green flowers early in the season. Uniform dense foliage made nice groundcover when not flowering			

*Height and width measurements in centimeters.

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None.
Average ratings based on evaluations by Perennial subcommittee members.

2011 Data: 2010 Planting Size, Hardiness Data and Comments

Genus	Cultivar	Company	Color	Height and Width on 9/20		Year Planted
Hemerocallis	Double Pardon Me	Plant Sales Co.	Deep red/magenta	H: 48	W: 50	2010
	Rating July: 3	Comments: Vigorous. Heavily budded.				
	Rating Aug.: 3	Comments: Flowers to closely clumped. Stand out color.				
	Rating Sept.: 3	Comments: No blooms. Uniform.				
	# Planted: 24	% Survived: 100				
	Coordinator Comments: Flowers were double and showy but period of bloom was short					
Heuchera villosa	Brownie	Plant Sales	Chocolate/green foliage	H: 45	W: 45	2010
	Rating July: 2	Comments: Hail damage. Large foliage but not uniform.				
	Rating Aug.: 3	Comments: Large. Holes in leaves- hail?				
	Rating Sept.: 3.5	Comments: Bold and big. More uniform as the season went on.				
	# Planted: 24	% Survived: 96				
	Coordinator Comments: Larger leaf and plant. Suffered damage from June hail storm					
Heuchera villosa	Kassandra	Plant Sales	Lime green, orange/red foliage	H: 18	W: 27	2010
	Rating July:	Comments: Low vigor				
	Rating Aug.: 2.5	Comments: Low vigor				
	Rating Sept.: 2.6	Comments: Low vigor but color is not bad.				
	# Planted: 15	% Survived: 13				
	Coordinator Comments: Small plants had low vigor and did not overwinter well.					
Leucanthemum x superbum	Sunny Side Up	Plant Sales	White/yellow center	H: 48	W: 40	2010
	Rating July: 3	Comments: Lacks vigor.				
	Rating Aug.: 2	Comments: Struggling. More water?				
	Rating Sept.: 2.1	Comments: Trying to bloom. Stressed.				
	# Planted: 24	% Survived: 38				
	Coordinator Comments: Short display of flowers. Irregular growth habit. Messy appearance.					
Lupinus	Manhattan Lights	Plant Sales	Purple/yellow	H: 30	W: 35	2010
	Rating July: 3	Comments: Short bloom period. Uniform habit.				
	Rating Aug.: 3	Comments: More vigorous plants. Mildew.				
	Rating Sept.: 1.8	Comments: Large plants. Mildew has almost finished them				
	# Planted: 13	% Survived: 92				
	Coordinator Comments: Very showy blooms. Over wintered well. Suffered from mildew late in the season.					

*Height and width measurements in centimeters.

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None.

Average ratings based on evaluations by Perennial subcommittee members.

2011 Data: 2010 Planting Size, Hardiness Data and Comments

Genus	Cultivar	Company	Color	Height and Width on 9/20	Year Planted
Lupinus	Masterpiece	Ant Sales	Lavender	H: 55 W: 59	2010
	Rating July:	4	Comments:	Good bloom even with hail damage	
	Rating Aug.:	2	Comments:	Mildew	
	Rating Sept.:	1.6	Comments:	Gone till next year.	
	# Planted:	12	% Survived:	25	
	Coordinator Comments:	Very showy blooms. Lost several plants over the winter. Suffered from mildew late in the season.			
Monarda	Fireball	Ant Sales	Red	H: 62 W: 50	2010
	Rating July:	4	Comments:	Uniform tall habit. Deep green foliage. Strong color.	
	Rating Aug.:	3.5	Comments:	Uniform. Color a little bath. Some mildew by end of the month.	
	Rating Sept.:	2.3	Comments:	Well past peak. Lots of mildew.	
	# Planted:	24	% Survived:	100	
	Coordinator Comments:	Dense uniform habit. Nice but not unique color mid-summer. Attracted many bees. Aggressive.			
Monarda	Pink Supreme	Ant Sales	Pink	H: 60 W: 50	2010
	Rating July:	4	Comments:	Uniform tall habit. Nice foliage. Strong color impact.	
	Rating Aug.:	4.1	Comments:	Uniform. Lots of color still. Mildew creeping in at the end of the month.	
	Rating Sept.:	2.6	Comments:	Well past peak. Lots of mildew.	
	# Planted:	24	% Survived:	100	
	Coordinator Comments:	Dense uniform habit. Very nice color mid-summer. Attracted many bees. Aggressive.			
Phlox paniculata	Classic Cassis	Ant Sales	Salmon/pink	H: 75 W: 30	2010
	Rating July:	4	Comments:	Very Tall. Strong Color impact.	
	Rating Aug.:	3.5	Comments:	Full bloom.	
	Rating Sept.:	3.3	Comments:	Good plant. Now losing blooms. Modest color.	
	# Planted:	24	% Survived:	83	
	Coordinator Comments:	Some leaf spot on foliage. Flowers ok. Plants were tall and regular in habit.			
Phlox paniculata	Pina Colada	Ant Sales	White	H: 60 W: 30	2010
	Rating July:	4	Comments:	Very nice. Uniform habit. Large flowers with strong color impact.	
	Rating Aug.:	4	Comments:	Brilliant and full. Lots of color.	
	Rating Sept.:	3.8	Comments:	Shorter color still good. Nice clean leaves.	
	# Planted:	18	% Survived:	128	
	Coordinator Comments:	Very showy and clean looking white flowers mid summer till frost. No disease problems. Foliage dark and glossy green.			

