

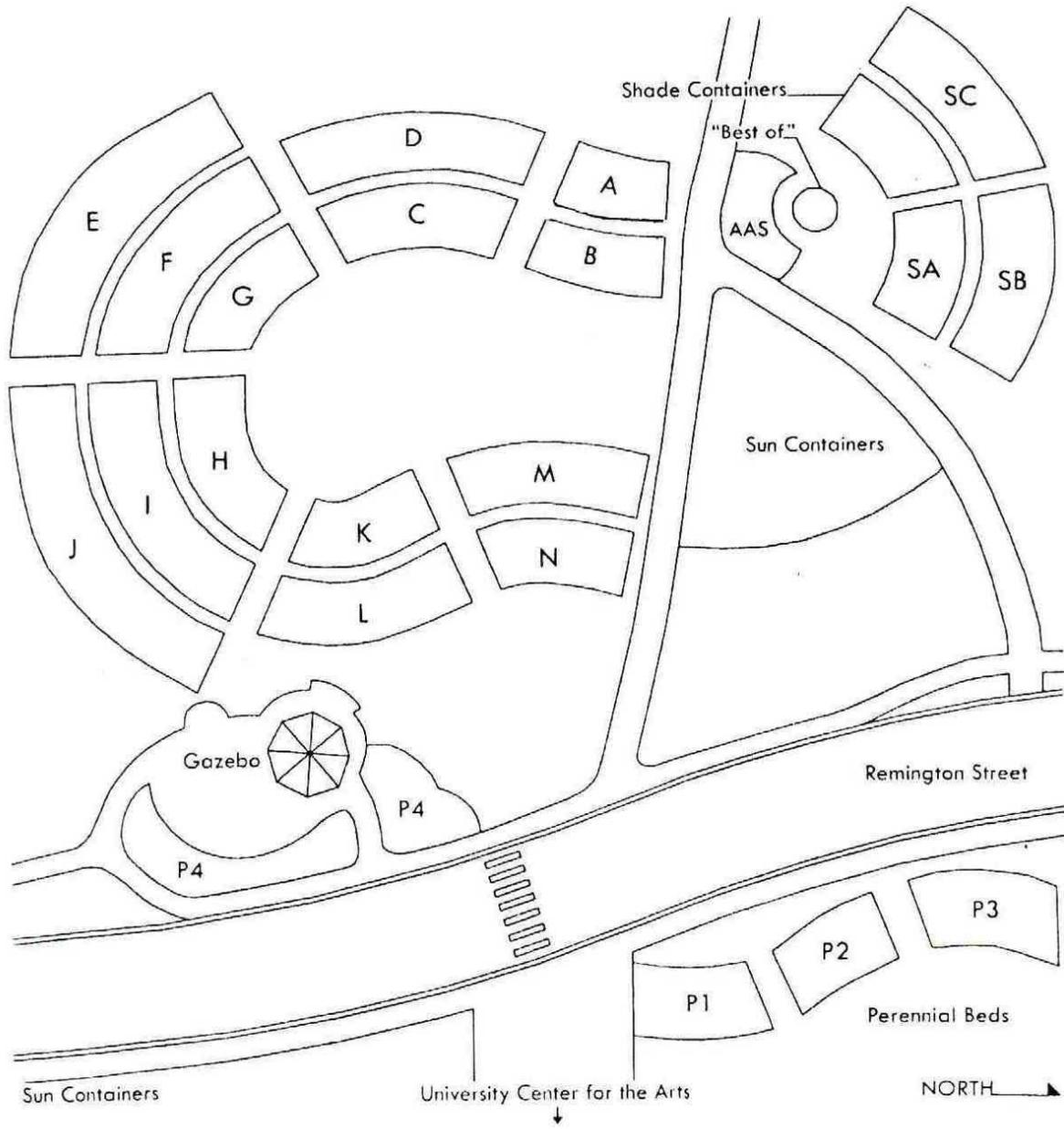
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GARDEN MAP



Colorado State University

2010 Annual Flower Trial Garden

Performance Report

Dr. James E. Klett, David Staats and Kara Crist*

Introduction

The W. D. Holley Plant Environmental Research Center (PERC) on the Colorado State University campus has been in operation for 37 years. Dr. James E. Klett is the Director of PERC and the faculty coordinator for the Annual Flower Trial Garden. In 2000, the trial garden was moved from its site at PERC to the park located on the north-west corner of Remington and Lake Streets (1401 Remington Street). 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.

