



Dallas Arboretum

Let nature nurture you.

Plant Trials Field Day

June 29th 2005



Summer 2004 – Spring 2005

SPONSORED BY

Ball Seed
Berger Peat Moss
Calloway's Nursery
Eason Horticultural Resources
Kinney Bonded Warehouse

Nortex Greenhouses
Powell's Plant Farm
Southwest Landscape Nursery
Sun Gro Horticulture

Dallas Arboretum Plant Trials 2004-2005

Jimmy L. Turner- Director of Horticulture Research
Denise Robb- Research Technician

The Dallas Arboretum Trial Gardens were created for the purpose of expanding our research efforts and providing information to the public. The main focus of our plant-testing program is to grow and evaluate many different plants in the drastic climate of the Metroplex and North Central Texas. Information generated from these trials is provided to commercial plant producers, retailers, and home gardeners.



Because the trial garden is always open to the public for viewing, it offers new visibility for plant selections currently on the market and those soon to be available. Growers, retailers, and home gardeners can visit the trial garden and observe many different plants and how they perform in our climate. Information is also available at our website www.dallasplanttrials.org. Numerous talks, articles and presentations are given by Jimmy Turner, Director of Horticulture Research.

In addition to providing information to The Arboretum staff, its guests, and the commercial industry, we also work in cooperation with educational institutions. Plant trials are conducted in partnership with Texas A&M University and the Texas CEMAP (Coordinated Education & Marketing Assistance Program) program. Test plants are grown and evaluated on the grounds of the Texas A&M Research Station in North Dallas and Overton, as well as at the Dallas Arboretum. The Dallas Arboretum is also home to the only All America Selections Trials in Texas.

**Special thanks are expressed to the numerous companies
and individuals who have donated time and materials for trials**

Dave Forehand, Vice President of Gardens

Trace Worthy, Director of Horticulture Operations

Valerie Squires, Eason Horticulture

Dr. Brent Pemberton, Texas A&M

Dr. Wayne Mackay, Texas A&M

The Dallas Arboretum Horticulture Staff

Dallas Arboretum Garden Volunteers

Dallas County Master Gardeners

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Yoder Brothers, Inc.
Yucca Do Nursery

Trial Program & Garden Update

Grants:

- | | | |
|------------------------------------|-------------|---------------------------------|
| ☞ Stanley Smith Horticulture Grant | \$10,000.00 | for computer & camera equipment |
| ☞ Founder's Garden Club | \$10,000.00 | for Shade Trials |
| ☞ Cornell University & IBS | \$2,500.00 | for bulb/perennial trials |

Sponsorship 2005

- ☞ Southwest Landscape Nursery
- ☞ Powell's Plant Farm
- ☞ Calloway's Nursery
- ☞ Meadow Gate Garden Club

Plant Sale:

Preview and presentation April 21st, and information class to be held by Jimmy Turner at 3:30pm.
\$20.00 (\$18.00 for members)

Saturday April 22 - Sunday April 23rd 8 to 5pm

Field Day:

June 29th Dallas Arboretum, 6/28 at TAMU Overton

New Garden Developments:

- ☞ Hardy Palm & Tropical Collection- First Men's Garden Club has generously donated \$100,000.00.
- ☞ Dry Garden- Mountain States Wholesale Nursery had donated \$4,000.00 of plant material, including mature 24" box specimens to create a low water use garden at the Arboretum.
- ☞ Women's Garden Phase II- a woodland grotto filled with a large assortment of unique trees and flowering shrubs, underplanted with perennials and hardy bulbs. Installation begins in July
- ☞ Boswell Family Garden and the DeGolyer Sunken Garden re-landscaping begins this July. Will be planted in a formal style with large clipped columnar hollies, plantings of EarthKind Roses and perennials with formal shrubs as a backdrop.

LOCAL CLIMATE INFORMATION

Why trial plants at the Dallas Arboretum?