*Height and width measurements in centimeters.

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None.

Average ratings based on evaluations by Perennial subcommittee members.

2011 Data: 2010 Planting Size, Hardiness Data and Comments

Genus	Cultivar	Company	Color	Height and Width on 9/20	Year Planted
Phlox paniculata	Sherbet Cocktail	ant Sales	Pink, white, cream	H: 78 W: 32	2010
	Rating July: 4	Comments: Tiny flowers with moderate color impact.			
	Rating Aug.: 2.5	Comments: Small Flowers			
	Rating Sept.: 2.8	Comments: Out of bloom. Rust present.			
	# Planted: 24	% Survived: 92			
	Coordinator Comments: Leaf spot present on foliage most of the summer. Flowers ok. More irregular habit than other Phlox.				
Phygelius	Pheeges™ Passionate Pink	ant Sales	Dark pink	H: 55 W: 55	2010
	Rating July: 3	Comments: Nice foliage and compact habit but lacks color.			
	Rating Aug.: 3.6	Comments: Flower almost done.			
	Rating Sept.: 3	Comments: Little color by mid month but foliage still nice.			
	# Planted: 24	% Survived: 38			
	Coordinator Comments: Glossy foliage. Flowers interesting but not a large show. Did not over winter well				
Salvia nemerosa	New Dimension Blue	eds	Blue	H: 32 W: 45	2010
	Rating July: 3	Comments: Blooms almost faded.			
	Rating Aug.: 3	Comments: Few blooms.			
	Rating Sept.: 2.5	Comments: Falling apart. Poor flowers- past peak bloom			
	# Planted: 24	% Survived: 92			
	Coordinator Comments: Self seeding. Leaf hoppers mid-summer. Rebloomed after deadheading.				
Salvia nemerosa	New Dimension Rose	eds	Rose	H: 30 W: 31	2010
	Rating July: 2	Comments: Blooms almost faded.			
	Rating Aug.: 3	Comments: Few blooms.			
	Rating Sept.: 2.6	Comments: Falling apart. Poor flowers- past peak bloom.			
	# Planted: 24	% Survived: 62			
	Coordinator Comments: Self seeding. Leaf hoppers mid-summer. Rebloomed after deadheading.				
Scabiosa	Blue Note	eds	Blue	H: 25 W: 27	2010
	Rating July: 4	Comments: Compact uniform habit. Many flowers			
	Rating Aug.: 2.5	Comments: Still good number of blooms.			
	Rating Sept.: 3	Comments: Uniform and compact habit. Overgrown			
	# Planted: 24	% Survived: 96			
	Coordinator Comments: Cute plants with interesting texture to leaves. Uniform and compact habit. Attracted bees.				

*Height and width measurements in centimeters.

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None.

Average ratings based on evaluations by Perennial subcommittee members.

