

# 1999 CULTIVAR TRIALS OF BEDDING PLANTS

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## SUMMARY

### Introduction

The Plant Sciences Department conducted performance trials on over 400 annual bedding plants during the 1999 growing season at North Dakota State University. In Fargo, the main trials are located in the plots on the west side of campus along 18<sup>th</sup> Street North. A trial garden is also located at the research station on State Avenue in Dickinson, ND. The weather and soil in Dickinson are considerably different than the Fargo site. The Fargo plots consist of a heavy clay soil while Dickinson has a much lighter soil and typically a drier climate.

### Culture

Cultivars evaluated at both sites were seeded in Jiffy Mix <sup>20/10</sup> #1 in the Horticulture and Forestry greenhouses on the NDSU campus January through April. The only exception was geraniums from Oglevee, which were received as rooted cuttings. When at the proper stage, seedlings were transplanted into cell packs containing Sunshine Mix <sup>20/10</sup> #1. Twelve plants of each cultivar were transplanted into the field at the Fargo site June 2-3, 1999. Plants were immediately watered in with Sterns Miracle-Gro <sup>20/10</sup> (15-30-15) water soluble fertilizer which was applied twice more during the growing season. In Dickinson, plants were set out May 27<sup>th</sup>, 1999, and were also watered in with Miracle-Gro <sup>20/10</sup>. The Dickinson planting once again served as a hands-on workshop for area county extension agents.

At both stations, overhead irrigation was applied as needed and weeding was done by hand. Surflan™ was applied for weed control and

insecticides were applied on an as-needed basis. The only noticeable insect problems in Fargo in 1999 were potato beetles on the nicotiana and sunflower beetles on the sunflower.

## Weather Data

There were no major weather events at the Fargo station this year. For the first time since 1996, no part of the trial beds were flooded or saturated for any period of time. August and September did receive higher rainfall than normal but that did not adversely affect any of the cultivars. The first mild frost came on October 1 which is very typical for the Fargo area.

The only adverse weather event in Dickinson this year was a hail storm which hit on August 15<sup>th</sup>. The bulk of the hail was north of the plots, however, and only minor damage, particularly on the sunflower cultivars, was seen in the trial beds. Dickinson had its first killing frost September 27<sup>th</sup>.

Table 1-1999 June-September Average Temperature and Precipitation for Fargo, ND. <sup>2</sup>

	Temperature ( $\frac{9}{5}$ F)		Precipitation (inches)	
	Average 1999	Average 1960-1990	Totals 1999	Average 1960-1990
June	66.5	69	2.72	2.82
July	72	71.1	1.93	2.7
August	69	68.9	4.24	2.43
September	55.5	57.7	5.8	1.99

Table 2-1999 June-September Average Temperature and Precipitation for Dickinson, ND. <sup>2</sup>

	Temperature ( $\frac{9}{5}$ F)		Precipitation (inches)	
	Average 1999	Average 1960-1990	Totals 1999	Average 1960-1990
June	61.5	62.5	1.85	3.63
July	70	68.7	.76	2.11
August	68.5	67.2	2.99	1.68

## Evaluations

Plants were evaluated twice over the season for height, spread, vigor, bloom quality, uniformity, and overall appearance. In Fargo, the first evaluation took place July 19<sup>th</sup> and 20<sup>th</sup> while the second was August 18<sup>th</sup> through the 25<sup>th</sup>, 1999. The Dickinson trials were evaluated on July 7<sup>th</sup> during field days at the experiment station and August 18th, 1999.

Following are cultivars that were performing the best at each station over the course of the entire season. Cultivars listed here had good bloom, uniformity, vigor and a nice overall appearance. They are in alphabetical order.

## 1999 Top Performers

### Fargo

*Antirrhinum majus* 'Bells Mixture' (GS) <sup>(3)</sup>  
*A. majus* 'LaBella Mix' (GS)  
*A. majus* 'Light Pink Ribbon' (GS)  
*Asclepias curassavica* 'Red Butterfly' (Pk)  
*A. curassavica* 'Silky Gold' (Pk)  
*Begonia semperflorens* as a group  
*Celosia* 'New Look' (Ben)  
*Celosia* 'Prestige Scarlet'(AAS 97)  
*Cosmos sulphureus* 'Cosmic Orange' (Ben, AAS 00)  
*Cuphea x purpurea* (Pk)  
*Dianthus chinensis* 'Telstar Picotee' (AAS 98)  
*D. chinensis* 'Melody Pink' (AAS 00)  
*Gazania splendens* 'Talent' (Pk)  
*Gomphrena globosa* 'Bicolor Rose' (JSS)  
*Impatiens wallerana* 'Accent Lilac' (GS)  
*I. wallerana* 'Accent Watermelon' (GS)  
*I. wallerana* 'Carnival Orange' (Da)  
*I. wallerana* 'Mosaic Rose' (GS)

*Lobularia maritima* as a group  
*Melampodium paludosum* 'Showstar' (Ben)  
*Nicotiana affinis* 'Havana Lilac Rose' (Da)  
*Nierembergia* 'Mont Blanc' (AAS 93)  
*Pelargonium x hortorum* as a group  
*Petunia hybrida* 'Fantasy Carmine' (GS)  
*P. hybrida* 'Fantasy Pink' (GS)  
*P. hybrida* 'Fantasy Salmon' (GS)  
*P. hybrida* 'PrimeTime Rose' (GS)  
*P. hybrida* 'Misty Lilac Wave' (Bur)  
*Rudbeckia hirta* 'Indian Summer' (AAS 95)  
*R. hirta* 'Sonora' (Ben)  
*Salvia splendens* 'Salsa Light Purple' (GS)  
*S. splendens* 'Salsa Scarlet' (GS)  
*Tagetes erecta* as a group  
*Verbena x hybrida* 'Novalis Deep Blue/White Eye' (Ben, AAS 89)  
*Zinnia* hybrid 'Profusion Orange' (AAS 99)

## **Dickinson**

*Antirrhinum majus* 'Crimson Ribbon' (GS)  
*A. majus* 'White Ribbon' (GS)  
*Catharanthus roseus* 'Pacifica Polka Dot' (WFS)  
*Celosia* 'New Look' (Ben)  
*Pelargonium x hortorum* 'Bubble Gum'(Ogl)  
*P. x hortorum* 'Evening Glow' (Ogl)  
*P. x hortorum* 'Maverick Scarlet' (GS)  
*P. x hortorum* 'Maverick Violet' (GS)  
*P. x hortorum* 'Maverick White' (GS)  
*Petunia hybrida* 'Purple Wave' (AAS 95)  
*Portulaca grandiflora* 'Sundial Peach'(AAS 99)  
*Rudbeckia hirta* 'Indian Summer' (AAS 95)  
*R. hirta* 'Sonora' (Ben)  
*Salvia farinacea* 'Strata' (AAS 96)  
*S. splendens* 'Salsa Purple' (GS)

*Tagetes erecta* 'Antigua Orange'(GS)  
*Zinnia hybrida* 'Peter Pan Mix' (GS)

## Field Days

The second annual flower, ornamental grasses, and turfgrass field day was held August 7<sup>th</sup>, 1999, at the Fargo plots. This annual event is open to the general public, growers, and industry people. The Dickinson experiment station holds tours of the display gardens in conjunction with field days there.

The trial garden at NDSU is an official All-America Selections display garden and is open to the public throughout the growing season. Also on display are over 300 perennials that are evaluated over the season for bloom, vigor, winter hardiness and general overall quality. In 1998, the daylily bed was designated as an official display garden of the American Hemerocallis Society and there are currently over 150 cultivars of daylily on display with more to be added in 2000.

## Acknowledgments

We would like to thank official supporters of our 1999 trial gardens: Daehnfeldt, Inc.; Ernst Benary of America, Inc.; Grimes Seed; Oglevee, Ltd.; Goldsmith Seeds, Inc.; and Waller Flowerseed Company. We hope the results from our trial gardens are beneficial in their research for new and improved flower cultivars.

## Frost Tolerances

After a mild frost (30<sup>21</sup>/<sub>11</sub>F) on the night of October 1<sup>st</sup>, notes were taken in the Fargo trials on cultivar reactions to the temperature. The following table shows how each cultivar reacted to the low night temperature.

<b>Frost Tolerances-Fargo Trial Garden</b>			
<b>Low tolerance-almost dead</b>	<b>Low to medium tolerance</b>	<b>Medium to high tolerance</b>	<b>High tolerance-no damage</b>
<i>Ammi visagna</i> 'Green Mist'	<i>Ageratum</i> 'Hawaii Royal'	<i>Ageratum</i> 'Blue Hawaii'	<i>Agastache cana</i> 'Heather Queen'
<i>Begonia</i> 'Ambassador Scarlet Improved'	<i>Ageratum</i> 'White Hawaii'	<i>Ageratum</i> 'Blue Horizon'	<i>Ageratum</i> 'Blue Lagoon'
<i>Begonia</i> 'Inferno White'	<i>Begonia</i> 'Alfa Mix'	<i>Ageratum</i> 'Capri'	<i>Antirrhinum majus</i> -All cultivars
<i>Begonia</i> 'Senator Rose'	<i>Begonia</i> 'Ambassador Mix'	<i>Ageratum</i> 'Neptune Blue'	<i>Asclepias</i> 'Red Butterfly'

<i>Begonia</i> 'Super Olympia White'	<i>Begonia</i> 'Ambassador Salmon'	<i>Ageratum</i> 'True Blue'	<i>Brassica oleracea</i> -All cultivars
<i>Begonia</i> 'Victory Bronze Leaf Pink'	<i>Begonia</i> 'Ambassador White'	<i>Asclepias</i> 'Silky Gold'	<i>Calendula officinalis</i>
<i>Begonia</i> 'Victory B. L. Scarlet'	<i>Begonia</i> 'A. W. Salmon Red Marg'	<i>Begonia</i> 'All Round Mix'	<i>Capsicum annuum</i>
<i>Begonia</i> 'Victory B. L. White'	<i>Begonia</i> 'Cocktail'	<i>Begonia</i> 'Ambassador Rose'	<i>Cleome hassleriana</i>
<i>Begonia</i> 'Victory Green Leaf Pink'	<i>Begonia</i> 'Espresso Mix'	<i>Begonia</i> 'Ambassador Soft Pink'	<i>Cosmos bipinnatus</i> 'Tickle Pink'
<i>Begonia</i> 'V. G. L. Scarlet'	<i>Begonia</i> 'Inferno Mix'	<i>Begonia</i> 'Inferno Pink'	<i>Dianthus chinensis</i> -All cultivars
<i>Begonia</i> 'V. G. L. White'	<i>Begonia</i> 'Inferno Rose-Bronze Leaf'	<i>Begonia</i> 'Inferno Red'	<i>Diascia barberae</i> 'Pink Queen'
<i>Begonia</i> 'Vodka'	<i>Begonia</i> 'Party Pink'	<i>Begonia</i> 'Inferno Rose-Green Leaf'	<i>Eucalyptus cinerea</i>
<i>Begonia tuberhybrida</i> 'Fortune Mix'	<i>Begonia</i> 'Party Red'	<i>Begonia</i> 'Party White'	<i>Eustoma</i> 'Echo Blue'
<i>B. tuberhybrida</i> 'Pin-up Flame'	<i>Begonia</i> 'Partyfun'	<i>Begonia</i> 'Senator White'	<i>Eustoma</i> 'Echo Mix'
<i>Callistephus chinensis</i> cultivars	<i>Begonia</i> 'Queen Pink'	<i>Begonia</i> 'Super Olympia Coral'	<i>Eustoma</i> 'Echo Pink'
<i>Canna</i> 'Tropical Red'	<i>Begonia</i> 'Queen White'	<i>Begonia</i> 'Super Olympia Pink'	<i>Eustoma</i> 'Echo Pink Picotee'
<i>Canna</i> 'Tropical Rose'	<i>Begonia</i> 'Senator Deep Rose'	<i>Campanula longistylla</i>	<i>Eustoma</i> 'Lizzy Blue'
<i>Celosia</i> 'Amigo Mahogany Red'	<i>Begonia</i> 'Senator Mix'	<i>Catharanthus</i> 'Caribbean Lavender'	<i>Eustoma</i> 'Lizzy White'
<i>Celosia</i> 'Amigo Mix'	<i>Begonia</i> 'Senator Pink'	<i>Catharanthus</i> 'Heat Wave' series	<i>Gaillardia</i> 'Red Plume'
<i>Celosia</i> 'New Look'	<i>Begonia</i> 'Senator Scarlet'	<i>Catharanthus</i> 'Pacifica Apricot'	<i>Gazania</i> - All cultivars
<i>Celosia</i> 'Prestige Scarlet'	<i>Begonia</i> 'Super Olympia Light Pink'	<i>Catharanthus</i> 'Pacifica Burgundy'	<i>Gerbera</i> - All cultivars
<i>Cosmos sulphureus</i> 'Cosmic Yellow'	<i>Begonia</i> 'Super Olympia Mix'	<i>Catharanthus</i> 'Pacifica Lipstick'	<i>Gomphrena haageana</i> 'Strawberry Fields'
<i>Impatiens wallerana</i> -All cultivars	<i>Begonia</i> 'Super Olympia Red'	<i>C. spicata</i> 'Flamingo Feather'	<i>Gypsophila muralis</i> 'Gypsy'
<i>Linaria</i> -All cultivars	<i>Begonia</i> 'Super Olympia Rose'	<i>Cosmos sulphureus</i> 'Cosmic Orange'	<i>Helichrysum bracteatum</i> 'Bikini Mix'