The outdoor display and test areas 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 Annual Flower Trial Garden is both an All-America Selections® display and trial site. The garden is 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 annual flowering varieties.

The purpose of the trial garden is to evaluate the performance of annual flower varieties 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. Performances of these cultivars are judged in early August, and again in early September, by selected students, faculty, industry representatives, public horticulturalists and advanced Master Gardeners.

The project is funded, in most part, by the entry fees collected from the plant breeding companies 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 state horticulture industry associations, 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.

* Professor and Extension Landscape Horticulture Specialist; Horticulture Research Associate; Environmental Horticulture undergraduate student and 2010 Garden Coordinator

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 26 vegetative and seed companies participated in the trials, entering 1,105 varieties of annual bedding plants:

AFM Flowers	McGregor Plant Sales, Inc.
American Takii Inc.	Pan American Seed Co.
Ball Horticultural Co.	Paul Ecke Ranch
Ball FloraPlant	Plug Connection
Benary Seed	Proven Selections
Cohen Nurseries c/o Agrexco	Proven Winners
Danziger Flower Farm	Sakata Seed America Inc.
Dummen USA, Inc.	Selecta First Class, Inc.
Fides North America	Skagit Gardens
Floranova	Suntory Flowers Limited
Goldsmith Seeds	Syngenta Flowers, Inc.
Grolink	Vegetalis
Keift Seed Co.	Westflowers

A very special thank you goes out to Welby Gardens of Denver, Colorado. Every year, Welby Gardens germinates and grows-on all of the seed propagated varieties for the trials. Their generosity is greatly appreciated, as they do this for us at a very reduced cost.

We would like to recognize the 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. Thank you to Organix Supply, Inc. for donating 50 yards of Growers Mix media to amend the beds, for use in the outdoor containers and for the quick release fertilizer that was applied to the ground beds prior to planting. Also thank you to Scotts, Inc. for donating the slow release fertilizer that was also used in the ground beds and containers.

We would like to thank our 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:

Paul Hammer (Dummen USA), Ann Hartman-Mahr, Celia Tannehill, Dan Gerace (Welby Gardens), Al Gerace (Welby Gardens), Diana Reavis (Eason Horticultural Resources Inc.), Duane Sinning (Vegetalis/Floranova), Eric Pitzen (Syngenta Flowers), Frank Yantorno (Center

Greenhouse, Inc.), Galen Dokter (Syngenta Flowers), Gary Douglas (Denver City Park Greenhouse), Gene Pielin (Gulley Greenhouse), Harvey Lang (Syngenta Flowers), Jim Devereux (Henry F. Mitchell'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 (Syngenta Flowers), Merle Moore (retired, Denver Zoological Gardens), Ron Brum (Ball Seed), Ross Shrigley (Denver Botanic Gardens), Stefan Reiner (Selecta First Class), Susan Stauber (Ball Seed), Brian Austin (Dutch Heritage Gardens), Danny Brooks (Benary Seed), Luke Ellington (Express Seed Company), Jennifer Sheldon (Color Star Growers), Lida Sladkova (Fides NA), Wayne Pianta (PanAmerican Seed)

We also thank all the Larimer County Master Gardeners who volunteered their time and hard work this year. They were instrumental in completing the huge tasks of transplanting thousands of plugs in the greenhouses this spring and planting the thousands of plants in the garden in the early summer.

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:

Undergraduate Trial Garden Coordinator	Kara Crist
Undergraduate Trial Garden Staff	Shelby Collins Jaclyn Salts Phil Waggoner Daniel Way Guy Kuntz Caitlin Nase
Undergraduate PERC Staff	Moises Haro
Horticulture Research Associate	David Staats

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

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www.flowertrials.colostate.edu

Cultural Data²

Growing

All seeds were sent to Welby Gardens in Denver, CO in January and February 2010 for germination and growing-on in their greenhouses in 3.5" jumbo 4-cell packs. Seed varieties were all received on June 9th and planted in the garden shortly thereafter. All vegetative varieties were received as plugs and transplanted into 4.5" pots shortly after arriving at Colorado State University.