2011 Data: 2010 Planting Size, Hardiness Data and Comments

Genus	Cultivar	Company	Color	Height and Width on 9/20	Year Planted
Veronica longifolia	First Love	ant Sales	Pink	H: 70 W: 52	2010
	Rating July:	4	Comments:	Uniform. Strong color impact.	
	Rating Aug.:	3.5	Comments:	Strong plant. Lots of color. Large and colorful.	
	Rating Sept.:	3.8	Comments:	Good color impact. Stems strong enough?	
	# Planted:	24	% Survived:	100	
	Coordinator Comments: Long season of bloom without deadheading. Showy flowers. Uniform plants.				

*Height and width measurements in centimeters.

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None.

Average ratings based on evaluations by Perennial subcommittee members.

Seasonal Data 2011: Plant and Flower Ratings for 2010 Planting of Perennial Trial

Genus	Cultivar		5/17	6/2	6/17	7/4/	7/18	8/2	8/18	8/31	9/16	10/5
Achillea millefolium	Summer Berries	P*	3	3	2	1	1	2	2	3	3	3
		F*	0	1	2	4	4	2	3	1	1	2
Aquilegia	Winky™ Double Rose-White	P*	4	3	1	1	1	0	0	0	0	0
		F*	2	4	0	0	0	0	0	0	0	0
Aquilegia	Winky™ Early Sky Blue	P*	4	3	2	2	1	0	0	0	0	0
		F*	4	2	0	0	0	0	0	0	0	0
Buddleia	Buzz™ Blue Violet	P*	1	2	3	4	4	4	4	4	4	4
		F*	0	0	0	0	0	4	4	4	4	4
Buddleia	Buzz™ Ivory	P*	1	2	3	4	4	4	4	4	4	4
		F*	0	0	0	0	2	4	4	4	4	5
Buddleia	Buzz™ Magenta	P*	1	2	3	4	4	4	4	4	4	4
		F*	0	0	0	0	4	4	4	4	4	4
Buddleia	Buzz™ Pink Purple	P*	1	3	3	4	4	4	4	4	4	4
		F*	0	0	0	0	4	4	4	4	4	4
Buddleia	Buzz™ Violet	P*	1	2	3	4	4	5	5	4	4	4
		F*	0	0	0	3	3	5	4	4	4	4
Campanula	Blue Rivulet	P*	0	2	3	3	3	4	4	4	4	4
		F*	0	0	2	3	3	4	4	3	3	3
Coreopsis	Big Bang™ Cosmic Eye	P*	0	0	1	3	3	3	3	3	3	3
		F*	0	0	0	0	0	3	4	3	3	2
Coreopsis	Crème Caramel™	P*	0	0	1	3	4	4	4	4	4	4
		F*	0	0	0	3	4	4	4	4	4	4
Echinacea	Panther Pink	P*	1	2	3	3	4	4	4	4	4	4
		F*	0	0	1	2	4	4	5	4	3	1
Echinacea purpurea	Amado	P*	1	2	3	3	4	4	4	4	4	4
		F*	0	0	0	2	4	4	4	4	4	1
Echinacea purpurea	Bravado	P*	1	2	2	4	4	4	4	4	4	4
		F*	0	0	0	4	5	4	4	3	3	1
Euphorbia	Ruby Glow	P*	1	1	2	2	2	2	2	3	3	3
		F*	0	0	0	2	0	2	0	0	0	0
Euphorbia amygdaloides	Ascot Rainbow	P*	0	1	1	3	4	4	4	4	4	4
		F*	0	0	0	3	3	4	0	0	0	0
Helenium	Double Trouble	P*	1	1	3	3	3	4	3	3	4	4
		F*	0	0	0	0	0	4	4	4	4	2

*P indicates overall rating on a scale of 0 to 5.

*F indicates flower rating on a scale of 0 to 5.

NP = Not Present/Planted

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None

Ratings of 3 and above are considered showy for most landscapes.

Seasonal Data 2011: Plant and Flower Ratings for 2010 Planting of Perennial Trial