<i>Lupinus nanus</i> 'Pixie Delight'	<i>Begonia</i> 'Victory Green Leaf Rose'	<i>Dahlia</i> 'Sunny White'	<i>Kniphofia uvaria</i> 'Flamenco'
<i>Melampodium paludosum</i> 'Derby'	<i>Begonia</i> 'V. G. L. Rose Bicolor'	<i>Eustoma</i> 'Heidi Hybrid'	<i>Laurentia axillaris</i> 'Blue Stars'
<i>M. paludosum</i> 'Million Gold'	<i>Canna</i> 'Bengal Tiger'	<i>Eustoma</i> 'Lizzy Pink'	<i>Lavandula angustifolia</i> 'Lady'
<i>Pentas lanceolata</i> -All cultivars	<i>Catharanthus</i> 'Apricot Delight'	<i>Gomphrena globosa</i> -All cultivars	<i>Limonium sinuatum</i> 'Light Blue'
<i>Portulaca grandiflora</i> -All cultivars	<i>Catharanthus</i> 'Mediterranean Deep Rose'	<i>Gypsophila muralis</i> 'Garden Bride'	<i>L. sinuatum</i> 'Premium Mix'
<i>Salvia splendens</i> 'Firecracker Red'	<i>Catharanthus</i> 'Pacifica Mixed Improved'	<i>Incarvillea sinensis</i> 'Cheron'	<i>L. sinuatum</i> 'Sinuata Mix'
<i>S. splendens</i> 'Salsa Rose Bicolor'	<i>Catharanthus</i> 'Pacifica Pink'	<i>Limonium sinuatum</i> 'Soiree Mix'	<i>Lobelia erinus</i> 'Fountain Mix'
<i>S. splendens</i> 'Salsa Salmon'	<i>Catharanthus</i> 'Pacifica Polka Dot Improved'	<i>Nicotiana affinis</i> 'Havana Lilac Rose'	<i>Lobularia maritima</i> -All cultivars
<i>S. splendens</i> 'Salsa Salmon Bicolor'	<i>Catharanthus</i> 'Stardust Orchid'	<i>N. affinis</i> 'Havana Mix'	<i>Malope trifida</i> 'Pink Queen'
<i>S. splendens</i> 'Salsa Scarlet Bicolor'	<i>Catharanthus</i> 'Trailing Lilac'	<i>N. affinis</i> 'Havana True Lime'	<i>Monarda x hybrida</i> 'Lambada'
<i>S. splendens</i> 'Salsa White'	<i>Catharanthus</i> 'Trailing White'	<i>N. affinis</i> 'Havana White'	<i>Nicotiana affinis</i> 'Havana Appleblossom'
<i>Solenostemon scutellarioides</i> -All cultivars	<i>Celosia spicata</i> 'Pink Candle'	<i>N. affinis</i> 'Saratoga' series	<i>N. affinis</i> 'Havana Carmine Rose'
<i>Tithonia rotundifolia</i> -All cultivars	<i>C. spicata</i> 'Purple Flamingo'	<i>Pelargonium</i> 'Cotton Candy'	<i>Nierembergia</i> 'Mont Blanc'
<i>Torenia</i> 'Clown Formula Mix'	<i>Cosmos sulphureus</i> 'Lemon Twist'	<i>Pelargonium</i> 'Evening Glow'	<i>Osteospermum</i> 'Passion Mix'
<i>Torenia</i> 'Duchess Light Blue'	<i>Cuphea purpurea</i> 'Firefly'	<i>Pelargonium</i> 'Fireball'	<i>Pelargonium</i> 'Bubble Gum'
<i>Torenia</i> 'Duchess Pink'	<i>Dahlia</i> 'Figaro Mix'	<i>Pelargonium</i> 'Maverick Scarlet'	<i>Pelargonium</i> 'Jessica'
<i>Zinnia elegans</i> 'Blue Point Formula Mix'	<i>Dahlia</i> 'Garden Pride'	<i>Pelargonium</i> 'Maverick Violet'	<i>Pelargonium</i> 'Kim'
<i>Z. elegans</i> 'Short Stuff Mix'	<i>Helichrysum monstrosum</i> -All cultivars	<i>Pelargonium</i> 'Maverick White'	<i>Pelargonium</i> 'Lucille'
<i>Z. hybrid</i> 'Pinwheel Mix'	<i>Hibiscus sabdariffa</i>	<i>Pelargonium</i> 'North Star'	<i>Pelargonium</i> 'Maureen'



	<i>Hypoestes phyllostachya</i> 'Confetti Mix'	<i>Pelargonium</i> 'Patriot Light Pink'	<i>Pelargonium</i> 'Maverick Coral'
	<i>Lavatera trimestris</i> 'Mont Blanc'	<i>Pelargonium</i> 'Patriot Violet'	<i>Pelargonium</i> 'Maverick Light Salmon'
	<i>Leonotis leonurus</i> 'Staircase'	<i>Pelargonium</i> 'Peaches'	<i>Pelargonium</i> 'Maverick Pink'
	<i>Limonium sinuatum</i> 'Friendly Yellow'	<i>Pelargonium</i> 'Raspberry Ice'	<i>Pelargonium</i> 'Maverick Red'
	<i>Lobelia erinus</i> 'Palace Blue with Eye'	<i>Pelargonium</i> 'Sincerely Yours'	<i>Pelargonium</i> 'Maverick Salmon'
	<i>Melampodium paludosum</i> 'Showstar'	<i>Petunia</i> 'Celebrity Carmine'	<i>Pelargonium</i> 'Maverick Star'
	<i>Salvia splendens</i> 'Salsa Burgundy'	<i>Petunia</i> 'Celebrity Chiffon Morn'	<i>Pelargonium</i> 'Multibloom Capri'
	<i>S. splendens</i> 'Salsa Light Purple'	<i>Petunia</i> 'Celebrity Just Pink Mix'	<i>Pelargonium</i> 'Multibloom Light Salmon'
	<i>S. splendens</i> 'Salsa Rose'	<i>Petunia</i> 'Misty Lilac Wave'	<i>Pelargonium</i> 'Patriot Cherry Rose'
	<i>S. splendens</i> 'Salsa Scarlet'	<i>Petunia</i> 'Ultra Blue'	<i>Pelargonium</i> 'Sassy Dark Red'
	<i>Tagetes erecta</i> 'American Indian Yellow'	<i>Petunia</i> 'Ultra Crimson Star'	<i>Pennisetum</i> spp.
	<i>T. erecta</i> 'Antigua Orange'	<i>Petunia</i> 'Ultra Lilac'	<i>Petunia</i> 'Celebrity Desert Sky Mix'
	<i>T. erecta</i> 'Antigua Primrose'	<i>Petunia</i> 'Ultra Limited Edition Mix'	<i>Petunia</i> 'Celebrity Niagara Mix'
	<i>T. erecta</i> 'Antigua Yellow'	<i>Petunia</i> 'Ultra Peppermint'	<i>Petunia</i> 'Fantasy' series
	<i>T. erecta</i> 'Atlantis' series	<i>Petunia</i> 'Ultra Plum'	<i>Petunia</i> 'Pink Wave'
	<i>T. erecta</i> 'Discovery' series	<i>Petunia</i> 'Ultra Sky Blue'	<i>Petunia</i> 'PrimeTime' series
	<i>T. erecta</i> 'Excel Mix'	<i>Petunia</i> 'Ultra White'	<i>Petunia</i> 'Prism Sunshine'
	<i>T. erecta</i> 'French Vanilla Hybrid'	<i>Phlox</i> 'Crystal Blue with White'	<i>Petunia</i> 'Purple Wave'
	<i>T. erecta</i> 'Inca Orange'	<i>Rudbeckia</i> 'Toto'	<i>Petunia</i> 'Rose Wave'
	<i>T. erecta</i> 'Perfection Yellow'	<i>Salvia splendens</i> 'Salsa Mix'	<i>Petunia</i> 'Storm' series
	<i>T. patula</i> 'Janie Gold'	<i>S. splendens</i> 'Salsa Purple'	<i>Petunia</i> 'Titan Mix'



	<i>T. patula</i> 'Little Hero Fire'	<i>Tagetes erecta</i> 'American Indian Gold'	<i>Petunia</i> 'Ultra Pink'
	<i>T. patula</i> 'Little Hero Harmony'	<i>T. erecta</i> 'American Indian Orange'	<i>Petunia</i> 'Ultra Red'
	<i>Torenia</i> 'Duchess Deep Blue'	<i>T. erecta</i> 'Antigua Gold'	<i>Petunia</i> 'Ultra Rose'
	<i>Tropaeolum</i> 'Alaska'	<i>T. erecta</i> 'Inca Gold'	<i>Petunia</i> 'Ultra Salmon'
	<i>Tropaeolum</i> 'Jewel of Africa'	<i>T. erecta</i> 'Inca Yellow'	<i>Petunia</i> 'Ultra Scarlet'
	<i>Tropaeolum</i> 'Moonlight'	<i>T. erecta</i> 'Perfection Gold'	<i>Rudbeckia</i> 'Indian Summer'
	<i>Zinnia elegans</i> 'Dahlia Flowered Mix'	<i>T. erecta</i> 'Perfection Mix'	<i>Rudbeckia</i> 'Sonora'
	<i>Z. elegans</i> 'Peter Pan Mix'	<i>T. erecta</i> 'Perfection Orange'	<i>Salpiglossis</i> 'Royal Mix Hybrid'
	<i>Z. hybrid</i> 'Profusion Orange'	<i>T. patula</i> 'Aurora Mix'	<i>Salvia farinacea</i> -All cultivars
		<i>T. patula</i> 'Bonanza Bolero'	<i>Senecio cineraria</i> -All cultivars
		<i>T. patula</i> 'Hero Flame Improved'	<i>Stipa tenuissima</i>
		<i>T. patula</i> 'Hero Orange Improved'	<i>Tagetes patula</i> 'Hero Bee'
		<i>T. patula</i> 'Hero Yellow'	<i>T. patula</i> 'Safari Yellow'
		<i>T. patula</i> 'Janie Mixed'	<i>T. tenuifolia</i> -All cultivars
		<i>T. patula</i> 'Little Hero Flame'	<i>Verbena canadensis</i> 'Perfecta'
		<i>T. patula</i> 'Little Hero Orange'	<i>V. x hybrida</i> -All cultivars
		<i>T. patula</i> 'Little Hero Yellow'	<i>V. tenuisecta</i> 'Imagination'
		<i>T. patula</i> 'Safari Mix'	<i>Viola cornuta</i> -All cultivars
		<i>T. patula</i> 'Safari Tangerine'	<i>Viola</i> hybrid 'Babyface Yellow'
		<i>T. patula</i> 'Troubadour Yellow'	<i>V. wittrockiana</i> -All cultivars
		<i>Tropaeolum</i> 'Whirlybird Blend'	<i>Wahlenbergia</i> 'Melton Bluebird'
		<i>Zinnia angustifolia</i> 'Crystal White'	<i>Zinnia angustifolia</i> 'Golden Orange'
		<i>Z. hybrid</i> 'Profusion Cherry'	<i>Z. angustifolia</i> 'Mix'

After 22<sup>nd</sup> F on the night of October 2<sup>nd</sup>, the following plants still looked good: *Antirrhinum majus*, *Brassica oleracea*, some *Dianthus*, *Diascia barberae*, *Gaillardia pulchella*, *Kniphofia uvaria*, *Lavandula angustifolia*, some *Lobularia*, *Malope trifida*, *Salvia farinacea*, *Senecio cineraria* 'Silverdust', *Stipa tenuissima*, a few *Verbena*, *Viola* spp., and *Wahlenbergia undulata*.

## 1999 BEDDING PLANT TRIALS RESULTS

DEPARTMENT OF PLANT SCIENCES  
NORTH DAKOTA STATE UNIVERSITY  
FARGO, ND

**Note-** Cultivar measurements that have a next to them indicate varieties that were performing particularly well during that evaluation period. Parenthesis ( ) indicate missing data. Seed sources are indicated by abbreviations at end of cultivar names. The seed source list can be found on the last page of the report.

***Agastache cana*-Agastache.** This is a perennial in zones 7-10 but can be treated as an annual in the upper great plains. By August, this plant was one of the top performers in the trial bed, producing a nice mass of mauve colored spikes. It was easy to grow, can be used as a cut flower and attracts butterflies.

	Fargo				Comments
	July 19		August 20		
	Hgt.	Spr.	Hgt.	Spr.	
Heather Queen-Pk	10-24"	8-12"	24-30"	12-20"	Mauve spikes; Lacked uniformity early; floriferous, healthy and full during second evaluation

***Ageratum houstonianum*-Ageratum, Flossflower.** These performed well this year. Although more dead heads were evident in August, that didn't detract too much from their overall appearance.

	Fargo	Dickinson	
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	July 19		August 20		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Blue Hawaii-Bod	4"	6-8"	4"	10-12"	--	--	--	--	<b>F</b> -Blue; Uniform and floriferous; looks good <b>D</b> -Not tested
Blue Horizon-Pk	10-12	12	12	12-15	--	--	--	--	<b>F</b> -Blue; Uniform, floriferous, full, nice <b>D</b> -Not tested
Blue Lagoon-Pk	4-6	6-10	4-6	8-15	--	--	--	--	<b>F</b> -Blue; Not as floriferous or uniform as others <b>D</b> -Not tested
Capri-GS	6-8	6-8	6-8	8-10	--	--	--	--	<b>F</b> -Light blue-white center; Nice color; fairly uniform <b>D</b> -Not tested
Hawaii Royal-Pk	4-6	6-8	4-6	6-10	--	--	--	--	<b>F</b> -Lavender; Did alright <b>D</b> -Not tested
Neptune Blue-GS	4	6-10	4-6	6-10	4"	6-9"	3-4"	6-8"	<b>F</b> -Blue; Uniform in height but not spread <b>D</b> -Purple blue; good flower density and uniformity
True Blue-Gri	4-8	6-10	4-8	6-15	4	2-5	3-4	4-6	<b>F</b> -Blue; Not as uniform as others but floriferous <b>D</b> -Purple blue; lacking uniformity
White Hawaii-Bod	6	8-10	6-8	8-15	--	--	--	--	<b>F</b> -White; Dead heads more obvious on the white <b>D</b> -Not tested

***Amaranthus tricolor*-Summer Poinsettia.**

	Fargo				Comments
	July 19		August 19		
	Hgt.	Spr.	Hgt.	Spr.	
Aurora-Pk	6-10"	6-8"	6-10"	6-10"	Golden yellow 'bracts'; Never did too well; tips of leaves were scorched looking; no vigor
Illumination-Pk	4-10	6-8	6	6	Red 'bracts'; bronze foliage; Only 2 of 6 plants alive at the second evaluation; leaves also scorched looking

***Ammi visagna*-Queen Anne's Lace.**

	Fargo				Comments
	July 19		August 20		
	Hgt.	Spr.	Hgt.	Spr.	