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. New Guinea Impatiens were fertilized at this same rate, every other time they were watered. This alternated with clear water.

Chemicals Used in the Greenhouses

Banrot[®] was applied to all vegetative plugs immediately after arrival and prior to potting up. A drench of 6 oz/gallon was delivered to each plug tray. It was also applied as a drench a second time to all Vincas with Plant Shield[®] on May 17th mainly due to a problem with root rot.

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

- April 27th: Insecticidal soap was applied on small areas in House 6 to control aphids.
- April 30th: Cycocel[®] was applied to geraniums at a rate of 1 oz/gallon.
- April 30th: B-9[®] was applied to Petunia and Calibrachos as specified by companies at a rate of 1.1 grams/gallon.
- May 7th: Insecticidal soap was applied on small areas in House 6 to control aphids.
- May 12th: Marathon II[®], Avid[®] and Keyplex 350[®] were applied for aphids in House 4, 5 and 6.
- May 15th: A mixture of Heritage[®], PlantShield[®] and KeyPlex 350[®] was applied to all Dahlias in the greenhouse at a rate of 1.7 grams/gallon, 1.1 grams/gallon and 23.7mL/gallon, respectively, to control powdery mildew.

² No endorsement of products named is intended nor is criticism of products not mentioned.

Geranium PGR Application

Since 2007, participants entering Geraniums in the trials were given the opportunity to choose the number of PGR treatments to be applied to their entry plants while in the production greenhouse. They were given the choice of no treatments, one treatment or two treatments. The number of treatments applied to each Geranium variety in the trials is included in the information presented in the trial results section of this report.

Soil Amendments and Preparation

All beds were raked clean of old mulch, planting material and weeds prior to planting. Where necessary, RoundUp® was sprayed on weeds. In 2010, approximately 2" of new media (Grower's Mix donated by Organix) with organic matter was added to the beds H, I, G and F. The beds were roto-tilled to a depth of 8" which helped incorporate the new media. After tilling, the beds were crowned for better drainage and raked smooth. For containers, the top 6-8" of media was removed and were then re-filled with fresh, new media (Grower's Mix donated by Organix).

Planting

Plants are grown either in the sun or under our shade structure that provides approximately 70% shade. The plant companies are given the option to choose whether they want their varieties grown in a ground bed, a container or in both locations. Each trial entry in the ground is planted in 2 parallel rows of up to 12 plants per row for a maximum of 24 plants. Each 20" container is planted with 5 plants of the same variety. Holes were pre-dug for each row in the ground beds using a 4" auger. A string stretched from the front of the row to the back was used as a guide to keep the spacing uniform.

The majority of plants were planted during organized planting sessions with Master Gardeners on May 27th, June 3th and June 10th. The remainder of plants were planted by the garden staff on May 28th, June 4th, 11th, 14th, 15th, 17th and 18th.

Bed Spacing

This year had an increase in the number of sun bed entries so the All American Selection display and trial area were moved to another bed location in order to free up space in the sun beds. The number of shade bed entries decreased which gave many shade plants greater spacing between the plantings. All entry rows were spaced at 12" within the same variety, except the verbena and petunias were spaced at 14", and the geraniums were spaced at 13" within the same variety. The sun impatiens and sun coleus were spaced at 30" between varieties. Calibrachos were spaced at 32" between varieties. Geranium (Interspecific, Ivy, Seed and Zonal) and verbena were spaced at 33" between the varieties. Petunias were spaced at 38" between the varieties. Lantanas were spaced at 25" between the varieties. All other varieties in sun beds were spaced at 24" between varieties. All varieties in shade beds had more space between varieties in order to utilize all the bed space. Begonia and New Guinea Impatiens were spaced at 36" between the varieties. Coleus and impatiens (seed, trailing, double, and exotic) were spaced at 48" between the varieties. Again, all plants were spaced at 12" within the variety in the row. Since we had fewer container entries this year it allowed us to space out the larger spreading plants.