Genus	Cultivar		5/17	6/2	6/17	7/4/	7/18	8/2	8/18	8/31	9/16	10/5
Helenium	Ruby Tuesday	P*	1	1	2	3	3	3	3	3	3	3
		F*	0	0	0	0	0	3	3	3	3	2
Helleborus	Gold Collection™ Cinnamon Snow	P*	4	4	4	4	4	4	4	4	4	4
		F*	1	1	1	0	0	4	0	0	0	0
Helleborus	Gold Collection™ Pink Frost	P*	4	4	4	4	4	4	4	4	4	4
		F*	3	2	1	0	0	4	0	0	0	0
Hemerocallis	Double Pardon Me	P*	3	3	3	3	4	4	4	4	3	3
		F*	0	0	0	2	2	4	4	1	0	0
Heuchera villosa	Brownie	P*	3	3	3	4	3	3	3	3	4	4
		F*	0	0	0	0	0	3	0	0	0	4
Heuchera villosa	Kassandra	P*	3	3	3	3	3	3	3	3	3	4
		F*	0	0	0	0	0	3	0	0	0	0
Leucanthemum x superbum	Sunny Side Up	P*	1	1	2	2	2	2	3	3	2	3
		F*	0	0	0	1	3	2	2	0	0	0
Lupinus	Manhattan Lights	P*	3	3	3	4	3	2	2	2	1	2
		F*	0	3	5	5	0	2	0	0	0	0
Lupinus	Masterpiece	P*	4	4	4	4	2	2	2	2	1	2
		F*	0	3	5	5	3	2	0	0	0	0
Monarda	Fireball	P*	2	2	3	3	4	4	3	2	2	2
		F*	0	0	0	3	5	4	1	0	0	0
Monarda	Pink Supreme	P*	2	2	3	3	4	3	2	2	2	2
		F*	0	0	0	2	5	3	2	0	0	0
Phlox paniculata	Classic Cassis	P*	2	2	3	3	3	3	3	3	3	3
		F*	0	0	1	4	5	3	4	4	4	2
Phlox paniculata	Pina Colada	P*	2	2	3	4	4	4	5	5	5	5
		F*	0	0	0	3	5	4	5	5	5	3
Phlox paniculata	Sherbet Cocktail	P*	2	2	4	2	2	2	2	2	2	2
		F*	0	0	0	3	4	2	3	3	3	2
Phygelius	Pheeges™ Passionate Pink	P*	0	1	3	3	4	4	4	4	4	4
		F*	0	0	2	4	3	4	2	3	2	2
Salvia nemerosa	New Dimension Blue	P*	2	3	4	3	3	3	3	3	3	3
		F*	0	3	4	3	1	3	2	2	2	2
Salvia nemerosa	New Dimension Rose	P*	2	3	4	3	3	3	3	3	3	3
		F*	0	3	4	2	0	3	2	3	2	2

*P indicates overall rating on a scale of 0 to 5.

*F indicates flower rating on a scale of 0 to 5.

NP = Not Present/Planted

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None

Ratings of 3 and above are considered showy for most landscapes.

Seasonal Data 2011: Plant and Flower Ratings for 2010 Planting of Perennial Trial

Genus	Cultivar		5/17	6/2	6/17	7/4/	7/18	8/2	8/18	8/31	9/16	10/5
Scabiosa	Blue Note	P*	2	3	4	4	4	4	3	9	9	9
		F*	0	2	3	4	4	4	2	9	9	9
Veronica longifolia	First Love	P*	2	3	4	4	4	4	4	4	4	4
		F*	0	2	3	4	5	4	4	4	5	4

*P indicates overall rating on a scale of 0 to 5.

*F indicates flower rating on a scale of 0 to 5.

NP = Not Present/Planted

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None

Ratings of 3 and above are considered showy for most landscapes.

Seasonal Data 2011: Plant and Flower Ratings for 2011 Planting of Perennial Trial (1st Growing Season)