Green Mist-Pk	12"	12"	12-18"	18-20"	White; Floriferous, uniform, and full especially in July; not blooming quite as well in August
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**Antirrhinum majus-Snapdragon.** The snapdragons did well in Fargo over the course of the summer with no major insect or disease problems. 'Bells Mix', 'LaBella Mix', and 'Light Pink Ribbon' looked the best over the course of the season. In Dickinson, 'Crimson Ribbon' looked particularly nice in July; the snaps received overall lower ratings in August due to a decline in bloom.

	Fargo				Dickinson				Comments
	July 19		August 20		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Bells Mixture-GS	6"	6-8"	6"	8-10"	6-9"	8-10"	3-6"	4-12"	<b>F</b> -Mix of colors; Uniform and floriferous both evaluations <b>D</b> -Dickinson-Not as uniform as in Fargo but nice color mass
Chimes Mixture-GS	4-6	6-8	4-6	6-10	6-9	8-10	6	4-8	<b>F</b> -Mix of colors; Blooming better the second evaluation <b>D</b> -Less color than 'Bells Mix' but more uniform
Crimson Ribbon-GS	10-12	6-10	6-15	8-10	12-14	6-8	12-14	8-12	<b>F</b> -Deep velvet red; Between peak bloom both evaluation times <b>D</b> -Striking color and vigorous 1st evaluation; past peak bloom by the 2nd
LaBella Mixture-GS	8-10	8-10	10-15	8-10	10-14	8-10	10-14	8-12	<b>F</b> -Mix of colors; Uniform, full spikes; good color variety <b>D</b> -Good color mass early; past peak bloom in August
Lavender Ribbon-GS	10-12	6-8	8-10	8-10	8-14	4-8	8-14	10-12	<b>F</b> -Mauvey lavender; Nice color, uniform and floriferous, nicer in August <b>D</b> -Lacked uniformity early, past peak bloom by August
Liberty Mix-GS	10-12	6-10	10-15	8-10	--	--	--	--	<b>F</b> -Mix of colors; Didn't bloom as well as LaBella Mix <b>D</b> -Not tested
Light Pink Ribbon-GS	10-12	8-10	10-12	8-10	10-14	6-8	12-14	8-10	<b>F</b> -Pink-yellow throat; Uniform and floriferous both evaluation times <b>D</b> -Nice and healthy
Purple Ribbon-GS	10-14	8-10	12-15	8-10	10-16	8-10	12-14	10-12	<b>F</b> -Deep velvet fuchsia; Nice color, uniform, healthy, vigorous <b>D</b> -Healthy, past peak bloom the second evaluation
Rose Ribbon-GS	10-14	8-10	8-14	8-10	10-14	8-10	12-14	10	<b>F</b> -Rose; Nice color, blooming especially well in August <b>D</b> -Uniform and healthy
White Ribbon-GS	10-12	8-10	8-10	8-10	10-14	( )	14	10	<b>F</b> -Creamy white; Didn't bloom as well as the others <b>D</b> -Good uniformity and color mass-especially during the first evaluation
Yellow Ribbon-GS	10-12	8-10	8-14	10-12	10-14	( )	14	10-12	<b>F</b> -Yellow; Didn't bloom as well later in the season but looked good in July <b>D</b> -Good color mass during July-less in August

**Asclepias curassavica-Bloodflower, Butterfly Flower.** This is the second year we've grown *A. curassavica* and it has done well both years. 'Red Butterfly' is a little more showy but both cultivars have been healthy, vigorous and floriferous all season.

	Fargo	
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	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Red Butterfly-Pk	12-14"	10-12"	15"	12"	Orange bracts, golden centers; Uniform, healthy, floriferous all season
Silky Gold-Pk	12-14	10-12	20	12	Golden flowers; Uniform, healthy and vigorous all season, also

**Begonia semperflorens-Wax Begonia.** Once again, the wax begonias performed very well in Fargo and very poorly in Dickinson. Some that stood out in Fargo included the '**Party**' series and '**Super Olympia**' series as well as some of the '**Ambassador**' series. '**Party Pink**' was by far the top performer in Fargo. In Dickinson, '**Victory Green Leaf Rose**' was the best performing wax begonia.

Wax Begonia	Fargo				Dickinson				Comments
	July 19		August 20		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Alfa Mix-Da	6-8"	6-8"	6-8"	8-10"	--	--	--	--	<b>F</b> -Mix of colors; Not as uniform as some others but good bloom <b>D</b> -Not tested
All Round Mix-Da	6-10	8-10	10	10-12	--	--	--	--	<b>F</b> -Mix of colors; Uniform and floriferous, especially in August <b>D</b> -Not tested
Ambassador Mix-Da	6	6	6	6-8	--	--	--	--	<b>F</b> -Mix of colors; Not as vigorous or uniform as others <b>D</b> -Not tested
Ambassador Rose-Da	6	8	8	10	--	--	--	--	<b>F</b> -Deep rose, green leaves-bronze tips; Uniform and floriferous all season <b>D</b> -Not tested
Ambassador Salmon-Da	3-8	4-8	8	6-8	--	--	--	--	<b>F</b> -Reddish-salmon; Didn't bloom as well in August but uniformity was good <b>D</b> -Not tested
Ambassador Scarlet Imp.-Da	3-6	4-8	8	8-10	--	--	--	--	<b>F</b> -Red, green leaves-bronze tips; Floriferous all season, one really small plant <b>D</b> -Not tested
Ambassador Soft Pink-Da	4-6	6-8	4-8	6-10	--	--	--	--	<b>F</b> -Pale pink, green leaves; Lacked uniformity compared to others <b>D</b> -Not tested
Ambassador White-Da	6-8	8	6	6-8	--	--	--	--	<b>F</b> -White, green leaves; Uniform and floriferous all season <b>D</b> -Not tested
Ambassador White/ Salmon Red Margin-Da	6-8	6-8	6-8	6-8	--	--	--	--	<b>F</b> -Pale, pale pink-pink margin; Uniform early, lacked vigor compared to others <b>D</b> -Not tested
Cocktail-Ben	6-8	6-8	8	8	--	--	--	--	<b>F</b> -Mix, bronze leaves; Uniform and floriferous, especially in August <b>D</b> -Not tested
Espresso Mix-Da	4-6	3-8	4-8	6-8	--	--	--	--	<b>F</b> -Mix; Not as uniform or vigorous as most others <b>D</b> -Not tested
Inferno Mix-Da	6-8	6-8	6-8	8-10	--	--	--	--	<b>F</b> -Mix, green leaves with bronze tips; Poor color mix, did alright


									D-Not tested
Inferno Pink-Da	8	8	10	10-12	--	--	--	--	F-Dark pink, green leaves with bronze tips; Uniform, floriferous, vigorous, etc. D-Not tested
Inferno Red-Da	6-8	6-8	10	10-12	--	--	--	--	F-Red, green leaves; Better bloom in August, vigorous, healthy D-Not tested
Inferno Rose/Bronze Leaf-Da	8	8	10	10	--	--	--	--	F-Not as floriferous as others but very uniform D-Not tested
Inferno Rose/Green Leaf-Da	8	8	10	10-12	--	--	--	--	F-Uniform, healthy but bloomed better in August D-Not tested
Inferno White-Da	8	8-10	8-10	10-12	--	--	--	--	F-White, green leaves; Not as floriferous as others and dead heads more evident D-Not tested
Party Pink-Ben	8	8	10-12	10-12	6-8"	3-4"	6-8"	6-7"	F-Dark pink, bronze leaves; Was really impressed with this one-nice! D-Not bad-did well for Dickinson
Party Red-Ben	3-6	4-8	6-8	8-10	3-6	3-6	6	5-6	F-Red, bronze leaves; Lacked uniformity in size early but by August was nice D-Did alright
Party White-Ben	10	10	12	12	1-6	3-4	4-8	4-6	F-White, bronze leaves; Uniform, floriferous, nice all season D-Best of the white begonias in Dickinson plots
Partyfun-Ben	10	8-10	10	10-12	--	--	--	--	F-Mix of colors, green leaves; Uniform, floriferous, nice all season D-Not tested
Queen Pink-Da	6-8	8-10	10-12	10-12	--	--	--	--	F-Pink, double flowers, green leaves; Not as floriferous as the single flowered D-Not tested
Queen White-Da	3-8	3-8	4-8	6-10	--	--	--	--	F-White, double flowers; Not as uniform or floriferous as others D-Not tested
Senator Deep Rose-Da	8	6-8	8	8-10	--	--	--	--	F-Deep pink, bronze leaves; Uniform, floriferous, healthy all season D-Not tested
Senator Mix-Da	4-6	4-6	4-6	6-8	--	--	--	--	F-Mix of colors, bronze foliage; Floriferous but poor color mix D-Not tested
Senator Pink-Da	4-8	4-8	6-8	6-8	--	--	--	--	F-Dark pink, bronze leaves; Not as uniform early but floriferous, uniform later D-Not tested
Senator Rose-Da	4-8	6-8	4-8	6-10	--	--	--	--	F-Deep rose, bronze leaves; Not as vigorous or uniform as others D-Not tested
Senator Scarlet-Da	4-6	4-6	4-6	4-6	--	--	--	--	F-Red, green leaves with bronze edges; Not as vigorous or uniform as others D-Not tested
Senator White-Da	8	8	8	10	--	--	--	--	F-White, bronze leaves; Uniform and floriferous D-Not tested
Super Olympia Coral-Ben	4-6	6	6	6-8	3-6	3-4	4-6	4	F-Red-salmon, green leaves; Uniform, floriferous, healthy, nice all season D-Good flower production and average vigor
Super Olympia Light Pink-Ben	6-8	6-8	8	8	--	--	--	--	F-Pale pink, green leaves; Uniform, healthy, vigorous all season

										D-Not tested
Super Olympia Mix-Ben	8	8	8	8-10	--	--	--	--		F-Mix, green and green with bronze leaves; Floriferous, healthy, uniform D-Not tested
Super Olympia Pink-Ben	4-6	6-8	6-8	8-10	4-6	3-4	5-6	5		F-Dark pink, green leaves; Floriferous, uniform and healthy all season D-Nice flowers on small, uniform plants
Super Olympia Red-Ben	6-8	6-8	4-8	8-10	3-6	3-4	4	3-4		F-Red, green leaves; Not quite as uniform as others but still a nice floral show D-Nice flower color, bloomed well
Super Olympia Rose-Ben	6-10	4-8	6-10	8-10	3-4	3-6	5-6	4-5		F-Deep rose, green leaves; Not as uniform as others but floriferous and healthy D-Nice color; bloomed well,
Super Olympia White-Ben	4-6	6-8	4-8	8-10	3-4	2-3	4	3-4		F-White, green leaves; One of the nicer whites, not as uniform but floriferous D-Poor bloom and vigor
Victory Pink-BronzeLeaf-GS	6	6	6-8	8-10	3-4	3-4	( )	( )		F-Pink, bronze leaves; Not as uniform or floriferous as others D-Poor show
Victory Pink-Green Leaf-GS	6	6	8	8-10	3-4	2-3	4	3-4		F-Pink, green leaves; Nice, full, healthy, vigorous plants D-Poor flower show and no vigor
Victory Rose Bicolor-Green Leaf-GS	6	6-8	6	10	3-4	3-4	4-5	4-5		F-Salmon pink, green leaves; Floriferous but lacked uniformity; some leaf burn D -Not too bad for Dickinson; good show of flowers
Victory Rose-Green Leaf-GS	6-8	6-8	4-8	6-8	3-4	3-4	5-6	4-6		F-Deep rose; Floriferous but not as uniform as some others D -Most floriferous of the wax begonias in the Dickinson plots
Victory Scarlet-Bronze Leaf-GS	3-6	4-8	6-8	6-8	2-4	2-4	2-4	4		F-Red, bronze leaves; Despite leaf burn early, turned into a nice show later D -No vigor and few blooms
Victory Scarlet -Green Leaf-GS	3-6	4-8	6-8	6-8	3-4	3-4	3-4	4		F-Red, green leaves; Lacked uniformity early, healthy and vigorous by August D-Uniform but no vigor-small plants
Victory White-Bronze Leaf-GS	3-6	3-6	3-6	3-8	2-4	2-6	2-4	3-4		F-White, bronze leaves; Least vigorous of white begonias, dull color D -Good show early for whites, no vigor later
Victory White-Green Leaf-GS	3-6	4-8	4-8	6-10	2-3	3-4	4	4		F-White, green leaves; Lacked uniformity but floriferous D -Lacked vigor and poor flower show
Vodka-Ben	2-6	3-8	2-6	3-10	2-6	3-6	4-6	6		F-Red, bronze leaves; Floriferous but lacked vigor and uniformity D -Similar to 'Party Red'

**Begonia tuberhybrida-Tuberous Begonia.** The tuberous begonias don't seem to like either the Fargo or Dickinson sites. They are never very vigorous and bloom is very poor.

	Fargo				Dickinson				Comments
	July 19		August 20		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Fortune Mix-Da	2-4"	4-6"	2-4"	4-6"	--	--	--	--	Fargo -Red, pink; No vigor, poor bloom , not many colors



										<i>Dickinson</i> -Not tested
Pin Up 	Flame-AAS (99)	2-4	4-6	2-4	4-6	2-6"	2-6"	4-6"	4"	<b>F</b> -Orange with red edges; No vigor, poor bloom <b>D</b> -Didn't bloom, no vigor

***Brassica oleracea*-Ornamental Kale, Ornamental Cabbage.** This is the first year we've had ornamental kale and ornamental cabbage in the trial gardens. They grew very well but were starting to get some insect problems by August.

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Color Up Improved Mix-Pk	8-10"	10-12"	12-14"	12"	Very vigorous and healthy all season; some cabbage moth damage showing up in August
Nagoya Mix-Pk	8-10	10-12	10	10-12	Same as for previous
Peacock Mix-Pk	16-20	16-20	24	18-20	These were planted too close together; very vigorous, healthy but insect damage in August, also

***Calendula officinalis* -Pot Marigold.**

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Dwarf Gem Mixed-Bur	12"	12"	12"	12"	Gold, yellow; Very uniform and floriferous early; by August more dead heads apparent and not as showy

***Callistephus chinensis*-Annual Aster, China Aster.** The china asters did quite well at the beginning of the season but then Aster Yellows hit and the plants declined steadily. Until then, both cultivars had a good color mix and were quite productive.

