

Colorado State University  
2007-2008 Cool Season  
Trials Performance Report



Annual Flower Trial Garden  
1401 Remington Street  
NE Corner of College Avenue and Lake Street  
Colorado State University  
Department of Horticulture and Landscape Architecture  
Ft. Collins, CO. 80523  
[www.flowertrials.colostate.edu](http://www.flowertrials.colostate.edu)

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## **Introduction**

This is the first year that Colorado State University conducted a Winter Pansy Trial in beds. It marks the eighth year that the Gardens are located at Remington Street Park, adjacent to the new 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 November 2007, then once a week from January through April. The final evaluation day was held on April 30, 2008. 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. 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: American Takii, Benary, Goldsmith, Pan America, Sakata, and Syngenta Seed.

## **Cultural Data for the 2007-2008 Winter Pansy Trial Gardens**

### **Planting Dates**

There were two planting days for the pansies and violas. These planting days were on October 17, 2007 and November 9, 2007. 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 a row in the beds.

### **Fertilizing**

Granular "Hardy Start" fertilizer (7-2-6) was incorporated into the planting bed on October 17, 2007 at a rate of 25 lbs/1000ft. or 187g/row. No pesticides were applied throughout the duration of this project.

### **Watering**

All watering was monitored. Watering was done when natural precipitation was low and when the growing media was not saturated.

<b>Type</b>	<b>Date</b>	<b>Time</b>	<b>Beds</b>
Automatic Irrigation	October 22, 2007	45 minutes/bed	All
Automatic Irrigation	October 26, 2007	45 minutes/bed	All
Automatic Irrigation	October 29, 2007	45 minutes/bed	All

Automatic Irrigation	November 2, 2007	45 minutes/bed	All
Hand Watering	November 9, 2007	1.5 Hours	All
Hand Watering	November 16, 2007	As needed	L
Manual Irrigation	November 16, 2007	1 Hour	M & N
Spot Water	December 5, 2007	As Needed	L, M90-97, & N18-28
Hand Watering	February 25, 2008	1.5 Hours	All
Hand Watering	March 4, 2008	1.5 Hours	All
Hand Watering	March 11, 2008	1.5 Hours	All
Hand Watering	March 25, 2008	1.5 Hours	All
Hand Watering	April 17, 2008	1.5 Hours	All
Hand Watering	April 22, 2008	1.5 Hours	All
Automatic Irrigation	April 23, 2008	45 minutes/bed	All
Automatic Irrigation	April 24, 2008	45 minutes/bed	All
Automatic Irrigation	April 28, 2008	45 minutes/bed	All

### **Vandalism**

On January 22, 2008 it was perceived that an automobile had driven through the trial. Pansy trials numbered 1-24 were affected by the car. The pansy's that were affected were never able to recover but damage was limited to just a few plants (10-15%) in each of the rows listed. Replants were planted in rows 10-20, and 23 on April 8, 2008 for the purpose of restoring the gardens aesthetic appeal. None of these replants, as well as damage to rows 1-9, 21-22, and 24 were taken into account in the data collection.

### **Dates of Severe Weather**

Weather conditions were fairly typical of Colorado conditions. No unusual severe weather was experienced during this time period.

### **Weather Data October – April**

#### **October 2007**

Ave Max T = 66.8 degF  
Ave Min T = 37.5 degF  
Ave MeanT = 52.2 ( 2.4) degF  
Max Max T = 83 degF  
Min Min T = 23 degF  
Total Prec= 1.74 in. ( 178% of normal)  
Max Prec= 0.83 in.

#### **November 2007**

Ave Max T = 56.4 degF  
Ave Min T = 26.6 degF  
Ave MeanT = 41.5 ( 4.4) degF  
Max Max T = 76 degF  
Min Min T = 10 degF

Total Prec= 0.37 in. ( 45% of normal)  
Max Prec= 0.37 in.

**December 2007**

Ave Max T = 38.8 degF  
Ave Min T = 15.2 degF  
Ave MeanT = 27.0 (-2.8) degF  
Max Max T = 70 degF  
Min Min T = -4 degF  
Total Prec= 1.20 in. ( 245% of normal)  
Max Prec= 0.42 in.

**January 2008**

Ave Max T = 39.4 degF  
Ave Min T = 15.2 degF  
Ave MeanT = 27.3 (-1.4) degF  
Max Max T = 57 degF  
Min Min T = -7 degF  
Total Prec= 0.03 in. ( 7% of normal)  
Max Prec= 0.03 in.