The petunias were spaced every other container with a blue oat grass in between. The blue oat grass was spaced every third container in between the calibrachos.

Watering

Plants were watered on an “as needed” basis while in the greenhouses. All plants were thoroughly hand watered after being planted outside in the garden or in a container. Containers were irrigated twice every day (depending on rain), for about the first two weeks after planting and then once a day after that. Each container had 2 drip emitters positioned towards the center that are rated at 1 gallon per hour. All sun containers ran for one hour per cycle and the shade containers ran for 45 minutes per cycle.

Because of the establishment period and the amount of precipitation in June, the irrigation was sometimes decreased or increased depending on how much water the individual beds needed. Once the establishment period was over, beds were irrigated according to weekly water-use requirements of 0.5”, 1.0” and 1.5” of water per week. Beds were watered 3 times a week.

Water-use Rating	Ground Beds
0.5” per week	A, B, K, L, M and N
1.0” per week	E, F, G, H, I and J
1.5” per week	C, D, SA, SB and SC

After September 21st, watering of the beds was reduced to one cycle a week, depending on the weather, meaning the total amount of water being applied per week was variable and considerably less than during the summer.

Fertilization in the Garden

All beds were top-dressed with Pro Rich[®] Fertilizer (14-5-5) at the rate of 1 pound N per 1000 square feet prior to planting.

After planting, Osmocote[®] (14-14-14) was applied to all sun beds—including the All America Selections display bed and the CSU “Best-Of” bed—at the rate of 25 grams/sq. ft. (suggested medium rate on label).

Osmocote[®] (14-14-14) was applied to all shade beds at the rate of 12.5 grams/sq. ft. (half of the rate applied to the sun beds).

Osmocote[®] (14-14-14) was also applied to all sun containers at a rate of 130 grams/pot.

Osmocote[®] (14-14-14) was applied to the shade containers at a rate of 65 grams/pot.

Greencare water soluble fertilizer (20-10-20) was dispensed through a 100 GPM Dosatron[®] twice a week at a rate of 150 ppm.

This fertilization schedule was maintained until September 1st, which was the last day the garden was ferti-irrigated for the season.

Chelated iron (Sprint 330[®]) was applied at the rate of 450 grams /100 gallons to all Calibrachos in the ground and in pots, and to mini-spreading Petunias in the pots on July 7th. On July 28th it was reapplied to Calibrachos both in containers and the ground.

Maintenance of Flowers

Plants were pinched and dead-headed as needed in the greenhouse prior to outdoor planting.

Dead-heading in the garden:

Argyranthemum	all	July 22
Dahlia	all	June 29, July 15
Geranium	all	June 24, July 6, 21, August 2

Weed Control

RoundUp[®] was applied to all beds prior to tilling in the spring, as well as a spot treatment around the edges of the beds and in the pathways on June 29 and July 23. Additional wood chip mulch was applied to the pathways between the beds on July 1st. Otherwise, all weeding was done by hand throughout the season.

Pest Control in Garden

July 26th – Cleome, and Oenothera were sprayed for flea beetles with a mixture of Marathon II[®] at 0.5 ml/gallon and Pyreth-It[®] at 0.5 tsp/gallon.

Disease Control in Garden

Beds I, H, G and F were fumigated with Vapam[®] last fall as a preventative measure against *Xanthomonas*, which was a problem in the garden four years ago. The garden has its own supplies and tools in order to reduce the potential spread of disease from other sites. Banrot[®] was applied on July 28th to Calibrachoa in the ground and to Petunias on the east side of Bed N due to possible symptoms of a disease beginning to appear. A plant sample was sent to the CSU Plant Disease Clinic and a culture did not provide any conclusive identification of a disease although Botrytis was mentioned as a likely possibility by the specialist at the clinic.

Dates of Severe Weather

The weather has been fairly typical for Colorado but a little drier than normal July thru September. There was no significant incidence of severe weather in the 2010 growing season.