	Fargo		
	July 19	August 20	Comments

	Hgt.	Spr.	Hgt.	Spr.	
Matsumoto Mix-Pk	10-12"	6-8"	10-12"	6-8"	Mix of colors; Floriferous and healthy early, declined by August
Seastar Mix-Pk	12-15	8-10	12-15	10-12	Mix of colors; Heads up to 3" across, bloomed better than Matsumoto Mix in August

**Campanula longistylla-Bellflower.** This is the first year for this particular genus in our beds. Unfortunately, as seen below, it didn't do well.

	Fargo				Dickinson				
	July 19		August 20		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Isabella Blue-GS	3-4"	2-6"	4"	4-5"	4-6"	3-4"	4-6"	4"	<b>Fargo</b> -Blue; No vigor, some plants dead while others with lots of blooms, not uniform <b>Dickinson</b> -Poor show, no vigor and few blooms

**Canna x generalis-Canna.** These were slow to bloom and didn't have many flowers for the July evaluation. By August, however, most were doing well and 'Tropical Rose' was the highest rated.

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Bengal Tiger-Pk	18-20"	12-15"	40"	15-20"	Orange flowers-stripped foliage; Unique looking once blooming; did well
Tropical Red-Pk	15	12-15	15-18	12	Orange-red; Slow to bloom but did alright
Tropical Rose-Pk	15	15	20-24	12-15	Rose; Uniform early but slow to bloom, looked good in August

**Capsicum annuum-Ornamental Pepper.**

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Prairie Fire-Pk	2-6"	6-8"	2-6"	10-12"	Healthy and vigorous, peppers starting to turn from yellow to red by August evaluation

**Catharanthus roseus -Vinca.** The vinca were slow to get established in Fargo but most looked good by the August evaluation. Top

performers included 'Heat Wave Deep Rose', 'Heat Wave Pink', 'Mediterranean Deep Rose', and 'Pacifica Apricot'. In Dickinson, 'Pacifica Polka Dot Improved' did the best early in the season.

Vinca	Fargo				Dickinson				Comments
	July 19		August 20		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Apricot Delight-WFS	3-6"	3-6"	4-8"	6-8"	--	--	--	--	<b>F</b> -Pale, pale pink to white with dark eye; no vigor early, ok in August <b>D</b> -Not tested
Caribbean Lavender-AT	6	6-8	8	10-12	--	--	--	--	<b>F</b> -Pale lavender; Dull color, not as floriferous as others <b>D</b> -Not tested
Heat Wave Deep Rose-Bod	6	6	10	10	--	--	--	--	<b>F</b> -Good uniformity, better bloom in August than July <b>D</b> -Not tested
Heat Wave Grape-Bod	6-8	6-8	8-10	8-10	--	--	--	--	<b>F</b> -Fuchsia; Did alright, vigorous <b>D</b> -Not tested
Heat Wave Mix-Bod	4-6	4-6	8-10	8-10	--	--	--	--	<b>F</b> -Mix of colors; Did alright <b>D</b> -Not tested
Heat Wave Orchid-Bod	6	6	10	10	--	--	--	--	<b>F</b> -Dull fuchsia; Uniform, did alright <b>D</b> -Not tested
Heat Wave Peppermint-Bod	4-6	3-6	6-8	6-10	--	--	--	--	<b>F</b> -White, red eye; Not as uniform as some, otherwise did alright <b>D</b> -Not tested
Heat Wave Pink-Bod	6	6	10	10	--	--	--	--	<b>F</b> -Uniform, bloomed better in August than July, healthy <b>D</b> -Not tested
Heat Wave White-Bod	6	6	8-10	8-10	--	--	--	--	<b>F</b> -Uniform but not as floriferous as some others <b>D</b> -Not tested
Mediterranean Deep Rose-WFS	4-6	6-8	4-6	12-15	6"	3"	6-8"	12-14"	<b>F</b> -Pretty color, showy, floriferous, vigorous in August <b>D</b> -Slow to bloom, nice color, floriferous in August
Pacifica Apricot-WFS	6	4-6	8	8	--	--	--	--	<b>F</b> -Pale peachy pink to white with dark eye; Uniform, floriferous in August <b>D</b> -Not tested
Pacifica Burgundy-WFS	4-6	4-6	6-8	8-10	--	--	--	--	<b>F</b> -Deep purple pink; Better bloom in July, good uniformity <b>D</b> -Not tested
Pacifica Lipstick-WFS	6	6	6-8	6-10	--	--	--	--	<b>F</b> -Mix of colors; Uniform early but not later, floriferous in August <b>D</b> -Not tested
Pacifica Mix Improved-WFS	4-6	6-8	6-8	6-10	--	--	--	---	<b>F</b> -Mix of colors; Did alright <b>D</b> -Not tested
Pacifica Pink-WFS	4-6	6	6-8	8-10	--	--	--	--	<b>F</b> -Did alright <b>D</b> -Not tested
Pacifica Polka Dot Improved-WFS	4-6	4-6	6-8	6-8	6	3	6-8	12-14	<b>F</b> -White with red eye; More flowers than 'Heat Wave Peppermint', uniform <b>D</b> -Good color and foliage, showy flowers

Stardust Orchid-AAS(00)	2-6	2-6	8-10	8-10	6	3	12	12	<b>F</b> -Fuchsia with white/yellow eye; Pretty flower color, not uniform early <b>D</b> -Slow to bloom, good color and foliage
Trailing Lilac-WFS	2-6	4-8	4-6	10-12	--	--	--	--	<b>F</b> -Fuchsia; Did alright <b>D</b> -Not tested
Trailing White-WFS	4-6	6-8	4-6	8-12	--	--	--	--	<b>F</b> -Did alright <b>D</b> -Not tested

**Celosia species-Celosia.** Some celosia did really well this year while others did poorly. In Fargo, '**Prestige Scarlet**' and '**New Look**' performed well all season, while in Dickinson, '**New Look**' got high marks only at the end of the season. Cultivars that didn't get high marks had dull colors and black spotting on the leaves.

	Fargo				Dickinson				Comments
	July 19		August 20		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
<i>Celosia argentea</i> 'Amigo Mahogany Red'-Ben, Pk	4"	6"	6"	6"	4-6"	3"	4"	2-4"	<b>F</b> -Burgundy flowers and foliage; Floriferous, small plants, uniform <b>D</b> -Browning foliage/flowers and no vigor
<i>C. argentea</i> 'Amigo Mix'-Ben	4-6	4-6	4-6	4-6	4-6	4-6	4	4-6	<b>F</b> -Mix of colors; Uniform but small and colors weren't very showy <b>D</b> -Nice early but lost vigor by August and flowers were browning
<i>C. argentea</i> 'Castle Mix'-AT	6-10	6-10	6-10	6-8	--	--	--	--	<b>F</b> -Mix of colors; Not very uniform and leaf spots present <b>D</b> -Not tested
<i>C. argentea</i> 'Castle Orange'-AT	6-8	6-8	6-8	6-8	--	--	--	--	<b>F</b> -Lacked vigor, Dull color, leaf spotting <b>D</b> -Not tested
<i>C. argentea</i> 'Gloria Mix'-Ben	6-8	6	4-8	4-6	--	--	--	--	<b>F</b> -Mix of colors; Uniform early but not in August, dull colors, lacked vigor <b>D</b> -Not tested
<i>C. argentea</i> 'New Look'-Ben	8-10	6-8	10-12	8-10	12	3	14-16	10-12	<b>F</b> -Red plumes, burgundy foliage; Very nice, floriferous and vigorous <b>D</b> -Nice color and bloom mass by August
<i>C. argentea</i> 'Prestige Scarlet'-AAS(97)	8	6	10	8-10	9-12	4	14	14-16	<b>Fargo</b> -Red-deep green and burgundy foliage; Healthy, floriferous, nice <b>Dickinson</b> -Slow to flower, good uniformity, 3 plants dead by August
<i>C. spicata</i> 'Flamingo Feather'-Bur	12-15	6	10-15	8-10	--	--	--	--	<b>F</b> -Pink; Flower color washed out, floriferous but needs deadheading <b>D</b> -Not tested
<i>C. spicata</i> 'Pink Candle'-AT	12-14	6-8	12-14	8-10	--	--	--	--	<b>F</b> -Flower color washed out and needs deadheading <b>D</b> -Not tested
<i>C. spicata</i> 'Purple Flamingo'-Pk	8-14	6-8	18-20	10-12	--	--	--	--	<b>F</b> -Lavender blooms, burgundy/green foliage; Slow to bloom, nice in August <b>D</b> -Not tested

**Cleome hassleriana-Spider Flower.** Spider flower was one of our top performers last year but failed to do well in 1999. Many died after transplanting and the remaining ones lacked vigor and were falling over.

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Mixed-Pk	12-20"	8-10"	20-24"	12-15"	Plants fell over, never had any vigor and few blooms

**Clanthus formosus-Desert Pea.** This native of Australia was a newcomer to the gardens this year and unfortunately was not one of the top performers. It produces striking scarlet red flowers with a blue/black eye but if it bloomed in our gardens it was missed. Because it is a trailing plant it is recommended for baskets or window boxes. It should do well in warm and dry locations.

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Desert Dragon-Pk	6-8"	18-20"	6-8"	to 36"	Never had any visible flowers, looked like a weed

**Cosmos species-Cosmos.** The cosmos performed best early in the season in Fargo while in Dickinson they did well all summer. By August, most in Fargo had become overgrown and some had declined in bloom. **'Cosmic Orange'**, a 2000 All-America Selection, performed the best.

	Fargo				Dickinson				
	July 19		August 20		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
<i>Cosmos bipinnatus</i> 'Tickle Pink'-Gri	24"	12-15"	24-30"	15-20"	--	--	--	--	<b>F</b> -Fell over, lots of ferny foliage but few flowers <b>D</b> -Not tested
<i>C. sulphureus</i> 'Bright Lights Mix'-Unk	12-15	10-12	12-15	12-15	--	--	--	--	<b>F</b> -Yellow, golds; Fuller plants and more flowers than 'Lemon Twist' <b>D</b> -Not tested
<i>C. sulphureus</i> 'Lemon Twist'-Pk	10-14	6-10	10-12	6-8	--	--	--	--	<b>F</b> -Yellow; Lots of dead heads obvious, no vigor, no uniformity early <b>D</b> -Not tested
<i>C. sulphureus</i> 'Cosmic Orange'-Ben, AAS (00)	12-15	10-12	12-15	12-15	12"	3-4"	12"	8-10"	<b>F</b> -Bright orange; Showy, uniform early; being overrun by 'Tickle Pink' later

										<b>D</b> -Bright flowers and good bloom quality
<i>C. sulphureus</i> 'Cosmic Yellow'-Ben	10-15	10-12	12-15	12-15	12	3-4	12	8-10		<b>F</b> -Not as floriferous or showy as 'Cosmic Orange' <b>D</b> -Nice yellow flowers but less bloom than 'Cosmic Orange'

**Cuphea purpurea-Cuphea.** This is the first year we've had cuphea in the test gardens and it did quite well. Despite an aphid invasion in July, the plants were healthy, vigorous and floriferous.

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Firefly-Pk	10"	10-12"	10"	12-15"	Bright red flowers; Aphids in July didn't bother plant and they were gone in August; floriferous, full, healthy

**Dahlia species-Dahlia.** The dahlias didn't perform very well this year. Although most of the plants were healthy, they didn't bloom well in Fargo or Dickinson.

	Fargo				Dickinson				
	July 19		August 20		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
<i>Dahlia hortensis</i> 'Figaro Mix'-Pk	6-12"	6-12"	8-14"	8-12"	--	--	--	--	<b>F</b> argo -Mix of colors; Lacked uniformity and didn't bloom much <b>D</b> ickinson-Not tested
<i>D.</i> hybrid 'Sunny White'-AT	6-12	8-10	8-12	8-12	--	--	--	--	<b>F</b> -Creamy white; Did alright but didn't bloom much <b>D</b> -Not tested
<i>D. variabilis</i> 'Garden Pride'-Ben	8-12	10-12	10-12	12-15	9"	6"	8-14"	8-12"	<b>F</b> -Mix of colors; Didn't bloom well <b>D</b> -Healthy foliage but didn't bloom well or uniformly

**Dianthus chinensis-Pinks, Dianthus.** This is one group of plants that is pretty reliable in our region. '**Melody Pink**', an All-America Selection for 2000, was one of our top performers in Fargo. It produced pink flowers on long stems that are good for cutting. '**Telstar Picotee**' is another that did well in Fargo.

	Fargo				Dickinson				
	July 19		August 20		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	

Melody Pink-AAS (00)	12"	8-10"	12-14"	10-12"	12-18"	4-6"	14"	8-10"	<b>F</b> -Mauve-pink; Uniform, healthy, showy all season, especially nice in Aug. <b>Dickinson</b> -Leggy, some yellowing foliage, slow to bloom.
Princess Crimson Eye-GS	6	6	6-8	6-8	--	--	--	--	<b>F</b> -Deep maroon, lighter edges; Floriferous, uniform early, past peak bloom later <b>D</b> -Not tested
Princess Mix-GS	4-6	6-8	6-8	8-10	--	--	--	--	<b>F</b> -Mix of colors; Didn't bloom uniformly, past peak bloom in August <b>D</b> -Not tested
Raspberry Parfait-GS	4-6	6	4-6	6-8	--	--	--	--	<b>F</b> -Maroon with lighter edge; Uniform in size but not bloom time <b>D</b> -Not tested
Strawberry Parfait-GS	4-6	6	4-6	8-10	--	--	--	--	<b>F</b> -Red eye, light pink edge; Uniform in size but not bloom time <b>D</b> -Not tested
Telstar Picotee-AAS(89)	8	8	8-10	8-10	--	--	--	--	<b>F</b> -Deep pink with white edge; Nice healthy plants, more blooms than others <b>D</b> -Not tested

***Diascia barberae*-Twinspur.** Another new one in the beds this year, Diascia gets its common name from the two spurs at the base of the flower (similar to larkspur). Although touted as an up and coming annual, this particular cultivar did not fare well in our garden this year.