The climate of north Central Texas is an ideal place for plant trials. Our growing environment is a region of extremes in temperature, moisture, soils and sunlight. Many plants have not been tried in our particular area. Analogous areas in the same zone do not suffer from our high night temperatures, saturating spring rains followed by summer drought, soil pH's that can range from 7.2 to 8.9, and long growing season.

U.S.D.A. Zone

The Dallas Arboretum is situated in zone 8a just 30 miles from zone 7. Average minimum temperature is 10°-15°.

Growing Days

Our area has a long growing season of 239 days. Last average frost is March 18th and first average frost is November 12th. We receive an average of 750-850 chill hours per year.

Rainfall

The Dallas area receives an annual rainfall of 33.7 inches per year. Rainfall can exceed 2 to 4 inches in one hour period, the record being 9 inches in a 24 hour period. Usually, most of our annual rain occurs from Feb. through May. From mid-June through late September rain is uncommon.

Temperature

Being a part of the plains our temperatures can vary wildly in 24 hours. Drops in temperature of 50 degrees are not unknown in our area. Winter lows usually reach the 10's, but only for short periods of time. Summer temperatures regularly go over 100 degrees, and night temperatures in the 90's are common. Though the average number of 100-degree days per year is 15, even that can vary wildly. There were 56 such days in 1998 and 46 in 2000.

Soil

We have a unique soil structure, Montmorillonite clay, better known as "black-land gumbo." This is one of the most expansive soil types, cracks 4-in. wide and 5 feet deep are not unknown during summer droughts. Our soil is highly fertile, but the high pH and calcium content tie up most nutrients making them unavailable to plants.

Water

Luckily, the city of Dallas water has an average pH of 6.8 to 7.6. Local lake water and runoff water can have pH's ranging from 7.4 to 9.2.

2004-2005 WEATHER SUMMARIES

The winter was largely mild and wet. The coldest temperatures were on January 6-7, with highs in the 30s and lows around 20. February averaged below normal, due mostly to a cool spell the first half of the month. The last official freeze was February 27th at the Arboretum. The spring was characterized by mostly seasonable values of temperature and precipitation. Generally mild temperatures were broken by three distinct cool spells: April 11-14, May 1-3, and May 14-15. Moderate to heavy rain fell the first part of March, the latter part of April, and the middle and end of May, but in between were some brief dry spells. Gusty (30-35 MPH) south wind prevailed much of the daytime hours April 15-20.

The unsettled weather continued through much of June, and heavy rain events the end of July and latter half of August contributed to one of the coolest and wettest summers on record. There was only one 100-degree day at DFW (July 16th). Otherwise, the warmest temperatures were during the middle of July and the first few days of August. A late warm spell the middle of September contrasted with a largely cool August, making for a "backward" late summer.

June 1-2 - Severe thunderstorms the afternoon and evening of the 1st over the southwest and north central sections of north Texas produced one of the major severe weather episodes of the year. The big story was the 60-80 MPH wind that took down trees and power lines over much of Tarrant, Dallas, Johnson, Ellis, Kaufman, Van Zandt, Henderson, Navarro, and Anderson counties.

	Temperature (F°)			
2004	Average Temperature	Average Maximum	Average Minimum	Precipitation (inches)
January	48.5	58.5	38.5	3.04
February	45.8	54.6	37.0	3.84
March	61.8	72.1	51.4	1.71
April	66.2	75.8	56.5	2.96
May	74.4	83.5	65.3	4.73
June	79.4	88.0	70.7	10.49
July	83.5	93.0	73.9	4.16
August	81.5	90.6	72.4	4.24
September	78.4	89.1	67.6	1.02
October	72.1	81.4	62.7	5.72
November	57.1	65.3	48.9	5.01
December	48.9	60.0	37.7	.65
ANNUAL	66.5			47.57
2005	Average Temperature	Average Maximum	Average Minimum	Precipitation (inches)
January	49.5	59.5	39.6	4.33
February	52.6	61.5	43.6	1.62
March	56.7	67.8	45.7	2.17
April	65.5	76.4	54.6	0.56
May	73.5	82.9	64.0	3.35

CURRENT TRIALS

The Dallas Arboretum Trial Programs

ALL AMERICA SELECTIONS TRIAL & DISPLAY GARDEN



The All-American Trial is the oldest and largest seed grown trial in the U.S. We are the only trial garden in Texas currently reporting data. New this year, we will begin testing fall planted annuals.

