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Introduction

This is the third year that Colorado State University conducted a Winter Pansy Trial in ground beds. It marks the tenth year that the Gardens are located at Remington Street Park, adjacent to the Center for the Fine Arts at Colorado State University. The overall goal of this project is to determine which varieties of pansies and violas are best suited for marketing and growing in this region. Data was initially recorded in October 2009, then approximately every two weeks from January through April. The evaluation day was held on April 28, 2010. Irrigation was also monitored throughout this time period to record how much water the plants were given.

The pansy trials at Colorado State University have no specific operation dollars from state funds. Financial assistance, plant material, and other miscellaneous materials for the trials were acquired from sponsoring seed companies and several Colorado Greenhouse companies. These sources include: various state horticulture and industry associations, foundations, nurseries and greenhouse growers from across the nation. Special thanks to Welby Gardens Inc. for their generous support in growing a flat of all the seed pansy and viola varieties. Some operational and staff dollars have come from the Colorado State University Agriculture Experiment Station, Extension, and the Department of Horticulture and Landscape Architecture. Seed companies that participated in this trial were: Benary Seed, Goldsmith Seed, Pan America Seed, and American Takii Inc/Sahin.

Cultural Data for the 2009-2010 Winter Pansy Trial Gardens

Planting Dates

There was one day of planting for the pansies and violas. It was on October 15, 2009. All plants arrived from Welby Gardens as rooted seedlings in cell packs that were 2.25" deep. They were then transplanted into planting beds located in the Annual Flower Trial Garden at 1401 Remington Street. There were 4 plants per cell pack, and 15 cell packs were planted in each row in the beds.

Fertilizing

Granular "Hardy Start" fertilizer (5-6-6), from Hardy Boy, was dispersed around each trial row on March 22, 2009 at a rate of 137g/row. No pesticides were applied throughout the duration of this trial.

Watering

All watering was monitored. Watering was done when natural precipitation was low and when the growing media was not saturated. During this winter, watering was less frequent because for the majority of the winter the trials were covered with snow. The dates that the trials were covered in snow were from 12/04/09 to 2/2/10 and from 2/19/10 to 2/28/10. On average, the beds received ½" water per watering.

Type	Date	Time	Beds
Automatic Irrigation	October 26, 2009	1 hour/bed	All
Automatic Irrigation	November 12, 2009	30 minutes	Bed L
Automatic Irrigation	April 14, 2010	1 hour/bed	All
Automatic Irrigation	April 17, 2010	1 hour/bed	All

Dates of Severe Weather

Weather conditions were fairly typical of Colorado conditions, with the exception of being very wet. This year the weather became very cold earlier in the season, but the plants weren't affected as much because they were covered with snow for the majority of the winter. The first freeze after the trials were planted was on October 22, when it got down to 24°F. Other dates of extreme cold were December 9, January 7, and January 8 where the temperatures got down to -15°F, -10°F and -10°F respectively.

Weather Data October – May

October 2009

Ave Max T = 55 °F
Ave Min T = 31 °F
Ave MeanT = 43 °F
Max Max T = 83 °F
Min Min T = 15 °F
Total Prec= 2.16 in.
Max Prec= 1.20 in.

November 2009

Ave Max T = 56°F
Ave Min T = 27 °F
Ave MeanT = 42 °F
Max Max T = 76 °F
Min Min T = 12 °F
Total Prec= 0.70 in.
Max Prec= 0.52 in.

December 2009

Ave Max T = 36 °F
Ave Min T = 12 °F
Ave MeanT = 24 °F
Max Max T = 58 °F
Min Min T = -15 °F
Total Prec= 1.11 in.
Max Prec= 0.51 in.

January 2010

Ave Max T = 43 °F
Ave Min T = 17 °F
Ave MeanT = 30 °F
Max Max T = 56 °F
Min Min T = -10 °F
Total Prec= 0.15 in.
Max Prec= 0.08 in.

February 2010

Ave Max T = 41 °F
Ave Min T = 19 °F
Ave MeanT = 29 °F
Max Max T = 51 °F
Min Min T = 5 °F
Total Prec= 0.65 in.
Max Prec= 0.17 in.