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Pink Queen-Pk	8"	4"	8"	8"	Pink; Three of the six plants we put out in June were dead by July, no vigor

***Dyssodia tenuifolia (Thymophylla tenuiloba)*-Dahlberg Daisy.**

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Golden Fleece-Exp	6"	8-10"	6"	10-12"	Yellow; Two plants dead by July-the rest dying by August, possible Aster Yellows

***Eucalyptus cinerea*-Eucalyptus.** This is a commonly used fresh and preserved florists foliage. It did quite well in the beds early but declined some by August.

	Fargo		
	July 19	August 20	Comments



	Hgt.	Spr.	Hgt.	Spr.	
<i>Eucalyptus cinerea</i> -Pk	12-20"	10-12"	24"	10-15"	Gray green foliage; Healthy early but falling over, some leaf spots in August

***Eustoma grandiflorum*-Lisianthus.** Although this is usually one of my favorite flowers, plant vigor and bloom quality have been poor in recent years. This year none of the cultivars performed well.

	Fargo				Dickinson				Comments
	July 19		August 20		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Echo Blue-Pk	6-12"	4-6"	6-12"	4-6"	--	--	--	--	<b>F</b> -Double blue-lavender; Never very healthy and didn't bloom much <b>D</b> -Not tested
Echo Mixed-Pk	8-12"	4-6"	6-12"	4-6"	--	--	--	--	<b>F</b> -Mix of colors-double blossoms; Pretty flowers but no vigor and didn't bloom much <b>D</b> -Not tested
Echo Pink-Pk	6-12"	4-6"	6-10"	4-6"	--	--	--	--	<b>F</b> -Double pale pink; Heavy heads bending stems, only one really nice plant <b>D</b> -Not tested
Echo Pink Picotee-Pk	10-12"	4"	8-12"	4-6"	--	--	--	--	<b>F</b> -White with pink edges-double; No vigor, poor bloom quality <b>D</b> -Not tested
Heidi Hybrid-Pk	6-12"	2-4"	6-10"	4-6"	--	--	--	--	<b>F</b> -Mix of colors; Poor, no vigor <b>D</b> -Not tested
Lizzy Blue-GS	4-6"	4"	4-6"	4-6"	3-4"	3"	6"	2-4"	<b>F</b> -Lavender to purple; no vigor, not very showy <b>D</b> -Poor
Lizzy Pink-GS	4-6"	4-6"	4-6"	4-6"	3-4"	3"	2-6"	3-5"	<b>F</b> -Mauve-pink; no vigor, poor show of blooms <b>D</b> -Poor
Lizzy White-GS	4"	2-4"	6"	4-6"	3-4"	3"	4"	2-3"	<b>F</b> -All buds turned brown and dried up, poor, no vigor <b>D</b> -Poor, although did the best of the lisianthus in Dickinson
Red Glass-Pk	2-4"	2"	4"	2"	--	--	--	--	<b>F</b> -Poor, never bloomed, only two plants survived transplanting <b>D</b> -Not tested

***Gaillardia pulchella* -Gaillardia.** Gaillardia is a reliable annual and perennial in this part of the country. '**Red Plume**' has consistently done well each year we've grown it.

	Fargo				Comments
	July 19		August 20		
	Hgt.	Spr.	Hgt.	Spr.	

Red Plume-AAS(91)	8-10"	10-12"	10-12"	12-15"	Burgundy-rust colored flowers; Uniform, floriferous, nice in July, not blooming uniformly in August
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**Gazania species-Gazania.**

	Fargo				Dickinson				Comments
	July 19		August 20		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
<i>G. rigens</i> 'Daybreak Mix'-Pk	6-8"	6-12"	8-10"	8-12"	--	--	--	--	<b>F</b> -Mix of golds, yellows, peaches; Nice colors but didn't bloom uniformly <b>D</b> -Not tested
<i>G. splendens</i> 'Talent'-Pk	8-10"	10-12"	8-10"	10-12"	--	--	--	--	<b>F</b> -Mix of orange, lavender, yellow; Gray foliage, fairly uniform and floriferous <b>D</b> -Not tested
<i>G. splendens</i> 'Talent Yellow'-Ben	8-10"	10-12"	8-10"	10-12"	( )	( )	6"	4-6"	<b>F</b> -Didn't bloom uniformly <b>D</b> -Rabbits ate early in season; was doing better by August

**Gerbera jamesonii-Gerbera, Transvaal Daisy.** Every year that we've grown this in the trial gardens it has done poorly and therefore is not recommended as a bedding plant. This year again they were poor and lacked vigor.

	Fargo				Comments
	July 19		August 20		
	Hgt.	Spr.	Hgt.	Spr.	
Festival-Da	2-6"	2-6"	6-8"	6-8"	Mix of colors; No vigor, not blooming much
Mardi Gras-Da	4-6"	4-6"	4-8"	6-8"	Mix of colors; No vigor and not blooming much
Masquerade-Da	4-8"	6-8"	4-8"	6-8"	Mix of colors; Had the most blooms of the three cultivars but still poor and no vigor

**Gomphrena -Globe Amaranth.** Globe amaranth usually does well in our trial beds in Fargo. This year '**Bicolor Rose**' was one of the better performers. Gomphrena not only does well in the garden, it can be harvested and used as a fresh cut flower or dried for later use.

	Fargo				Comments
	July 19		August 20		
	Hgt.	Spr.	Hgt.	Spr.	
<i>G. globosa</i> 'Gnome'-Pk	2-"	2-6"	6-"	8-"	White, rose, lavender; Not uniform, small but healthy, some rabbit damage early in

	6"	10"	12"	season	
<i>G. globosa</i> 'Bicolor Rose'-JSS	12	10-12	12-14	12-15	Mauve with white center; Floriferous, healthy, showy; rabbits chewed on a couple plants early in season
<i>G. haageana</i> 'Strawberry Fields'-Pk	8-10	4-10	10-14	10-15	Red; Not as vigorous as 'Bicolor Rose' and didn't bloom as well as it has in the past

***Gypsophila muralis* -Annual Baby's Breath.**

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Garden Bride-Da	2-4"	6-10"	4"	6-10"	Pale pink; Did alright, had more vigor than 'Gypsy'
Gypsy-Da, AAS(97)	2-4	6	2-4	6-8	Pale pink double flowers; Was next to the sunflower which were falling into the baby's breath

***Helianthus annuus*-Sunflower.** Sunflower continue to do poorly in Fargo. Between the insects and the powdery mildew, these two cultivars looked pretty pathetic by August. The Dickinson plants did alright but an early August hail storm caused some visible damage to the leaves.

	Fargo				Dickinson				
	July 19		August 20		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Ikarus-Ben	24-36"	10-12"	36"	10-12"	24-30"	( )	24-46"	24"	<b>Fargo</b> -Lemon yellow; No vigor due to insects and powdery mildew <b>Dickinson</b> -Plants were healthy early but showed some hail damage in August
Soraya-Ben, AAS (00)	24-40	10-12	36	( )	30-36	( )	40-46	( )	<b>F</b> -Golden orange; Same problems as Ikarus <b>D</b> -More uniform than Ikarus; also had hail damage

***Helichrysum species* -Strawflower.** This plant is grown mainly to be harvested for the floral design class held in the spring. It usually looks weedy and this year was no exception.

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	

<i>H. bracteatum</i> 'Bikini Mix'-JSS	10-12"	10-12"	10-24"	12-15"	Mix of colors; Floriferous, heads should have been harvested more often
<i>H. monstrosum</i> 'Mix'-Pk	12-24	10-18	20-36	10-12	Mix of colors; Not blooming much and looks like Aster Yellows may be present on some plants
<i>H. monstrosum</i> 'White'-Pk	18-24	10-12	24-30	10-12	Not blooming much, looks like Aster Yellows here, too

***Hibiscus sabdariffa*-Hibiscus.**

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Sunset Hibiscus-Pk	10-18"	10-12"	30"	15-20"	Never bloomed but was healthy and had attractive burgundy stems and petioles

***Hypoestes phyllostachya*-Polka Dot Plant.**

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Confetti Mix-Da	2-10"	2-10"	4-12"	10-12"	Vigorous plants, attractive coloration although lacking uniformity between colors

***Iberis umbellata*-Candytuft.**

	Fargo				
	July 19		August 20		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Fairy Mix-Unk	6-10"	2-6"	6-8"	4-6"	Pink, lavender; Not uniform and lacked vigor

***Impatiens wallerana*-Impatiens.** The impatiens in Fargo were much more vigorous and healthy than those in Dickinson, which has been the normal observation. '**Accent Lilac**', '**Accent Watermelon**', '**Carnival Blush (8414)**', '**Carnival Orange**', and '**Mosaic Rose**' all received high marks during both evaluations in Fargo. In Dickinson, '**Accent Orange**' did alright early but still lacked vigor and bloom.

Impatiens	Fargo				Dickinson				Comments
	July 19		August 24		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Accent Bright Eye-GS	4-6"	6-8"	6-10"	10-12"	2-3"	4-6"	4"	6-7"	<b>F</b> -Pale pink-dark eye; Uniform floriferous and healthy early; alright later <b>D</b> -Spreading well but few blooms
Accent Coral-GS	4	6-8	6-8	10-12	2-3	4-6	4	6	<b>F</b> -Pale coral pink; Uniform and floriferous, nice-especially in August <b>D</b> -Nice color; doing alright for Dickinson
Accent Cranberry-GS	2-4	( )	10	12	2-3	4-6	4	4-6	<b>F</b> -Burgundy; Very uniform by August; nice floral display <b>D</b> -Color dull
Accent Lavender Blue-GS	4-6	6-8	12-14	12-14	2-3	4-6	4-5	6-7	<b>F</b> -Pale lavender; Vigorous, floriferous and uniform in August <b>D</b> -Showy, lavender flowers; Good vigor for Dickinson plants
Accent Lilac-GS	4-6	6-8	12-15	12-14	1-3	3-4	3-4	4-5	<b>F</b> -Deep lavender, fuchsia; Floriferous, showy and uniform the whole season <b>D</b> -Late to bloom; a few good bloomers by August
Accent Limited Edition Mix-GS	4-6	6-8	6-10	10-12	2-4	3-6	3-4	5-6	<b>F</b> -Mix of colors; Not as floriferous as other impatiens <b>D</b> -Lacked uniformity in blooming
Accent Orange-GS	4-6	8-10	8-10	12-14	3-4	4-6	4	4-6	<b>F</b> - Bloomed better early in season <b>D</b> -Blooming well early; no blooms later but good, dense foliage
Accent Pink-GS	4	6-8	6	12	2-3	2-4	4	3-4	<b>F</b> -Light pink-dark eye; Uniform, floriferous, healthy-especially by August <b>D</b> -Few flowers and no vigor
Accent Red-GS	4-6	8-10	10	12-14	2-3	3-4	4	4-5	<b>F</b> - Nice mound of color early but not as floriferous by August <b>D</b> -Average vigor for Dickinson, few blooms
Accent Violet-GS	4-6	6-8	12-15	12-15	2-3	3-4	4-5	4-6	<b>F</b> -Deep lavender fuchsia; Full and vigorous, especially by August <b>D</b> -Slow to bloom but nice flowers by August
Accent Watermelon-GS	4-6	6-8	10-12	12-14	2-3	4-6	4	4-6	<b>F</b> -Bright, deep coral; Pretty color, vigorous, floriferous, uniform <b>D</b> -Some flowers by August
Accent White-GS	4-6	6-8	6-10	10-14	2-3	2-3	4	4-5	<b>F</b> -White; Did alright but not as floriferous as others <b>D</b> -Half the plants died, no flowers on others-even by August
Carnival Blush 8403-Da	2	6	2-6	8-12	--	--	--	--	<b>F</b> -Coral pink; Did alright but not as floriferous as some others <b>D</b> -Not tested
Carnival Blush 8414-Da	4	6-8	6-8	12-14	--	--	--	--	<b>F</b> -Pale pink to white; Floriferous and uniform all season <b>D</b> -Not tested
Carnival Burgundy 8023-Da	2-4	4-8	6-8	12-14	--	--	--	--	<b>F</b> -Deep fuchsia pink; Not uniform early but nice and floriferous in August <b>D</b> -Not tested
Carnival Deep Pink-Da	2-4	6	4-8	10-12	--	--	--	--	<b>F</b> -Did alright <b>D</b> -Not tested
Carnival Deep Rose-Da	4-5	6-8	6-8	10-14	--	--	--	--	<b>F</b> -Nice color, floriferous but not as uniform as some others <b>D</b> -Not tested

Carnival Lilac-Da	2-4	4-6	6-10	10-14	--	--	--	--	<i>F</i> -Deep fuchsia; Not much vigor early but floriferous and full by August <i>D</i> -Not tested
Carnival Metallic Deep Salmon-Da	2-4	8	10-12	12-14	--	--	--	--	<i>F</i> -Not as floriferous as others in July but by August was nice and full <i>D</i> -Not tested
Carnival Metallic Lilac-Da	4	6-8	6-10	10-14	--	--	--	--	<i>F</i> -Deep pink mauve; Did alright but wasn't blooming uniformly <i>D</i> -Not tested
Carnival Mix-Da	2-4	4-8	8-12	10-12	--	--	--	--	<i>F</i> -Mix of colors; Not uniform between colors, lots of white <i>D</i> -Not tested
Carnival Orange-Da	4	6-8	6-8	12-14	2-3	2-3	2-3	2-3	<i>F</i> -Floriferous, uniform, full and healthy all season <i>D</i> -Fewer blooms than 'Accent Orange', no vigor in August
Carnival Pink-Da	2-4	6-8	4-10	8-14	--	--	--	--	<i>F</i> -Lacked uniformity compared to other cultivars <i>D</i> -Not tested
Carnival Red-Da	4	6-8	6-10	10-14	--	--	--	--	<i>F</i> -Not as full, floriferous or uniform as other cultivars <i>D</i> -Not tested
Carnival Rose-Da	4	6-8	6-8	10-12	--	--	--	--	<i>F</i> -Nice color but not as uniform as some others, floriferous <i>D</i> -Not tested
Carnival Salmon-Da	2-4	4-8	6-12	10-14	--	--	--	--	<i>F</i> -Salmony-orange; Not as uniform as some others but bloomed well <i>D</i> -Not tested
Carnival Scarlet-Da	4-6	6-8	6-8	12-14	--	--	--	--	<i>F</i> -Orange-red; Floriferous, did alright <i>D</i> -Not tested
Carnival Violet/ Cranberry 8215-Da	2-4	4	6	8-10	--	--	--	--	<i>F</i> -Burgundy; Not as much vigor as others <i>D</i> -Not tested
Carnival White-Da	4	6-8	4-8	8-14	--	--	--	--	<i>F</i> -Not uniform and one plant was dying by August <i>D</i> -Not tested
Mosaic Lilac-GS	4-5	6-8	12-15	12-15	2-3	3-4	4-5	4-7	<i>F</i> -Pale lavender with white spots; Floriferous and full but color a bit dull early <i>D</i> -Slow to bloom but did alright later in season
Mosaic Rose-GS	4-6	6-8	8	12-14	3-4	3-4	4-5	4-6	<i>F</i> -Pink with white speckles; Nice color; full, healthy plants all season <i>D</i> -A little more vigor than other impatiens in the Dickinson plots
Mosaic Violet-GS	4-5	6-8	12-15	12-15	2-3	3-4	4-5	4-6	<i>F</i> -Pale lavender with white spots; Filled out nicely by August; healthy <i>D</i> -Slow to bloom but did alright for Dickinson
Sun and Shade Violet-Gri	2-4	4-8	6-10	10-12	2-3	3-4	4	4-5	<i>F</i> -Deep lavender-fuchsia; Half the plants died, by August they were doing o.k. <i>D</i> -Good color, looking good for Dickinson
Victorian Rose-AAS(98), GS	4	6-8	4-8	8-12	2-3	4-6	4	4-6	<i>F</i> -Hot pink double blossoms; Not as floriferous or uniform as others <i>D</i> -Not very vigorous and slow to bloom

***Incarvilla sinensis*-Incarvilla.** This was another new one in the trial gardens this year and it did quite well. Although relatively unknown, it seemed easy to grow and thrived in our heavy clay soil.