Monthly Temperatures and Precipitation for Summer 2010

Month	Avg. Maximum Temperature	Avg. Minimum Temperature	Precipitation (Inches)
May (27 th – 31 st)	81.4° F	51.0° F	0.00
June	81.7° F	54.7° F	1.96
July	88.3° F	58.1° F	1.26
August	87.0° F	58.0° F	1.23
September	81.9° F	47.7° F	0.06

*Weather information for the Fort Collins area provided by the Colorado State University at:
<http://ccc.atmos.colostate.edu/cgi-bin/summary.pl>

Data Collection Methods

Plant Size

Height and width measurements were taken twice during the growing season, August 12th and September 10th. This was done to get a feel for the average size of the plants and each variety's growth performance. For consistency in bed data collection, the second plant from the front of the left row was measured; however, if that plant was noticeably smaller or larger than average on August 12th, an alternate plant was selected for measurement and the location was noted so the same plant would be measured when the second measurements were taken. Measurements were taken at the highest and widest parts of the plant, including any flowers. This may account for the decrease in height on some varieties. For containers, measurements were taken at the highest and widest parts of the center plant.

Flowering Performance

Since 2007, data on the bloom period for each variety has been taken. In presenting this data, we hope to give a feel for how long the plants were in bloom and how well they bloomed during that period of time. Data was collected on a weekly basis. Plants were evaluated by estimating the overall bloom quality based on four bloom stages. These stages were first bloom, few flowers, full bloom and no bloom, with full bloom meaning the stage at which the average consumer perceives the plant as being in perfect bloom. One should take into consideration the broad range between these ratings when interpreting these data. A rating of first bloom means the very first flower out of the entire plot has fully opened. A rating of full bloom means the plants were considered to be at peak bloom. If a variety started at full bloom, it means it was already in full bloom in the greenhouse before it was planted. All of this data was summarized at the end of the season. Towards the end of the season, any dead plants in the trial were not considered in the evaluation; thus, the data given always reflects the percent of live plants in bloom.

Soil Samples

Soil samples were taken from individual ground beds on June 28th, July 23rd and August 26th and were combined into a single sample per category for each bed. These categories were sun beds and shade beds. Samples taken from various containers in both the sun and shade areas and were combined into single samples on June 28th, July 29th and August 24th. A separate soil sample was also taken from beds A & B on June 15th and August 24th. These beds had containers on them in previous years. A sample from the AAS bed was taken on July 29th.

Soil Analysis

Bed	PH	E.C. mmhos/cm	Lime Estimate	% O.M.	NO ₃ ⁻ N	P	K	Zn	Fe	Mn	Cu	Texture
Sun Beds 6/28/10	6.6	0.9	Medium	28.1	41	111	540	31.3	143	4.8	9.9	Loam
Sun Beds 7/23/10	6.6	1.1	Very High	29.9	121	97	556	29.6	116	2.7	5.8	Loam
Sun Beds 8/23/10	6.4	0.6	Very High	18.4	322	228	918	30.4	131	6.1	4.6	Loam
Shade Beds 6/28/10	6.8	0.9	Medium	31.2	39	117	466	30.9	155	6.8	7.5	Loam
Shade Beds 7/23/10	6.7	1.0	High	31.3	177	76	582	35.5	157	5.2	4.7	Loam
Shade Beds 8/23/10	6.8	1.0	High	25.9	267	217	732	30.8	150	6.8	5.3	Loam
Shade Containers 7/23/10	6.8	1.1	Medium	37.0	192	81	691	53.7	90.2	7.4	12.8	Loam
Shade Containers 8/23/10	6.6	1.2	Medium	28.5	215	209	969	52.9	109	10.4	12.2	Loam