CONJUNCT TRIALS WITH TEXAS A&M UNIVERSITY

- North Texas Winner's Circle
- EarthKind Rose Trials
- CEMAP (Coordinated Marketing and Assistance Program)
- Texas SuperStars

ANNUAL TRIALS

The annual plant industry is one of the largest and fastest growing portions of ornamental horticulture. Annual color is a major part of our local horticulture industry. We test numerous genera yearly, searching for new plants for our area and for the best selections of proven genera.

Summer Annuals

Seed grown and vegetative material for flowers and ornamental foliage are trialed.

Last year, we tested **600 varieties of annuals**.

Current trials include:

- ⌘ Yoder Tropical Hibiscus experimental and new release trial. Cycocel vs. untreated plants.
- ⌘ Summer foliage trials of Acalypha and Alternanthera cultivars

Cool Season Annuals

During the 2004-2005 period we tested

- | | |
|--------------------------------|---------------|
| • Miscellaneous winter annuals | 54 cultivars |
| • Dianthus | 40 cultivars |
| • Pansy & Violas | 220 cultivars |
| • Snapdragons | 22 cultivars |

BULB TRIALS

Fall planted bulbs were tested as color display material. All bulbs were pre-chilled. In the future, we hope to expand this trial to include perennial bulb trials.

- **Miscellaneous bulbs** **34 varieties**
- **Narcissus** **55 varieties**
- **Tulip** **100 varieties**

Cornell Univ. Bulb Trials

The Dallas Arboretum has joined a joint research project with Cornell Univ. and we are testing 70 varieties of bulbs planted with perennials as combinations. We will be testing longevity and attractiveness of these combos over a 3 year period.

Caladium Trials

Last year a comprehensive trial of over **50 varieties** of caladiums were tested. Comparisons were made between sand and muck grown material, and varieties were rated for attractiveness and days "standing".

PERENNIAL TRIALS

In the last year we have trialed over **300 varieties of perennials**

- **Hosta** – The Ralph Pinkus Hosta Garden is currently being revamped and will be replanted with new test varieties within the next year.
- **Fern**- The Palmer Fern Dale is home to over 400 taxa of ferns. The generous donations of Casa Flora and the National Fern Society have allowed us to trial many ferns for our area.
- **Peony**-Currently gathering sponsors and information on peonies for north Texas.
- **Hellebore** - A selection of X Helleborous species and hybrids were donated by Pine Knot Farms for evaluation in our climate
- **Crinum & Hippeastrum**
- **Gingers & Banana**- Several varieties under testing for winter hardiness.
- **Hardy Hibiscus** – Adding to comprehensive trial for landscape performance
- **Echinacea** – Working on complete trial of all new cultivars available on the market.
- **Groundcover Sedum**- Many varieties under trial for resistance to high heat and humidity.

SHADE TRIALS

A generous donation from the Founder's Garden Club of Dallas has allowed us to add more shade beds to our trial program, and to purchase plant material. We will be concentrating annuals, perennials, and woody plant trials for shady areas.

SHRUB & TREE

Being an Arboretum we are constantly looking for new material to add to our collections and find new plant material suited for north Texas. The Dallas Arboretum is home to over 30 number of Metroplex champion trees and is dedicated to continuing to add to our collection.

- **Encore Azalea Trials**- we have the complete collection of the Encore series of Azaleas