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Cheron-Pk	10-12"	6-8"	14"	12-14"	Small, white trumpet shaped flowers and ferny foliage; Not too impressive early but floriferous and showy later, different and unique

**Kniphofia uvaria-Tritoma, Red Hot Poker.** This All-America Selection for 1999 has not been very impressive in the test gardens. Although the flowers are very attractive, they plants don't produce many and they don't bloom uniformly.

	Fargo				Dickinson				
	July 19		August 24		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Flamenco-AAS (99)	6-12"	2-6"	12-20"	2-10"	18-20"	( )	12-18"	6-12"	<b>Fargo</b> -Orange, gold; Didn't bloom much and not much vigor  <b>Dickinson</b> -Also not uniform and slow to bloom

**Laurentia axillaris-Rock Isotome.** This was the first year for Laurentia in the trial garden. Despite taking a while to bloom (mid-August), it did well and the foliage formed neat 8-10" high mounds

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Blue Stars-Pk	4"	6"	8"	12"	Blue star-shaped flowers; Very slow to bloom but nice foliage, healthy plants, pretty flowers

**Lavandula angustifolia-Lavender.**

	Fargo				
	July 9		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	



Lady-AAS(94)	6-10"	6-8"	10-12"	10-12"	Lavender; slow to bloom but nice show in August
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**Lavatera trimestris-Herb Tree Mallow.**

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Mont Blanc-Pk	12-15"	8-10"	8-14"	8-10"	White; Bloom was o.k. in July but plants falling over, in August they were past their peak bloom
Mont Rose-Pk	15-20	10-12	12-15	8-12	Pink; Nice show of color in July, also falling over and past peak bloom in August

**Leonotis leonarus-Lion's Ear.** This would be a good choice for someone wanting a large, unique looking plant in their garden. Orange flowers open at stair-step intervals forming a ball around the stem. Flowers aren't too showy but the 6' tall plants are.

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Staircase-Pk	30"	15"	to 72"	15-20"	Orange; Didn't bloom until August but was unique and tall; need lots of space for this one

**Limonium sinuatum-Statice.**

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Friendly Yellow-AT	6-12"	6-10"	8-10"	8-10"	Lacked vigor, dying by the August evaluation
Light Blue-Ben	2-6	10-12	to 18	12-15	Slow to bloom, did alright into August
Premium Carmine-Gri	8-14	10-12	12-15	15-18	Mauve; Nicest of statice, good bloom
Sinuata Mix-McF	4-15	8-14	to 20	12-15	Not uniform and slow to bloom
Soiree Mix-Pk	6-12	6-14	to 20	15-20	Not uniform and slow to bloom

**Linaria-Toadflax.** This relative of the snapdragon blooms best in the cooler weather of late spring and early fall. Although a top performer in Dickinson in 1997, this one has not done well since..

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Fantasy Blue-AT	4-6"	4-8"	6-8"	8-10"	Lavender blue; Not uniform in size or bloom, by August two plants had died
Fantasy Magenta Rose-AT	5-6	4-6	6	10	Deep rose; Looked okay in July but by August only 1 of 6 plants still alive
Fantasy Speckled Pink-AT	2-6	2-6	4-6	6-8	Deep pink; No vigor, 3 of 6 died by August
Fantasy White-AT	2-8	4-8	4-6	4-6	Not blooming uniformly, 3 of 6 died by August
Fantasy Yellow-AT	6	4-6	4-6	4-6	Most uniform of the group; by August only 2 of 6 alive

**Lobelia erinus-Lobelia.** Once again, the lobelia did not do well in Fargo. They lacked vigor and were not very uniform.

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Fountain Mix-Pk	2-3"	2-4"	2-6"	3-8"	Mix of blues, white, lavender, maroon; No vigor and not uniform
Palace Blue w/Eye- Bod	2-3	1-4	2-4	2-6	Deep blue with white eye; Small, no vigor, 3 of 6 died
Riviera Midnight Blue-Pk	2	2	2-3	3-4	Deep blue; Small, no vigor but uniform plants

**Lobularia maritima-Alyssum, Sweet Alyssum.** The alyssum did very well this year as they usually do. They were all uniform, floriferous and showy-especially into late August and September.

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Easter Basket Mix-Pk	3-	8-	4-	12-	White, pale pink, pale lavender; Uniform, showy, nice mounds of color

	6"	10"	6"	14"	
Golf-CI	3-6	8-10	4-6	12-14	White, lavender, pink, purple; Floriferous and healthy although not quite as uniform as some others
Snow Crystals-RS	4-6	8	6-8	12-14	White; Floriferous, healthy, uniform all season
Snowcloth Improved-Pk	3	8-10	3-4	12-15	White; Nice mounds of color, uniform, healthy
Wonderland Mix-Bod	2-4	4-10	2-6	6-10	Pinks, lavenders; Poorest of the group but still did alright, not as uniform or vigorous as others
Wonderland Pastel Pink-Bod	2	6-8	2-4	8-12	Lavender pink; Did poorly in July but were nice little plants by August

***Lupinus nanus*-Dwarf Lupine.**

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Pixie Delight-Pk	10-12"	6-8"	6"	10"	Lavender blue; Didn't transplant well, only two of six plants alive for July evaluation, they were falling over

***Malope trifida*-Malope.** This didn't transplant well; five of the six plants in the trial bed died. The surviving plant was slow to bloom although it looked nice in August.

	Fargo				
	July 19		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Pink Queen-Pk	6"	4"	10"	12"	Only one of six plants survived and rabbits chewed on that early in the season; by August that one plant was nice

**Melampodium paludosum-Melampodium.** The melampodium once again did very well in Fargo, particularly during August and September. The plants were bright, balls of golden yellow and were healthy and vigorous. In Dickinson, they also performed well and produced a good mass of color.

	Fargo				Dickinson				
	July 19		August 24		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Derby-Ben	6-10"	6-10"	10-14"	12-14"	--	--	--	--	<b>Fargo</b> -Gold; Lacked uniformity in height but blooming very well in August, vigorous <b>Dickinson</b> -Not tested
Million Gold-AT	4-8	6-8	8-10	12-14	--	--	--	--	<b>F</b> -Gold; Uniform, vigorous, floriferous and healthy in July <b>D</b> -Not tested
Showstar-Ben	8-10	8-10	10-14	12-14	6-9"	4-6"	12"	10-12"	<b>F</b> -Gold; Uniform, healthy, vigorous, nice all season, one of the top performers <b>D</b> -Nice shape and good color mass

**Monarda x hybrida-Monarda, Beebalm.** This half-hardy perennial is generally treated as an annual in our area. Although slow to bloom, it did well by August.

	Fargo				
	July 20		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Lambada-Pk	12-15"	10-15"	15-20"	12-15"	Lavender whorls of flowers; Not blooming much in July but was showy and full by August

**Nicotiana alata (N. affinis)-Flowering Tobacco.** The flowering tobacco did well most of the season. The main problem were potato beetles that persisted despite several applications of insecticide. As a result, some of the cultivars were quite defoliated by the August evaluation and didn't rate as highly as they could have. '**Havana Lilac Rose**' did well all season despite the bug pressure.

	Fargo				Dickinson				
	July 20		August 24		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Havana Appleblossom-Da	8-10"	10-12"	8-10"	10-12"	--	--	--	--	<b>Fargo</b> -White-pink backs; Potato beetles present in July, was doing alright in August

									<i>Dickinson</i> -Not tested
Havana Carmine Rose-Da	8-10	8-12	6-10	6-12	--	--	--	--	<i>F</i> -Deep red pink; Uniform and floriferous in July, past peak bloom in August <i>D</i> -Not tested
Havana Lilac Rose-Da	10	10-12	10	10-12	--	--	--	--	<i>F</i> -Deep mauve rose; Floriferous, uniform, healthy all season, best of group in Aug. <i>D</i> -Not tested
Havana Mix-Da	6-12	8-12	6-12	6-12	--	--	--	--	<i>F</i> -Mix of colors; Lacked uniformity in size and bloom time <i>D</i> -Not tested
Havana True Lime-Da	6-8	8-12	8-10	8-10	--	--	--	--	<i>F</i> -Pale green yellow; Did alright but flowers weren't very showy <i>D</i> -Not tested
Havana White-Da	6-12	8-12	8-14	12-14	--	--	--	--	<i>F</i> -Not uniform in size <i>D</i> -Not tested
Saratoga Lime-GS	8-10	8-10	8-10	8-10	8-10"	6-10"	10-11"	9-10"	<i>F</i> -Pale yellow green; Floriferous and uniform early but past peak bloom by August <i>D</i> -Uniform and floriferous
Saratoga Purple Bicolor-GS	8-10	6-10	6-10	6-10	8-10	6-10	8-12	10-16	<i>F</i> -Two tone deep-light pink; Not as uniform as some others <i>D</i> -Not as uniform or full as some others
Saratoga Red-GS	6-8	6-10	4-8	4-8	6-8	6-8	10-11	8-10	<i>F</i> -Deep red; Lacked uniformity in bloom and size; past peak bloom in August <i>D</i> -Uniform but plants smaller than some others and color was a bit dull
Saratoga Rose-GS	6-8	6-10	4-8	4-8	8-10	8-10	12-14	12-14	<i>F</i> -Deep fuchsia; One of the nicer cultivars in August <i>D</i> -Did well; nice bloom on vigorous plants
Saratoga White-GS	6-8	6-10	6-8	6-8	4-8	6-10	6-9	4-12	<i>F</i> -Dead heads more obvious on this cultivar than others <i>D</i> -Not uniform in size and less blooms than other cultivars

**Nierembergia-Cupflower.** A nice edging plant similar to alyssum in habit but with larger, cup shaped flowers. This one has consistently performed well in the trial garden.

	Fargo		
	July 20	August 24	Comments

	Hgt.	Spr.	Hgt.	Spr.	
Mont Blanc-AAS (93)	2-4"	8-10"	4-6"	10-12"	White; Healthy and floriferous all season

### **Osteospermum-Cape Marigold, African Daisy**

	Fargo				Dickinson				Comments
	July 20		August 24		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Passion Mix-AAS (99)	8-12"	10-12"	12-14"	12-14"	12"	6-10"	12-13"	10-12"	<b>Fargo</b> -Mix of colors; Healthy, uniform and nice in July; not blooming much in Aug. <b>Dickinson</b> -Wasn't blooming well during either evaluation time

**Pelargonium x hortorum-Geranium.** The geraniums in Fargo looked better this year than in any of the other ten years that I've been doing the evaluations. There were very few that weren't highly rated at least one of the evaluation times. **'Bubble Gum'** was a particular favorite of the evaluator in Dickinson, while the **Maverick** series, particularly **'Maverick Star'**, did well in Fargo all season. **'Kim'**, **'Evening Glow'** and **'Lucille'** (a floribunda geranium) also did well in Fargo over the course of the season.