Sun Containers 6/28/10	6.2	1.6	Medium	32.5	142	99.8	886	48.5	94.4	9.3	11.1	Loam
Sun Containers 7/23/10	6.5	1.3	Medium	35.4	311	91.0	706	61.0	97.4	8.0	11.9	Loam
Sun Containers 8/23/10	6.8	1.8	Medium	28.0	265	140	847	62.5	110	12.8	19.1	Loam
Sun Perennial Trials 6/28/10	7.0	0.6	Very High	21.7	29.8	93.6	355	23.8	129	8.6	4.8	Loam
Sun Perennial Trials 7/23/10	6.9	1.3	Very High	12.3	174	74.8	481	19.8	119	5.4	6.0	Loam
Sun Perennial Trials 8/23/10	6.8	1.0	High	21.3	206	209	407	29.9	139	9.0	5.1	Loam
Shade Perennial Trials 6/28/10	7.3	0.5	Very High	23.4	13.8	111	740	31.4	114	13.0	10.0	Loam
Shade Perennial Trials 7/23/10	7.4	0.6	Very High	3.3	32.2	81.0	815	33.0	101	7.2	7.7	Loam
Shade Perennial Trials 8/23/10	7.2	0.9	Very High	3.3	137	221	821	29.1	112	13.6	9.8	Loam

LC-1 Greenhouse Media 6/15/09	5.3	2.0	Low	95.7	1003	196	1301	12.7	35.3	55.9	11.7	Loam
Organix Growers Mix 6/15/09	7.1	2.5	Medium	35.6	4.6	299	2895	55.6	161	9.8	24.0	Loam

Evaluation

The trial evaluation day was held on August 9th. Approximately 100 judges consisting of industry representatives, master gardeners, university employees and trial garden advisory committee members evaluated the plant varieties for performance using a combination of these criteria:

Plant Quality:

- Uniformity of plant habit
- Bushy, well-branched shape versus open and leggy
- Healthy foliage (deep green versus chlorotic, yellow leaves)
- Foliage texture
- Disease resistance

Flower Quality:

- Flower power (number of flowers per plant, substance and holding power)
- Flower presentation (i.e. not hidden by the foliage)
- Color uniformity
- Stable color (resistance to fading) and stable pattern (for bicolor)
- Flower size and uniformity of flowers
- Balance of color in a mixture

Overall Presentation:

- Overall "clean" look, versus visible spent blooms
- Fragrant flowers and/or foliage
- Good vigorous growth
- Resistance to climatic stress
- Novelty value of unique features
- Overall consumer appeal

Plant varieties were rated on a scale of 1 to 10 (1 = very poor performance; 10 = excellent performance). These numerical evaluations were used to calculate the average ratings for each variety in the trials. Participants were encouraged to circle pre-generated comments on the evaluation form, if appropriate,

as well as write in any other comments and observations they had. The pre-generated comments they could choose from included: Low vigor, Vigorous plant, Few flowers, Many flowers, Uniform, Non-uniform, Unique color and Some chlorosis.

Selection of “Best Of” Winners and other “Plants Rated As Superior”

Ratings from all evaluators on August 4th were averaged and the top five in each class were placed on a preliminary list. A class is determined to be any group of plants in the same genus that consisted of 10 or more trial entries. The “Best Of” award was given to classes whose top-five list had ratings of at least 6.0 and one of them could be considered superior. A sub-committee of university and industry representatives revisited the garden on September 9th to review the top-five list and verify the superiority of the top rated varieties later in the season and not just on August 9th. A majority vote was taken for each class to determine the final selections for winners. “Plants Rated as Superior” was an award created to recognize other plants that deserved special recognition; especially for those plants that did not have ten varieties to make up a class.

Other Information for the 2010 Trials

Number of companies participating.....26

Total number of trial entries.....1,105

Varieties grown in the ground.....651 59%

Varieties grown in a container.....344 31%

Varieties grown in both locations.....110 10%

Varieties propagated by seed.....229 21 %

Varieties propagated by cuttings.....876 79%

Number of genera represented.....90

Number of student employees dedicated to the project

Spring (part-time, 10-20 hrs/wk).....6

Summer (part-time, 20 hrs/wk, entire summer).....1

Summer (full-time, 40 hrs/wk).....4

Entire summer.....3

Temporary (May 18 through June 12).....1

Fall (part-time, 10-15 hrs/wk).....4

All-America Selections®

Display Garden Varieties

Celosia 'Fresh Look Gold'
Dianthus 'Supra Purple'
Diascia 'Diamonte Coral Rose'
Gaillardia 'Mesa Yellow'
Nicotiana 'Perfume Deep Purple'
Ornamental Pepper 'Black Pearl'
Osteospermum 'Asti White'
Petunia 'Opera Supreme Pink Morn'
Salvia farinacea 'Evolution'
Snapdragon 'Twinny Peach'
Vinca 'Pacifica Burgundy Halo'
Viola 'Rain Blue and Purple'
Viola 'Skippy XL Red-Gold'
Viola 'Skippy XL Plum-Gold'
Viola 'Endurio Sky Blue Martien'
Zinnia 'Zahara Starlight Rose'
Zinnia 'Zowie! Yellow Flame'

