POINSETTIA
POSTHARVEST
NC STATE UNIVERSITY
NORTH AMERICAN POINSETTIA TRIALS

NC State University
University of Florida
Vineland Research Station
## Poinsettia Trials

### Department of Horticultural Science

### Cultivar Search

<table>
<thead>
<tr>
<th>Image</th>
<th>Cultivar</th>
<th>Color</th>
<th>Vigor</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Image](Advent Red)</td>
<td>Advent Red</td>
<td>Red</td>
<td>High</td>
<td>Early Season</td>
</tr>
<tr>
<td>![Image](Aldehyde Red)</td>
<td>Aldehyde Red</td>
<td>Red</td>
<td>Medium</td>
<td>Mid Season</td>
</tr>
<tr>
<td>![Image](Arctic White)</td>
<td>Arctic White</td>
<td>White</td>
<td>Medium</td>
<td>Late Season</td>
</tr>
<tr>
<td>![Image](Autumn Red)</td>
<td>Autumn Red</td>
<td>Red</td>
<td>Medium</td>
<td>Early Season</td>
</tr>
<tr>
<td>![Image](Bravo Bright Red)</td>
<td>Bravo Bright Red</td>
<td>Red</td>
<td>Medium</td>
<td>Early Season</td>
</tr>
<tr>
<td>![Image](Candlelight White)</td>
<td>Candlelight White</td>
<td>White</td>
<td>Medium</td>
<td>Mid Season</td>
</tr>
<tr>
<td>![Image](Carousel Dark Red)</td>
<td>Carousel Dark Red</td>
<td>Novelty Red</td>
<td>Low</td>
<td>Early Season</td>
</tr>
<tr>
<td>![Image](Chianti Red)</td>
<td>Chianti Red</td>
<td>Novelty Red</td>
<td>Low</td>
<td>Late Season</td>
</tr>
<tr>
<td>![Image](Christmas Beauty)</td>
<td>Christmas Beauty</td>
<td>Red</td>
<td>Low</td>
<td>Mid Season</td>
</tr>
</tbody>
</table>
**Christmas Beauty Pink**

Breeder: Selecta/Ball

Summary: The Christmas Beauty Pink nicely fits into the series in terms of vigor, stem strength and general plant form, but was a few days later in flowering time, which was mid-season. The medium-sized bracts were a medium pink, aging to a salmon pink. The young bracts were dark pink. Many of the plants showed a few red flecks in the bracts that were distracting, but the breeder should be able to clean up the variety with further selections.

<table>
<thead>
<tr>
<th>Trial Year</th>
<th>Bract Color</th>
<th>Cultivar Arthesis</th>
</tr>
</thead>
</table>

**Early Orion Red**

Breeder: Syngenta

Summary: Early Orion Red is one of the earliest flowering plants each year. Poinsettia color can be noticed in early October for natural day-grown plants. Plant vigor is generally high, has large dark green leaves and bright red bracts. Early Orion Red is an attractive cultivar with excellent branching, uniformity and bract development. Unfortunately, colors are not available for this cultivar.

<table>
<thead>
<tr>
<th>Trial Year</th>
<th>Bract Color</th>
<th>Cultivar Arthesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Oct. 6, 2011</td>
<td>Nov. 15, 2011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trial Year</th>
<th>Height (Inches)</th>
<th>Diameter (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>14.0</td>
<td>12.0</td>
</tr>
<tr>
<td>2011</td>
<td>14.0</td>
<td>10.0</td>
</tr>
<tr>
<td>2009</td>
<td>14.3</td>
<td>13.0</td>
</tr>
<tr>
<td>2008</td>
<td>15.2</td>
<td>12.5</td>
</tr>
</tbody>
</table>
POINSETTIA POSTHARVEST

Long postharvest life if properly handled

Increasing number of plants moving through box stores

Genetics have greatly changed in the last few years
TREATMENTS

Temperatures:

- 68F (20C) (sleeved for 2 days)
- 41F (5C) (sleeved for 2 or 10 days)
- 35F (2C) (sleeved for 2 days)
- Plants held at the indicated temperature while sleeved

Drought stress/irrigation:

- Irrigation as needed (sleeved for 0 or 10 days)
- One irrigation (sleeved for 10 days)
- No irrigation (sleeved for 0 or 10 days)
- Plant not irrigated while sleeved, treatments applied after plants were un-sleeved

Light levels:

- 50 ftc
- 100 ftc
- 300 ftc
- Plants sleeved for 2 days at lowest light level then held at the indicated light level
CULTIVARS TESTED:
YEAR 1

Christmas Day Red (21 Nov.)
Cortez Burgundy (26 Nov.)
Early Mars Red (21 Nov.)
Neva (5 Dec.)
Orion (14 Nov.)
Premium Red (14 Nov.)
Prestige Early Red (14 Nov.)
Prestige Red (21 Nov.)
Sigma (14 Nov.)
Sonora White Glitter (26 Nov.)
Titan Pink (14 Nov.)
Titan Red (14 Nov.)
Titan White (14 Nov.)
Whitestar (21 Nov.)
**CULTIVARS TESTED: YEAR 2**