Geranium	Fargo				Dickinson				Comments
	July 20		August 24		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Bubble Gum-Ogl	8"	8-10"	10-12"	10-12"	6-8"	6"	( )	( )	<b>Fargo</b> -Two tone pink/dark pink; Floriferous and uniform, especially early <b>Dickinson</b> -Favorite geranium in Dickinson plots; floriferous, pretty, etc.
Cotton Candy-Ogl	6-8	8-10	10	12-14	8-10	6-8	8-10"	7-9"	<b>F</b> -Salmon-pink; Uniform, compact, blooming best in August <b>D</b> -Uniform and floriferous
Evening Glow-Ogl	8-10	10-12	10-12	12-15	6-8	6-8	10-12	8-12	<b>F</b> -Deep red-coral; Floriferous, uniform, bright color; nice plants <b>D</b> -Nice bright color but a little uneven in shape and size of plants
Fireball-Ogl	8	8-10	6-8	8-12	4-8	6	6-10	6-7	<b>F</b> -Orange-red; Uniform, dead heads more evident here; a bloom lull in Aug. <b>D</b> -Less uniform than the others

Jessica-Ogl	6-8	8-10	10-12	10-12	6	6-8	6-8	8-11	<b>F</b> -Deep red-pink; Not as vigorous as 'Lucille' but floriferous and uniform <b>D</b> -Not uniform in size later in the season
Kim-Ogl	10	8-10	10-12	10-12	6-8	6-8	9-12	10	<b>F</b> -Orange-red; Floriferous, uniform, healthy, nice all season <b>D</b> -Good bloom vigor but uneven in size and bloom time
Lucille-Ogl	10	10-12	12-14	12-14	8-10	8	14-15	16-20	<b>F</b> -Red-coral; Pretty color and lots of blooms, plants vigorous and nice <b>D</b> -Bloomed well, bright color
Maureen-Ogl	6-8	8-10	8	10-12	6-8	6	8-10	8-10	<b>F</b> -White-coral edge; Not as floriferous or uniform as 'Lucille' <b>D</b> -Good bloom vigor and fairly uniform in size
Maverick Coral-GS	10-12	8-10	12-14	12-14	12	6-8	17-18	14-15	<b>F</b> -Deep red coral; Healthy, uniform and floriferous <b>D</b> -Healthy plants, nice color
Maverick Light Salmon-GS	10-12	8-10	12-14	12-14	10	6-8	18	16	<b>F</b> -Pale pink; Lacked some uniformity early but nice by August <b>D</b> -Color faded a bit
Maverick Pink-GS	8-10	10-12	12-14	12-14	10	6-8	12-14	8-12	<b>F</b> -Dark pink-white center; Uniform, floriferous, healthy, nice <b>D</b> -Bright, clear color but few blooms
Maverick Red-GS	10-12	8-12	12-15	12-14	10	6-8	( )	( )	<b>F</b> -Bright red; A little less uniform than some in July but very nice in August <b>D</b> -Good bloom quality
Maverick Salmon-GS	10-12	8-10	12-14	12-14	10	6-8	( )	( )	<b>F</b> -Dark pink-salmon; Uniform, floriferous, healthy and nice all season <b>D</b> -Bloom was a little uneven
Maverick Scarlet-GS	10-12	8-10	12-14	12-14	6-8	6	15-16	12-14	<b>F</b> -Orange red; Full, vigorous, floriferous all season <b>D</b> -Uniform and floriferous, particularly in August
Maverick Star-GS	10-12	10-12	12-15	12-15	10-12	6-8	18	12-14	<b>F</b> -Two tone light and dark pink; Showy, floriferous-always does well here <b>D</b> -Slow to bloom; healthy
Maverick Violet-GS	10-12	10-12	12-14	12-14	8	6-8	15	13-14	<b>F</b> -Bright fuchsia; Floriferous, uniform bright all season <b>D</b> -Healthy, vigorous, bright-especially in August
Maverick White-GS	10-12	8-10	12-14	12-14	8	6-8	16	14	<b>F</b> -Lacked uniformity early but was very nice by August <b>D</b> -Showy, healthy, vigorous
Multibloom Capri-GS	6-8	8-10	8-10	10-	--	--	--	--	<b>F</b> -Deep coral; Not as vigorous or uniform as others but blooming



				12					well <b>D</b> -Not tested
Multibloom Light Salmon-GS	6-8	6-10	8-10	8-10	--	--	--	--	<b>F</b> -Pale pink salmon; Not as uniform as Maverick Salmon but did alright <b>D</b> -Not tested
North Star-Ogl	10	10	12	12	6-8	6	6-8	10-12	<b>F</b> -White; Dead heads a bit more evident but blooming well early, uniform <b>D</b> -Nice uniformity
Patriot Cherry Rose-Ogl	8	10	8	10-12	6	6	6	6	<b>F</b> -Deep, deep rose; Floriferous, compact plants, not blooming well in Aug. <b>D</b> -Not blooming as much as some others but healthy plants
Patriot Light Pink-Ogl	8	10	10-12	12-14	6-8	6-8	8-10	10-12	<b>F</b> -White and pink; Uniform, floriferous but dead heads a bit more evident <b>D</b> -Did alright
Patriot Violet-Ogl	6-8	8-10	8	10	6-8	6	8-10	8-10	<b>F</b> -Deep red-violet; Not as vigorous as others early, nice in August <b>D</b> -Blooming better in August than July
Peaches-Ogl	8-10	10-12	10-12	10-12	6-8	6-8	8-10	12-13	<b>F</b> -Pinky-salmon; Floriferous, uniform, healthy early; less bloom in August <b>D</b> -Not uniform in size or bloom; flowers faded
Raspberry Ice-Ogl	8	8-10	12	10-12	6-8	6-8	10	12	<b>F</b> - White-dark pink centers; Uniform, healthy, floriferous <b>D</b> -Good bloom vigor, healthy
Sassy Dark Red-Ogl	10	10-12	8-10	12-14	( )	( )	8-10	8-10	<b>F</b> -Deep, bright red; Uniform, floriferous, healthy <b>D</b> -Uneven flowering but uniform in size
Sincerely Yours-Ogl	10	8-10	12-14	10-12	6-8	6	6-12	6-12	<b>F</b> -Orange-red; Full, floriferous, uniform, nice <b>D</b> -Big petals and nice bloom but uneven in size and shape

**Pentas lanceolata -Egyptian Star Cluster, Pentas.** These did not do well in either Fargo or Dickinson. '**New Look Pink**' performed the best in Fargo but was still a poor performer.

	Fargo				Dickinson				
	July 20		August 24		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	

New Look Pink-Ben	2-4"	1-3"	2-6"	2-6"	2-3"	2"	3-4"	2-5"	<b>Fargo</b> -Best of the pentas but still no vigor, wilted, poor <b>Dickinson</b> -Poor, no vigor
New Look Red-Ben	2	2	1	2	2-3	1-2	4-5	2-3	<b>F</b> -Poor, no vigor <b>D</b> -Poor, no vigor
New Look Rose-Ben	1	2	2-4	2-4	2-3	2	4	4	<b>F</b> -Poor, no vigor <b>D</b> -Poor, no vigor
New Look Violet-Ben	1	2	2	4	3	1-2	3	5	<b>F</b> -Poor, no vigor <b>D</b> -Poor, no vigor

### **Petunia hybrida-Petunia**

	Fargo				
	July 20		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Titan Mix-Pk	10-14"	10-14"	12-14"	15-18"	Floriferous but not uniform early, not blooming much and some Aster Yellows showing up in August

**Petunia-Floribunda.** The floribunda petunias did alright this summer although most were getting a little leggy by the August evaluation.

	Fargo				Dickinson				
Petunia-floribunda	July 20		August 24		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Celebrity Carmine-Bod	10"	12-14"	10-12"	12-15"	--	--	--	--	<b>Fargo</b> -Bright fuchsia; Pretty color, uniform and bright in August <b>Dickinson</b> -Not tested
Celebrity Chiffon Morn-AAS (95)	12-14	12-14	12-14	15-18	7-9"	5-6"	( )	( )	<b>F</b> -Pale pink; Uniform, floriferous early, weather beaten in August <b>D</b> -Did alright
Celebrity Desert Sky Mix-Bod	8-10	10-12	12-15	15-18	--	--	--	--	<b>F</b> -Light blue, salmon; Floriferous early, a little leggy in August <b>D</b> -Not tested

Celebrity Just Pink Mix-Bod	10-12	10-12	12-15	15-18	--	--	--	--	<b>F</b> -Mix of pinks; Full and floriferous early, by August a little overgrown <b>D</b> -Not tested
Celebrity Niagara Mix-Bod	10-12	10-12	12-15	15-18	--	--	--	--	<b>F</b> -Mix of lavenders and blues; Same as for 'Just Pink Mix' <b>D</b> -Not tested

**Petunia-Grandiflora.** Although the grandifloras tend to get somewhat overgrown by August and July, many of these did well all season without becoming leggy. The Storm series, in particular, looked good. ' **Lavender Storm**' did very well early as did '**Pink Morn Storm**', '**Pink Storm**', '**Prism Sunshine**', '**Storm Mix**', '**Ultra Peppermint**' and '**Ultra Pink**'. In Dickinson, '**Ultra Blue**', '**Ultra Lilac**', and '**White Storm**' got high marks in July.

Petunia-grandiflora	Fargo				Dickinson				Comments
	July 20		August 24		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Lavender Storm-GS	14"	12-14"	12-15"	15-18"	10"	12-14"	14"	14-18"	<b>Fargo</b> -Lavender pink; Nice uniform mass of color early; became leggy <b>Dickinson</b> -Nice mass of color, uniform
Pink Morn Storm-GS	14	12-14	12-14	15-18	12-14	10-12	18-20	16-18	<b>F</b> -Pink-white centers; Full, uniform and showy all season <b>D</b> -Tallest petunia, did alright
Pink Storm-GS	10	12-14	12-14	15-18	6-8	4-10	14	14-18	<b>F</b> -Dark pink; Floriferous and showy, nice <b>D</b> -Bright color; lacked uniformity early
Prism Sunshine-AAS(98)	12-14	12-14	15-18	15-18	7-9	8-11	18-20	18-19	<b>F</b> -Pale yellow; Nice mass of color early but became leggy in August <b>D</b> -Tall and leggy in August
Salmon Storm-GS	8-12	10-14	10-12	15-18	8	8-12	12-14	16-18	<b>F</b> -Salmon-pink; Full and floriferous early, some Aster Yellows <b>D</b> -Good vigor
Storm Mix-GS	12	12-14	12-14	15-18	--	--	--	--	<b>F</b> -Mix of colors; Uniform and floriferous early, not uniform and leggy later <b>D</b> -Not tested
Ultra Blue-GS	10-12	10-14	12-15	15-18	10-14	8	12-16	16-18	<b>F</b> -Deep lavender purple; Floriferous but not as full as others, leggy in Aug. <b>D</b> -Nice color, good uniformity early

Ultra Crimson Star-GS	8-10	12-14	12-14	15-20	--	--	--	--	<b>F</b> -Burgundy-white star; Pretty color but not as floriferous as some others <b>D</b> -Not tested
Ultra Lilac-GS	10-14	10-12	10-12	15-18	10-14	12-14	14	16-18	<b>F</b> -Pale lavender; Not as full or floriferous as some others <b>D</b> -Blooming nicely early
Ultra Limited Edition Mix-GS	10-14	12-14	10-14	12-18	8	10-14	14	16-14	<b>F</b> -Mix of colors; Lacked uniformity, didn't bloom as well as others <b>D</b> -Nice bright colors
Ultra Peppermint-GS	10	12-14	10-12	15-18	--	--	--	--	<b>F</b> -Pink with dark veins; Floriferous and uniform early, Aster Yellows (?) <b>D</b> -Not tested
Ultra Pink-GS	12	12-14	10-12	15-18	10-12	10	14	14-18	<b>F</b> -Dark pink; Full and showy in July, became leggy by August <b>D</b> -Good uniformity early; nice color
Ultra Plum-GS	12-14	10-14	12-14	15-18	--	--	--	--	<b>F</b> -Burgundy with deep veins; Not as full as others, leggy and falling over <b>D</b> -Not tested
Ultra Red-GS	10-12	10-14	12-14	12-18	10	10-12	10-12	16-18	<b>F</b> - Floriferous but became leggy; lacked uniformity <b>D</b> -Did alright
Ultra Rose-GS	12-14	10-14	12-15	15-18	10	6-12	12	14-18	<b>F</b> -Deep red-pink; More weathered looking, lacked uniformity <b>D</b> -Not as uniform as others but nice, bright color
Ultra Salmon-GS	8-12	12-14	10-12	15-18	6-10	10-14	12-14	14-18	<b>F</b> -Salmon-pink; Leggy but floriferous <b>D</b> -Good vigor, more spreading than 'Salmon Storm'
Ultra Scarlet-GS	10	10-12	8-10	12-15	10	10-12	10-12	16-18	<b>F</b> -Red with yellow throat; Not as vigorous or full as some others <b>D</b> -Did alright
Ultra Sky Blue-GS	10-12	10-14	12-14	15-18	8-10	8-10	12-14	18	<b>F</b> -Pale to dark blue; Floriferous early; became leggy and overgrown <b>D</b> -Good color and uniformity
Ultra White-GS	10-12	12-14	12-14	15-20	10-12	8-12	20	20	<b>F</b> -Bruising/brown spots obvious on petals, leggy, overgrown <b>D</b> -More compact than White Storm
White Storm-GS	12-15	12-16	12-15	15-18	10-14	14	18-24	22-24	<b>F</b> - Deadheads quite obvious, floriferous <b>D</b> -Good uniformity early but became a little leggy by August

**Petunia-Milliflora.** The milliflora petunias did well again in Fargo with '**Fantasy Carmine**', '**Fantasy Pink**', and '**Fantasy Salmon**' doing the best over the course of the season. They were also healthy and vigorous in Dickinson.

Petunia-milliflora	Fargo				Dickinson				Comments
	July 20		August 24		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Fantasy Blue-GS	6"	8-10"	8-10"	10-12"	8-9"	7-9"	12"	14-16"	<b>Fargo</b> -Deep velvet purple; More open habit than others, slightly leggy <b>Dickinson</b> -Less uniform than others
Fantasy Carmine-GS	4-6	8-10	8-10	10-12	8	8	10	12-14	<b>F</b> -Deep fuchsia; Floriferous and vigorous <b>D</b> -Good uniformity early; nice color mass
Fantasy Crystal Light Salmon-GS	6	8-10	8-10	10-12	8	6-8	12	10-12	<b>F</b> -Pale salmon with dark veins; Not blooming uniformly early; much nicer later <b>D</b> -Did alright
Fantasy Crystal Red-GS	6-8	8-10	10-12	10-12	8	8	12	14-16	<b>F</b> -Red inside-pink outside; Lacked uniformity early-better later <b>D</b> -Very prolific and dense, nice color blooms
Fantasy Ivory-GS	4-6	6-10	8	10-12	8	5-9	10	14	<b>F</b> -Creamy white with yellow tones; Lacked vigor early; full, floriferous by Aug. <b>D</b> -Did alright but lost two plants
Fantasy Pink-GS	6	8-10	8	8-10	8	8	10	10-12	<b>F</b> -Deep, bright pink; Floriferous, showy, bright all season <b>D</b> -Uniform early, nice bright pink
Fantasy Pink Morn-GS AAS(96)	4-6	6-8	8	8-10	8	8	12	14-16	<b>F</b> -Pink with white throat; Not as floriferous as others early, nice by August <b>D</b> -Very uniform early, good vigor
Fantasy Red-GS	6	8	8-10	10-12	7-8	6-8	10	12-14	<b>F</b> -Red; Floriferous but looks like Aster Yellows is present <b>D</b> -Lost two plants but did alright otherwise
Fantasy Salmon-GS	4-6	6-10	6-8	10-12	8	8	6-8	10-12	<b>F</b> -Reddish salmon; Uniform, floriferous, full all season <b>D</b> -Uniform early, did alright otherwise

**Petunia-Multiflora.** These were only tested in Fargo this year. '**PrimeTime Rose**' was the only cultivar that looked good during both evaluation times. Many were becoming overgrown by August.