Genus	Cultivar		7/4	7/18	8/2	8/18	8/31	9/16	10/5	Flowered
Agastache	Apricot Nectar	P*	3	3	3	3	4	4	4	Yes
		F*	4	4	3	4	4	4	4	
Comments: Long season of bloom.										
Agastache	Grape Nectar	P*	3	3	3	3	3	4	4	Yes
		F*	4	4	3	3	4	4	3	
Comments: Long season of bloom. Bloom did not have the impact of other Nectar Series										
Agastache	Grapefruit Nectar	P*	3	3	3	3	4	4	4	Yes
		F*	4	4	3	4	4	5	5	
Comments: Struggled 1st growing season but interesting flower color.										
Agastache	Orange Nectar	P*	3	3	3	3	4	4	4	Yes
		F*	4	4	3	4	4	5	4	
Comments: Long season of bloom.										
Agastache	Raspberry Nectar	P*	2	2	2	2	3	3	3	Yes
		F*	3	3	2	3	4	4	4	
Comments: Long season of bloom. Showiest of Nectar Series 1st season.										
Anemone	Lady Diana	P*	3	3	3	3	3	4	4	Yes
		F*	0	0	3	0	3	4	4	
Comments: Compact plant. Lady Susan and Lady Diana very similar 1st season.										
Anemone	Lady Susan	P*	3	3	3	3	3	4	4	Yes
		F*	0	0	3	0	1	4	4	
Comments: Compact plant. Lady Susan and Lady Diana very similar 1st season.										
Anemone	Lady Emily	P*	3	3	3	2	4	4	4	Yes
		F*	0	0	3	0	1	5	5	
Comments: Compact plant. Double flowers very showy										
Baptisia	Lemon Meringue	P*	3	3	3	3	3	3	3	Yes
		F*	0	0	3	0	0	0	0	
Comments: Flowered before they were transplanted in the spring. Slow growth first season.										
Buddleja	'Burncross'	P*	3	3	2	2	3	3	3	Yes
		F*	3	2	2	2	3	3	3	
Comments: Some reverted to non-variegated leaves.										
Centaurea	Black Sprite	P*	3	3	3	3	3	4	4	Yes
		F*	0	0	3	2	2	2	3	
Comments: Very dark blooms. Few Flowers 1st season.										

*P indicates overall rating on a scale of 0 to 5.

*F indicates flower rating on a scale of 0 to 5.

NP = Not Present/Planted

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None

Ratings of 3 and above are considered showy for most landscapes.

Seasonal Data 2011: Plant and Flower Ratings for 2011 Planting of Perennial Trial (1st Growing Season)

Genus	Cultivar		7/4	7/18	8/2	8/18	8/31	9/16	10/5	Flowered
Coreopsis	Big Bang™ Cosmis Evolution	P*	3	4	4	4	5	5	4	Yes
		F*	4	4	4	4	4	4	4	
Comments: Slow growth but filled in as season went on. Many flowers. OK Color										
Coreopsis	Big Bang™ Star Cluster	P*	4	4	4	4	4	4	4	Yes
		F*	2	2	4	0	0	0	0	
Comments: Vigorous and uniform. Many flowers. Good color.										
Coreopsis	Sunfire	P*	3	3	3	3	4	4	4	Yes
		F*	3	3	3	3	4	4	3	
Comments: Uniform plants. Many blooms with minimal deadheading										
Coreopsis	Tweety	P*	4	4	4	4	4	4	4	Yes
		F*	4	4	4	3	4	4	4	
Comments: Compact and uniform. Few flowers.										
Delphinium	Diamonds Blue	P*	2	2	2	3	4	4	3	Yes
		F*	5	5	2	4	4	3	2	
Comments: Very strong color effect. Lodged with overhead irrigation										
Dianthus	Bouquet Purple	P*	3	4	4	4	4	4	4	Yes
		F*	4	3	4	4	5	5	5	
Comments: Uniform. Many blooms and long season of bloom. Flowers had strong color effect.										
Dianthus	Pomegranate Kiss	P*	3	4	4	4	4	4	4	Yes
		F*	4	4	4	3	4	4	4	
Comments: Compact and uniform. Many blooms.										
Echinacea	Double Scoop Bubble Gum	P*	N/P	3	3	3	4	4	4	Yes
		F*	N/P	0	3	0	2	4	4	
Comments: Interesting double flowers. Had some lodging										
Echinacea	Double Scoop Raspberry	P*	N/P	3	3	3	4	4	4	Yes
		F*	N/P	0	3	2	4	4	4	
Comments: Interesting double flowers. Had some lodging										
Echinacea	Little Annie	P*	3	3	3	3	3	3	3	Yes
		F*	0	3	3	4	4	4	3	
Comments: Compact. Some not uniform. Struggled after transplant.										
Echinacea	PowWow White	P*	3	3	3	3	4	4	4	Yes
		F*	0	0	3	3	4	4	5	
Comments: Bloomed later than other Echinacea. Flowers OK.										

*P indicates overall rating on a scale of 0 to 5.

Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None

*F indicates flower rating on a scale of 0 to 5.

Ratings of 3 and above are considered showy for most landscapes.