Trial Ground Varieties

Agastache 'Bronze Foliage'
Angelonia 'Serena White'
Angelonia 'Serena Purple'
Angelonia 'Serena Lavender'
Begonia 'Rose'
Echinacea 'PowWow Wild Berry'
Echinacea 'Warm Color Shades'
Echinacea 'Magnus'
Echinacea 'Paradiso Mix'
Echinacea 'Bravado'
Gaillardia 'Apricot Shades'
Marigold 'Moonsong Deep Orange'
Penstemon 'Red/White Bicolor'
Penstemon 'Scarlet Queen'
Penstemon 'Sensation Mix'
Penstemon 'Tubular Bells Red'
Petunia spreading 'Burgundy Trailing Type'
Phlox 'F1 Blue Shades'
Phlox '21st Century Blue'
Phlox '21st Century Blue Star'
Salvia coccinea 'Red'
Vinca 'Purple (Navy Blue)'
Zinnia 'Double Zahara Fire'
Zinnia 'Double Zahara Cherry'

2010 Best Annuals from Colorado State University

Best of Show – *Rudbeckia hirta* ‘Denver Daisy’ from Benary

The abundant large flowers are very showy with a long bloom time. Flowering and growth habit are exceptionally uniform. It was a past winner in our trials and also a Grand Prize Winner in public voting through the American Garden Award Program.

Best New Variety – *Pennisetum* ‘Graceful Grasses Vertigo’ from Proven Winners

This plant has impressive vigor. Its large size and dark purplish glossy foliage makes it a unique focal point in any garden.

Novelty – *Bulbine* ‘Yellow Compact’ from GroLink

This bulbine makes a unique impression due to its delicate yellow flowers on the tips of upright stems that softly wave in the breeze. Foliage has a fine “grass like” texture.

Best Angelonia – ‘AngelMist Spreading Purple Improved’ from Ball FloraPlant

Prolific flowers had a deep, rich purple color that continued throughout the summer and into September. Plants were vigorous and were not affected by the summer heat.

Best Argythanthemum – ‘Flutterby Yellow’ from Paul Ecke Ranch

Plants kept a very tight growth habit even in mid-September. Flowering was very strong and was a standout even from across the garden.

Best Bacopa – ‘Calypso Jumbo White 09’ from Syngenta Flowers

Vigorous plants were covered with large white flowers. It flowered in the heat of summer and had blooms throughout the plant, not just on the ends.

Best Calibrachoa – ‘Aloha Apricot’ from Red Fox by Dummen USA

Unique colored flowers were very abundant even late in the season. Flowers bloomed throughout the plant and not just on the ends.

Best Coleus – ‘Trusty Rusty’ from Ball FloraPlant

The foliage was impressive with its striking burgundy and yellow colors that contrasted each other. Plants displayed great vigor and were extremely uniform.

Best Dahlia – ‘Dark Angel Dracula’ from GroLink

Bold, rosy wine colored flowers combined with dark foliage to create a very unique appearance.

Best Dianthus – ‘Diabunda Purple Picotee’ from Syngenta Flowers – Goldsmith Seeds

The blooms were a striking bicolor with a dark eye. The plant had a nice compact, uniform growth habit.

Best Diascia – ‘Darla Appleblossom’ from Syngenta Flowers

This diascia showed excellent heat tolerance and the flowers continued to bloom late into the season.

Best Geranium (interspecific) – ‘Caliente Fire’ from Syngenta Flowers

This visually stunning plant had dark green foliage that contrasted nicely with its intense red flower.