March 2010

Ave Max T = 56 °F
Ave Min T = 29 °F
Ave MeanT = 42 °F
Max Max T = 79 °F
Min Min T = 10 °F
Total Prec= 1.55 in.
Max Prec= 0.78 in.

April 2010

Ave Max T = 62 °F
Ave Min T = 37 °F
Ave MeanT = 49 °F
Max Max T = 76 °F
Min Min T = 25 °F
Total Prec= 3.15 in.
Max Prec= 1.14 in.

May 2010

Ave Max T = 68 °F
Ave Min T = 42 °F
Ave MeanT = 55 °F
Max Max T = 91 °F
Min Min T = 30 °F
Total Prec= 2.13 in.
Max Prec= 0.92 in.

Data Collection Methods from Planting through Evaluation Day

Kara Crist (undergraduate landscape horticulture student) collected data throughout the 2009-10 pansy trial. The data categories collected included: overall rating (1-5), habit rating (1-5) beginning 10/15/10, percentage of die back on 3/16/10, and bloom percentage.

The overall rating was rated as 1=poor condition (dying), 2=weak condition (struggling with some dieback), 3=average (few to no flowers with healthy foliage), 4=good condition (progressing flowers with healthy foliage growth), and 5=great condition (many flowers with healthy uniform foliage growth).

The habit rating was rated as 1=non-uniform (many inconsistent plants), 2=little uniformity (few inconsistent plants), 3=average (uniform with no growth improvement), 4=good uniformity (uniform with little growth improvement), and 5=great uniformity (uniform with major growth improvement).

Percentage of dieback was rated as 0=no dieback all green, 1= little dieback, 2= some dieback, 3= visible dieback, 4= significant dieback, 5= dead (all brown).

Bloom percentage was rated as first bloom=one bloom is visible on any plant in the variety, 50% bloom=variety appears to average 4 blooms/plant, and 100% bloom=variety has full flower coverage.

Rating and Evaluation Method on Evaluation Day

The final evaluation was held on April 29, 2010. About twenty committee members, growers and volunteers helped judge the varieties with a 1-5 overall rating. Evaluator comments were also recorded to help identify specific problems and identify superior traits. These ratings were averaged to determine the best performing varieties.

Conclusion

In summary, a majority of the 97 pansy varieties survived the winter well and the overall appearance improved daily throughout April and May.

2009-10 "Best of..." Winners of Cool Season Trials

Pansy 'Inspire True Blue' from Benary – This was the best true blue in trial and it bloomed early with large blue flowers with yellow eyes and relatively short stems. Flowers lasted well into May; however flower color did fade some with age. This variety also ranked highest in our 2008-09 trials.

Pansy 'Inspire White w/ Blotch' from Benary – It was voted best white pansy in trial with excellent faces and nice large blotches. The flowers were very large and had continual bloom late into spring.

Pansy 'Inspire Purple & Orange' from Benary – Plants were very uniform in growth habit with very even coloring between the orange and purple. The flowers were large and uniform in size and continued flowering well into May.

Pansy 'Inspire Golden Yellow' from Benary – It started flowering very early with large deep golden color flowers on very full plants giving a very strong color impact for a long period of time.

Pansy 'Inspire Purple & White' from Benary – These flowers were large with a nice combination of purple and white and were very floriferous.

Viola 'Endurio Exp Sky Blue Marien' from Goldsmith Seed – The flowers were a nice rich blue with subtle shading and were very abundant. The growth habit was very uniform that grew into full plants which resulted in strong color impact.

Viola 'Floral Power Super Lavender Blue' from Sahin/American Takii – The flowers were larger for a viola giving a strong lavender color impact. Many evaluators stated it would create a 'Wow' effect in a landscape. The plants were very full and had many flowers with almost an electric color.

Viola 'Penny Exp Purple Picotee' from Goldsmith Seed – The bloom time was a little later than the other violas in the trial. Plants had a very good growth habit and flowers had a lovely romantic purple color, however the picotee effect was not clearly visible on the flowers.

Viola 'Sorbet XP Yellow Duet' from PanAmerican Seed – This viola resulted in good flower coverage with a very strong color impact. The contrasting flower colors resulted in a great flower color combination.

Viola 'Aero Clear Blue' from Benary – The flowers were a good clear blue creating a nice overall flower display. The flowers were smaller than the previous listed violas and a little more hidden by the foliage.