**February 2008**

Ave Max T = 49.2 degF  
Ave Min T = 22.0 degF  
Ave MeanT = 35.6 ( 2.4) degF  
Max Max T = 65 degF  
Min Min T = 7 degF  
Total Prec= 0.26 in. ( 68% of normal)  
Max Prec= 0.16 in.

**March 2008**

Ave Max T = 54.6 degF  
Ave Min T = 27.1 degF  
Ave MeanT = 40.9 ( 0.7) degF  
Max Max T = 74 degF  
Min Min T = 14 degF  
Total Prec= 0.78 in. ( 55% of normal)  
Max Prec= 0.27 in.

**April 2008**

Ave Max T = 62.8 degF  
Ave Min T = 32.2 degF  
Ave MeanT = 47.5 (-0.2) degF  
Max Max T = 82 degF  
Min Min T = 19 degF  
Total Prec= 0.85 in. ( 41% of normal)  
Max Prec= 0.38 in.

### **Data Collection Methods from Planting through Evaluation Day**

Justin Trang (undergraduate Landscape Architecture major) collected data throughout the 2007-08 pansy trial. The data categories to be collected were determined by consensus of an Annual Flower Trial Garden subcommittee. The criteria included: overall rating (1-5), habit rating (1-5), pattern stability, 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).

Pattern stability was rated as yes=pattern matched name or no=pattern did not match name.

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 30, 2008. Ten 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. The ratings were averaged to determine the best performing varieties.

### **Conclusion**

In summary, a majority of the 131 pansy varieties survived the winter well and the overall appearance improved daily throughout April. None of the varieties were 100% dead. Some varieties however, suffered extreme dieback.

### **2007-08 "Best of..." Winners of Winter Pansy Trials**

**Pansy 'FamaX True Blue' from Benary** – This variety was selected for the excellent blue color which was said by some to be the best "true blue" of any in the trial. Plants had uniform overall appearance and prolific flowering. No plants were lost during the winter.

**Pansy 'Matrix Orange Clear Improved' from PanAmerican Seed** – Large flowers had a nice medium orange shade. Growth habit was excellent and blooms were very consistent throughout the season.

**Pansy 'Panola Purple Clear' from PanAmerican Seed** - This was noted by some as the best purple variety in the trial due to its deep rich color and clear face. Plants had dense foliage and were very uniform. This variety had a very high rate of survival during the winter

**Pansy 'Nature Ocean' from American Takii** - A pansy variety with smaller blooms and with excellent flower coverage. Plants were noted to be sturdy with a nice plant shape.

**Pansy 'Wink Purple & White' from American Takii** – This bicolor flower with solid purple wings makes a stunning contrast. The variety was noted for being very floriferous which created an excellent overall show.

**Pansy 'Karma White Blotch' from Goldsmith Seeds** – This plant was noted as being the best white/blotch variety in the trial with very prolific flowering. Plants were noted for the nice rounded form and uniform overall appearance.

**Pansy 'Delta Premium Pure Lemon' from S&G Flowers** – The large flowers had a great lemon color which was very bright. Abundant flowering and a great growth habit gave this an excellent overall appearance.

**Pansy 'Delta Premium Pure Primrose' from S&G Flowers** – Large flowers were a beautiful soft yellow and very prolific. Plants were vigorous and very uniform overall.

**Pansy 'Delta Premium Pure Golden Yellow' from S&G Flowers** – This flower had a solid deep color and was considered to be the best golden yellow flower in the trial. Blooms were large and very showy.

**Pansy 'Mariposa Yellow Blotch' from Goldsmith Seeds** – This variety had a great overall performance. It was very floriferous with an excellent growth habit. Flowers had a blotch and a very pleasing shade of golden yellow.

**Pansy 'Nature Blue & Yellow' from American Takii** – This variety received the highest rating of any plant in the trial. Plants had a dense, compact growth habit. This variety was very floriferous and blooms had a particularly nice color pattern. Survival during the winter was very good.

**Viola 'Gem Ice Blue' from American Takii** – This variety stood out due to the excellent uniform growth habit and controlled vigor. Flowers were an excellent shade of blue and very prolific.

**Viola 'Penny Denim Jump-Up' from Goldsmith Seeds** – Small flowers covered the plant and the overall appearance was excellent. The overall growth habit was very uniform and appealing.

**Viola 'Penny White Jump-Up' from Goldsmith Seeds** – The mounding growth habit was very uniform and made an excellent presentation with the abundant white and purple flowers.

**Viola 'Venus Yellow' from Sakata** – Flowers were a solid, deep yellow color that really caught attention. The plant canopy was very dense and uniform.

**Viola 'Endurio Yellow with Red Wing' from S&G Flowers** – This variety was noticeable for its excellent flowering and vigorous but controlled growth. Winter survival was perfect.