NP = Not Present/Planted

Seasonal Data 2011: Plant and Flower Ratings for 2011 Planting of Perennial Trial (1st Growing Season)

Genus	Cultivar		7/4	7/18	8/2	8/18	8/31	9/16	10/5	Flowered
Echinacea	PowWow Wild Berry	P*	3	3	3	3	3	4	4	Yes
		F*	0	1	3	4	4	4	4	
Comments: Bloomed later than other Echinacea. Flowers OK.										
Echinacea	Sombrero Hot Coral	P*	4	4	3	3	3	3	3	Yes
		F*	3	3	3	3	3	3	2	
Comments: Flowers had strong color effect.										
Echinacea	Sombrero Salsa Red	P*	3	3	3	3	3	3	3	Yes
		F*	0	3	3	4	4	4	3	
Comments: Flowers had strong color effect.										
Echinacea	Sombrero Sandy Yellow	P*	3	3	3	3	3	4	4	Yes
		F*	0	1	3	4	4	4	3	
Comments: Flowers had strong color effect.										
Gaillardia	Commotion® Moxie	P*	3	3	3	3	4	4	4	Yes
		F*	4	4	3	4	4	4	4	
Comments: Interesting bloom with strong color effect. Many blooms over a long season with minimal deadheading.										
Gaillardia	Mesa Yellow	P*	3	3	3	4	4	4	4	Yes
		F*	2	2	3	4	4	4	4	
Comments: Many blooms with strong color effect. Uniform with nice texture.										
Gentium	Foggy Blue	P*	2	2	0	0	0	0	0	Yes
		F*	4	2	0	0	0	0	0	
Comments: Needed more shade. Lost all plants										
Geranium	Eureka blue	P*	4	4	4	4	4	5	5	Yes
		F*	0	0	4	0	1	2	3	
Comments: Uniform and vigorous. Very few blooms 1st season.										
Hakonechloa	Fubuki	P*	2	2	3	3	3	3	3	No
		F*	0	0	3	0	0	0	0	
Comments: Struggled after transplant										
Heuchera	Big Top Burgundy	P*	3	3	3	4	4	4	4	No
		F*	0	0	3	0	0	0	0	
Comments: Clean foliage. Plants were healthy but growth was slow 1st season.										
Heuchera	Big Top Gold	P*	3	3	3	4	4	4	5	No
		F*	0	0	3	0	0	0	0	
Comments: Clean foliage. Plants were healthy but growth was slow 1st season.										

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Rating Scale: 5=Excellent, 4=Good, 3=Average, 2=Below Average, 1=Poor, 0=Dead/None

*F indicates flower rating on a scale of 0 to 5.

Ratings of 3 and above are considered showy for most landscapes.

NP = Not Present/Planted

Seasonal Data 2011: Plant and Flower Ratings for 2011 Planting of Perennial Trial (1st Growing Season)

Genus	Cultivar		7/4	7/18	8/2	8/18	8/31	9/16	10/5	Flowered
Hibiscus	Cranberry Crush	P*	3	3	4	4	4	4	4	Yes
		F*	0	0	4	3	3	3	3	
Comments: Purple tinge to foliage in spring. Vigorous. Eye catching.										
Hibiscus	Cristi	P*	3	3	3	3	3	3	3	Yes
		F*	4	4	3	4	4	2	2	
Comments: Large blooms but stems could not support their weight as season went on.										
Hibiscus	Luna Red	P*	4	4	4	4	5	5	5	Yes
		F*	0	0	4	5	4	2	1	
Comments: Uniform. Leaves often obscured flowers.										
Hosta	Autumn Frost	P*	4	4	4	3	3	3	3	Yes
		F*	0	0	4	2	0	0	0	
Comments: Plants were slow to establish.										
Lavender	Ellagance Snow	P*	3	3	3	3	4	4	4	Yes
		F*	0	2	3	4	4	4	4	
Comments: Vigorous. Many blooms though impact was just OK. Nice overall texture										
Leucanthemum	Banana Cream	P*	3	3	3	3	4	4	4	Yes
		F*	0	0	3	2	4	4	3	
Comments: Uniform. Little growth 1st season.										
Nepeta	Junior Walker 'Novanepjun'	P*	4	5	5	5	5	5	5	Yes
		F*	4	4	5	4	2	3	4	
Comments: Compact, uniform and vigorous. Long season of bloom.										
Panicum	Cheyenne Sky	P*	3	4	4	4	4	5	5	Yes
		F*	0	0	4	3	3	4	4	
Comments: Lost some plants at transplant. Interesting foliage color and texture. Inflorescence were open and airy										
Penstemon	Blue Riding Hood	P*	3	4	4	3	3	4	4	Yes
		F*	2	1	4	4	4	3	1	
Comments: Glossy foliage. Had good primary OK secondary blooms.										
Penstemon	Delft Blue Riding Hood	P*	3	3	3	3	3	4	4	Yes
		F*	4	4	3	2	1	3	2	
Comments: Glossy foliage. Had good primary OK secondary blooms.										
Penstemon	Hot Pink Riding Hood	P*	3	3	3	3	3	4	4	Yes
		F*	4	4	3	2	3	3	4	
Comments: Glossy foliage. Had good primary OK secondary blooms.										