<table>
<thead>
<tr>
<th>Christmas Beauty Red (23 Nov.)</th>
<th>Prestige Early Red (18 Nov.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christmas Day Red (23 Nov.)</td>
<td>Prestige Red (21 Nov.)</td>
</tr>
<tr>
<td>Cortez Burgundy (23 Nov.)</td>
<td>Protégé Dark Red (23 Nov.)</td>
</tr>
<tr>
<td>Early Mars Red (18 Nov.)</td>
<td>Sigma (16 Nov.)</td>
</tr>
<tr>
<td>Magma (25 Nov.)</td>
<td>Sonora White Glitter (25 Nov.)</td>
</tr>
<tr>
<td>Mars Pink (18 Nov.)</td>
<td>Titan Pink (6 Nov.)</td>
</tr>
<tr>
<td>Mars White (18 Nov.)</td>
<td>Titan Red (6 Nov.)</td>
</tr>
<tr>
<td>Neva (30 Nov.)</td>
<td>Titan White (6 Nov.)</td>
</tr>
<tr>
<td>Orion (11 Nov.)</td>
<td>Venus Hot Pink (25 Nov.)</td>
</tr>
<tr>
<td>Premium Red (23 Nov.)</td>
<td>Whitestar (23 Nov.)</td>
</tr>
</tbody>
</table>
HOW WE GREW THE PLANTS

• 6½ inch pots
• Potted Aug. 7
• Pinched Aug. 28
• 64/75F (18/24C) night/day
• 60/70F (16/21C) after Nov. 14
• Standard nutrition and pest control
DATA COLLECTED

Date of:

• First abscised bud
• First yellow leaf
• First abscised leaf
• First abscised bract
• Most/all buds have abscised or turned brown
• Unacceptable appearance

Number of abscised leaves (per week and total)
STORAGE TEMPERATURE
EARLY MARS RED

Temperature (no. days sleeved and held at temperature)
EARLY MARS RED

Temperature (no. days sleeved and held at temperature)

Two weeks postharvest
TITAN WHITE

Temperature (no. days sleeved and held at temperature)
TITAN WHITE

Temperature (no. days sleeved and held at temperature)

One week postharvest
TEMPERATURE SUMMARY

35F for 2 days

- 2014 – no damage
- 2015 – one cultivar (Titan Red) had damage

41F for 2 days

- No damage

41F for 10 days

- Almost all cultivars had damage
## TEMPERATURE SUMMARY

<table>
<thead>
<tr>
<th>Retain cyathia best</th>
<th>Retained leaves best</th>
<th>Retained bracts best</th>
</tr>
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<tbody>
<tr>
<td>Early Mars Red</td>
<td>Christmas Day Red</td>
<td>Mars Pink</td>
</tr>
<tr>
<td></td>
<td>Orion Red</td>
<td>Orion Red</td>
</tr>
<tr>
<td>Prestige Early Red</td>
<td></td>
<td>Premium Red</td>
</tr>
<tr>
<td>Titan Red</td>
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<tr>
<td>Venus Hot Pink</td>
<td></td>
<td>Venus Hot Pink</td>
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STORAGE WATER STATUS
EARLY MARS RED

- Days
  - No irr.
  - Irr. once
  - Irr. as needed

- First yellow leaf
- First abscissed leaf

- No irr.
- Irr. once
- Irr. as needed

- First abscissed bract
- Shelf life
EARLY MARS RED

No irrigation                   One irrigation              Watered as needed

Four weeks postharvest
TITAN WHITE
TITAN WHITE

No irrigation                   One irrigation              Watered as needed

Three weeks postharvest
IRRIGATION SUMMARY

Irrigated as need performed best
No irrigation after sleeving performed worse

Most durable cultivars:

- Early Mars Red
- Magma
- Mars Pink
- Premium Red
- Prestige Early Red
- Titan Red
- Whitestar
# Irrigation Summary

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<tr>
<td></td>
<td></td>
<td>Titan Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Titan White</td>
</tr>
</tbody>
</table>
LIGHT SUMMARY

Most plants unaffected by any light level

Most durable cultivars

Christmas Day
Neva
Prestige Red
Titan White
Whitestar
OVERALL SUMMARY

MOST DURABLE CULTIVARS

- Early Mars Red
- Magma Red
- Mars Pink
- Premium Red
- Prestige Early Red
- Titan Red
- Venus Hot Pink
- Whitestar
ACKNOWLEDGEMENTS

Postharvest project: Syngenta
Trials: Beekenkamp, Dümmen Orange, Selecta/Ball, Syngenta

Ingram McCall

Fred C. Gloeckner Foundation
American Floral Endowment
The Scotts Company
Fafard
Dillen Products
Coor Farm Supply

North Carolina Commercial Flower Growers