Best Geranium (ivy) – ‘Pacific Salmon Red’ from Red Fox by Dummen USA

The vibrant flowers stood out with a unique deep salmon to almost cherry color. The growth habit was more upright than other varieties.

Best Geranium (zonal) – ‘Savannah Pink’ from Red Fox by Dummen USA

This variety stood out due to its vibrant pink flowers and their clean appearance. The bright pink flowers contrasted nicely with the dark foliage.

Best Impatiens (double) – ‘Fiesta Purple’ from Ball FloraPlant

The plants were a model of controlled vigor and uniformity with an excellent mounding growth habit.

- Best Impatiens (New Guinea) – ‘Magnum Fire’** from Red Fox by Dummen USA
Outstanding large, reddish flowers sat just above the foliage for optimum show. The overall uniformity of this plant was very good.
- Best Impatiens (seed) – ‘Impreza Pink Splash’** from PanAmerican Seed
Flowers were abundant all summer long and with a tight, uniform growth habit.
- Best Lantana – ‘Landmark Citrus’** from Ball FloraPlant
Mounding plants were covered by bright yellow and orange blooms all season long which contrasted nicely with the foliage.
- Best Lobelia – ‘Techno Heat Upright Light Blue’** from Syngenta Flowers
This lobelia was very floriferous, and kept blooming late into the season while keeping a clean appearance. Plants had superior vigor and no dieback.
- Best Marigold – ‘Moonsong Deep Orange’** from Syngenta Flowers – Goldsmith Seeds
The dark orange flower color was clearly the deepest orange of any marigold in the trial. Plants also had a uniform growth habit.
- Best Ornamental Pepper – ‘Sangria’** from PanAmerican Seed
The peppers were an impressive combination of purple and red held well above the foliage.
- Best Osteospermum – ‘Voltage Yellow’** from Ball FloraPlant
Vibrant solid yellow flower color was complimented by the early flowering and a uniform habit.
- Best Nemesis – ‘Sunsatia Coconut Improved’** from Proven Winners
Dark green foliage helped bring out the beautiful white flower color. This nemesia performed well late into the summer.
- Best Petunia (mini-spreading) – ‘Supertunia Sangria Charm’** from Proven Winners
Clean, green foliage contrasted nicely with the abundant and vibrant magenta flowers. The growth habit that was dense and uniform.
- Best Petunia (seed spreading) – ‘Easy Wave Red Improved’** from PanAmerican Seed
This variety had fire-engine red flowers with an upright mounding habit.
- Best Petunia (spreading) – ‘Supertunia Vista Silverberry’** from Proven Winners
The mounding growth habit rose above the surrounding varieties. Flowers had a great iridescent color and were resistant to rain and overhead irrigation.
- Best Phlox – ‘Phloxy Lady White’** from Red Fox by Dummen USA
These plants had a near perfect appearance due to a solid canopy of white flowers and uniform growth habit.
- Best Scaevola – ‘Bombay Dark Blue’** from Syngenta Flowers
Brilliant dark blue flowers complemented the deep green plants which had a compact growth habit.
- Best Verbena – ‘Magelana Hot Rose (Rapunzel)’** from Syngenta Flowers
Large rose flowers were layered throughout the plant. This verbena had good mildew resistance.
- Best Vinca – ‘Boa Peppermint’** from Floranova
Plants were very floriferous with attractive white flowers with a pinkish red eye. This plant had good foliage and a cascading habit.
- Best Zinnia – ‘Zowie! Yellow Flame’** from Syngenta Flowers – Goldsmith Seeds
Few flowers had such an intense combination of colors than this variety. Yellow/orange petals had a cherry red color on the inner eye. It was also noted to be more resistant to disease than other Zinnias.

Additional “Plants Rated as Superior” for 2010

Acalphya ‘Bronze Pink’ from GroLink

This variety was extremely unique due to the large florescent pink and burgundy leaves that graced the purple stems.

For a more complete report and photo’s of all of these winners go to www.flowertrials.colostate.edu.

For further information about the Colorado State University Annual Flower Trials, contact Jim Klett at Jim.Klett@ColoState.edu or phone 970-218-0104.