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Seasonal Data 2011: Plant and Flower Ratings for 2011 Planting of Perennial Trial (1st Growing Season)

Genus	Cultivar		7/4	7/18	8/2	8/18	8/31	9/16	10/5	Flowered
Penstemon	Lavender Riding Hood	P*	3	3	3	3	3	4	4	Yes
		F*	2	1	3	2	4	4	4	
Comments: Glossy foliage. Had good primary OK secondary blooms.										
Penstemon	Marble Riding Hood	P*	3	3	3	3	4	4	4	Yes
		F*	4	3	3	2	4	3	2	
Comments: Glossy foliage. Had good primary OK secondary blooms.										
Penstemon	Purple Riding Hood	P*	3	3	3	3	4	4	4	Yes
		F*	2	1	3	4	3	3	3	
Comments: Glossy foliage. Had good primary OK secondary blooms.										
Phlox	glaberima 'Triple Play'	P*	N/P	0			4	4	4	No
		F*	N/P			0	0	0	0	
Comments: Interesting varigated foliage. Struggled to establish. Second season will be telling.										
Phlox	Shockwave	P*	N/P	0				2	3	Yes
		F*	N/P			0	0	1	0	
Comments: Little growth 1st season. Interesting varigated foliage.										
Salvia	Burgundy Candles	P*								No
		F*								
Comments: Planted Fall 11'. No Data.										
Salvia	Heatwave Blast	P*	3	4	4	4	4	5	5	Yes
		F*	2	3	4	4	4	5	5	
Comments: Good flower color.										
Salvia	Heatwave Blaze	P*	3	3	3	3	3	4	4	Yes
		F*	2	3	3	3	4	4	4	
Comments: Vigorous plants. Good flower color										
Salvia	Heatwave Glimmer	P*	3	3	3	3	3	4	4	Yes
		F*	2	3	3	3	4	4	4	
Comments: OK flower color. Very similar to Glitter										
Salvia	Heatwave Glitter	P*	3	4	4	4	4	4	4	Yes
		F*	2	4	4	4	4	4	4	
Comments: OK flower color. Very similar to Glimmer										
Salvia	Heatwave Sparkle	P*	3	3	3	3	4	5	4	Yes
		F*	2	3	3	3	4	5	5	
Comments: Darker pink flower color.										

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Seasonal Data 2011: Plant and Flower Ratings for 2011 Planting of Perennial Trial (1st Growing Season)

Genus	Cultivar		7/4	7/18	8/2	8/18	8/31	9/16	10/5	Flowered
Salvia	Lyrical Blues	P*								No
		F*								
		Comments:	Planted Fall 11'. No Data.							
Salvia	Lyrical Silvertone	P*								No
		F*								
		Comments:	Planted Fall 11'. No Data.							
Scabiosa	Mariposa Violet	P*	4	4	4	3	3	3	3	Yes
		F*	4	4	4	2	0	1	3	
		Comments:	Interesting texture. Long season of bloom.							
Veronica	Atomic Blue	P*								No
		F*								
		Comments:	Planted Fall 11'. No Data.							
Veronica	Atomic Violet	P*								No
		F*								
		Comments:	Planted Fall 11'. No Data.							
Veronica	Hocus Pocus	P*	4	4	4	4	4	4	4	Yes
		F*	4	4	4	3	2	2	1	
		Comments:	Compact uniform plants. Very long inflorescence. Few secondary blooms 1st season.							
Viola	Blackout	P*								No
		F*								
		Comments:	Planted Fall 11'. No Data.							

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