Petunia-multiflora	Fargo				Comments
	July 20		August 24		
	Hgt.	Spr.	Hgt.	Spr.	
PrimeTime Blue-GS	14"	12"	12-15"	15-20"	Deep velvet purple; Full, uniform and vigorous early; leggy and falling over in August
PrimeTime Blues Mixture-GS	12-14	10-14	12-15	15-20	Mix of blues, purples; Full, vigorous and floriferous early; leggy in August
PrimeTime Carmine-GS	10	10-12	12-14	15-18	Deep fuchsia; Not as full as others and leggy by August
PrimeTime Crystals Mix-GS	8-12	12-14	10-15	15-20	Mix of colors with dark veins; Not as uniform or floriferous as others
PrimeTime Fiesta Mix-GS	12	12-14	15-18	15-20	Mix of blues, red, salmons; Bright color mix, uniform, did alright
PrimeTime Lavender-GS	12-14	10-12	15-18	15-20	Dark lavender; Not as full as some others, was a little tall in August
PrimeTime Light Blue-GS	10-12	10-14	10-15	15-20	Pale blue; Not as vigorous, full or uniform as some others
PrimeTime Limited Edition Mix-GS	10-14	10-14	15-20	15-20	Mix of colors; Was looking better in August than July, full and floriferous
PrimeTime Mid Blue-GS	6-12	8-12	12-15	15-20	Dark blue; Fairly uniform, became leggy in August
PrimeTime Mix-GS	12-14	12-14	15-20	15-20	Nice mix of colors; Floriferous, nice colors
PrimeTime Pink-GS	8-10	8-12	12-14	15-20	Deep pink; Not as uniform as others in July but by August was floriferous and showy
PrimeTime Pink Morn-GS	8-10	10-12	12-15	15-20	Pink with white center; Uniform and floriferous early, a little overgrown in August
PrimeTime Red-GS	6-10	8-12	10-12	15-18	Not as vigorous as the other cultivars
PrimeTime Rose-GS	10	12	12-14	15-18	Deep fuchsia pink; Uniform, floriferous, bright and showy all season

PrimeTime Scarlet-GS	8-12	10-12	12-14	15-20	More vigor and flowers than 'PrimeTime Red'
PrimeTime Twilight Mix-GS	12-14	12-14	10-14	15-18	Mix of blues, corals, pinks; Floriferous and uniform early, not as overgrown as some
PrimeTime White-GS	10	8-12	15-18	15-20	Uniform in height but not spread in July, nice mass of white in August, not as much bruising as other whites

**Petunia-Prostrate.** Although these continue to do well at both stations, '**Purple Wave**' did not do as well in Fargo this year as it has in the past. It did exceptionally well at Dickinson, particularly in August. In Fargo, '**Misty Lilac Wave**' showed more flowers and vigor, especially early in the season.

	Fargo				Dickinson				Comments
	July 20		August 24		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Coral Wave-Bur	6-8"	10-18"	6-8"	12-14"	--	--	--	--	<b>Fargo</b> -Pale pink salmon; No vigor, yellowing quite badly <b>Dickinson</b> -Not tested
Misty Lilac Wave-Bur	6-8	18-20	8-10	to 40	--	--	--	--	<b>F</b> -Pale lilac to white; Floriferous, healthy, full and nice all season <b>D</b> -Not tested
Pink Wave-Bur	6-8	12-20	6-8	12-20	--	--	--	--	<b>F</b> -Not as uniform or floriferous as the others, possible Aster Yellows present <b>D</b> -Not tested
Purple Wave-AAS (95)	4-6	18-20	4-6	to 36	3"	25"	4-5"	36-40"	<b>F</b> -Deep fuchsia; Most prostrate of the group, did better in August than July <b>D</b> -Good performance, especially in August, prolific bloomer
Rose Wave-Bur	6-8	18-20	8-12	to 30	--	--	--	--	<b>F</b> -Deep rose; Floriferous, healthy and full in July; not quite as nice in August <b>D</b> -Not tested

**Phlox cuspidata-Phlox.** These continue to do poorly in Fargo. They don't transplant well and never thrive if they do survive after being put out into the field.

	Fargo	
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	July 20		August 24		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Crystal Blue with White-Da	2-4"	2-4"	2-6"	2-8"	Poor, no vigor
Crystal Purple with White-Da	--	--	--	--	Died
Crystal Red with White-Da	2	3	3	4	Only one of twelve plants survived, poor, no vigor
Crystal Salmon-Da	2	3	3	4	Only one of twelve survived here, also; lots of blossoms on small plants in August

**Portulaca grandiflora-Moss Rose.**

	Fargo				Dickinson				Comments
	July 20		August 24		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Sundial Mix-Bod	4-6"	8-10"	4-6"	8-12"	--	--	--	--	<b>Fargo</b> -Mix of colors; Nicest moss rose in July but declined by August <b>Dickinson</b> -Not tested
Sundial Peach-AAS(99)	2-4	6-10	2-4	8-12	2-4"	15-18"	3"	14"	<b>F</b> -Coral; Lacked uniformity in July, doing alright by August <b>D</b> -Not uniform in vigor early but very nice in August, floriferous, nice color
Sunnyside Cherry Red-CI	4-6	6-12	6-8	10-15	--	--	--	--	<b>F</b> -Deep pinkish red; Lacked uniformity but was the most floriferous in August <b>D</b> -Not tested
Sunnyside Coral-CI	6-8	8-10	6-8	10-12	--	--	--	--	<b>F</b> -Reddish coral; Never bloomed much <b>D</b> -Not tested
Sunnyside Flame-CI	6	8-10	4	10-12	--	--	--	--	<b>F</b> -Orange; Good uniformity, did alright <b>D</b> -Not tested
Sunnyside Orange-CI	4-6	8-10	2-4	10-12	--	--	--	--	<b>F</b> -Did alright but not much vigor in August <b>D</b> -Not tested
Sunnyside Pink-CI	4-6	8-10	2-4	8-12	--	--	--	--	<b>F</b> -Did alright but lost vigor in August <b>D</b> -Not tested
Sunnyside Rose-CI	4-6	8-10	4-6	10-12	--	--	--	--	<b>F</b> -Deep rosy pink; Not much vigor in August <b>D</b> -Not tested

Sunnyside White-CI	4-6	8-10	3-4	8-12	--	--	--	--	<b>F</b> -Never bloomed much, not much vigor in August <b>D</b> -Not tested
Sunnyside Yellow-CI	2-4	6-10	2	8-12	--	--	--	--	<b>F</b> -Golden yellow; No vigor <b>D</b> -Not tested

**Rudbeckia hirta-Black-eyed Susan.** The Rudbeckia did well in both Fargo and Dickinson. '**Sonora**' scored well due to the interesting gold, brown coloration on petals and healthy plants, while '**Indian Summer**' received high marks, especially in August for its bloom, health, and uniformity.

	Fargo				Dickinson				Comments
	July 20		August 24		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Indian Summer-AAS(95)	18-20"	10-12"	20-24"	10-12"	6-16"	5-14"	20"	14-16"	<b>Fargo</b> -Gold-brown center; 4-6" blossoms, floriferous, healthy in August <b>Dickinson</b> -Slow to bloom but very striking in color, lots of blooms
Sonora-Ben	12-15	8-10	12-15	10-12	14-16	5-7	10-12	10	<b>F</b> -Gold, brown petals-brown center; Floriferous, vigorous, nice colors <b>D</b> -Pretty flowers; healthy and uniform-especially in July
Toto-Ben	4-8	6-10	6-10	6-10	8	5-6	6-8	6-8	<b>F</b> -Gold-brown centers; Floriferous early but not later; Lacked uniformity <b>D</b> -Small and compact; did alright

**Salpiglossis sinuata-Painted Tongue.**

	Fargo				Comments
	July 20		August 24		
	Hgt.	Spr.	Hgt.	Spr.	
Royale Hybrid Mix-Pk	6-12"	6-10"	8-12"	8-10"	Red; Only 1 plant of 6 vigorous, not very impressive

**Salvia farinacea-Blue Salvia, Mealy Cup Sage.** This annual salvia does consistently well in both Fargo and Dickinson. It has good bloom, few insect or disease problems and the plants will sometimes overwinter with good protection. It is also a good dried flower as well as a fresh cut flower.

	Fargo				Dickinson				Comments
	July 20		August 24		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Reference-Ben	12-14"	10-12"	18-24"	12-15"	10-14"	6-10"	12-14"	12"	<b>Fargo</b> -Blue/white; Floriferous and healthy but lacked uniformity <b>Dickinson</b> -Did well; similar to 'Strata'
Sea Breeze-Bur	6-8	6-10	10-15	10-12	--	--	--	--	<b>F</b> -Blue/white; Floriferous, healthy, uniform-especially in August <b>D</b> -Not tested
Signum-Bod	6	4-6	12-15	12-15	--	--	--	--	<b>F</b> -Blue; Slow to bloom but very nice in August <b>D</b> -Not tested
Strata-AAS(96)	10-12	10-12	12-14	10-12	14	6-8	10-12	12	<b>F</b> -Blue/white; Floriferous, vigorous and uniform in August <b>D</b> -Strong, vigorous plants; blooming a little better in July
Victoria-Bur	6-14	6-10	15-18	12-15	--	--	--	--	<b>F</b> -Blue; Lacked uniformity early but very nice in August <b>D</b> -Not tested

**Salvia splendens-Scarlet Sage, Salvia.** These did well in Fargo this year while in Dickinson the evaluator felt the color appeared a bit washed out. '**Salsa Light Purple**' and '**Salsa Scarlet**' did well all season in Fargo. In Dickinson, '**Salsa Purple**' got a high rating in July but then declined.

	Fargo				Dickinson				Comments
	July 20		August 25		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Salvia splendens									
Firecracker Red-Gri	4-8"	4-6"	6-8"	6-8"	6-9"	3-4"	8"	6-7"	<b>Fargo</b> -No vigor compared to others, 6 of 12 plants dead by the August evaluation <b>Dickinson</b> -Did better in Dickinson, nice red color, healthy foliage
Salsa Burgundy-GS	6-10	6-8	10-12	6-8	10-12	8	7	6-8	<b>F</b> -Burgundy; Did alright <b>D</b> -Did alright

Salsa Light Purple-GS	8-10	6-8	12-14	10-12	10-12	8	6-7	6	<b>F</b> -Lavender; Nicest of the salvia in the Fargo plots, floriferous, healthy, vigorous <b>D</b> -Uniform and floriferous but poor, faded color
Salsa Mix-GS	4-8	4-8	8-10	6-8	--	--	--	--	<b>F</b> -Mix of colors; Lacked uniformity and vigor <b>D</b> -Not tested
Salsa Purple-GS	6-8	6	12-14	10-12	10-12	6	6	6-7	<b>F</b> -Deep purple; Nice, vigorous and floriferous <b>D</b> -Nice color
Salsa Rose-GS	8	6-8	10-12	8-10	10-12	6	8-10	7	<b>F</b> -Rose; Bloomed well in August, pretty color <b>D</b> -Healthy
Salsa Rose Bicolor GS	4-10	4-8	10-12	8-10	10-12	6-8	6-10	7	<b>F</b> -Rose/cream; Bloomed well but color washed out <b>D</b> -Poor color
Salsa Salmon-GS	8	6	8-12	6-10	10	6	6-8	6	<b>F</b> -Salmon; Dull color, no vigor, not uniform <b>D</b> -Pale color
Salsa Salmon Bicolor-GS	8	8	10-12	8-10	12	6	6-8	6-7	<b>F</b> -Pale salmon-white; Plants grew alright but color dull <b>D</b> -Uniform early, pale color
Salsa Scarlet-GS	8	8	10-12	8-10	6-9	3-4	6-10	6	<b>F</b> -Red; Uniform, floriferous, nice show of red <b>D</b> -Best red color
Salsa Scarlet Bicolor GS	4-8	4-8	10-14	8-12	6-9	3-4	6-8	6-7	<b>F</b> -Red/white; Not too vigorous early, better in August <b>D</b> -Uniform but faded color
Salsa White-GS	6-8	6	10-12	6-10	6-9	3-4	6-10	6	<b>F</b> -Creamy white; Lots of bruising on petals, dead heads obvious, no vigor <b>D</b> -Poor color; few blooms

**Senecio cineraria-Dusty Miller.**

	Fargo				Comments
	July 20		August 25		
	Hgt.	Spr.	Hgt.	Spr.	
Cirrus-Pk	4-6"	8-10"	10-12"	10-14"	Gray foliage; Vigorous and healthy in August
Silverdust-Pk	4-6	6	10-12	8-12	Foliage more deeply serrated than previous; Vigorous and healthy in August

***Solenostemon scutellarioides*-Coleus.** Coleus can be used both indoors as a houseplant or outdoors in the flower bed. Although listed as more of a shade/semi-shade tolerant plant, we grew these in full sun in the Fargo trials. They didn't do very well and the color wasn't too impressive.

	Fargo				Comments
	July 20		August 25		
	Hgt.	Spr.	Hgt.	Spr.	
Carefree Mix-Pk	4-8"	4-6"	2-12"	4-12"	Lacked uniformity in size and vigor between colors
Fairway Mix-Pk	2-6	2-8	8-12	6-10	More uniform than 'Carefree Mix' but not very impressive

***Stipa tenuissima*-Feathergrass.** This is the second year we've grown this ornamental grass in the trial gardens. It has done very well both years.

	Fargo				Comments
	July 20		August 25		
	Hgt.	Spr.	Hgt.	Spr.	
Angel Hair-Pk	( )	( )	24-27"	12-18"	Vigorous and healthy, heads are a golden yellow which are split at the ends

***Tagetes erecta*-African, American Marigold.** The majority of the American marigolds did very well in Fargo. They were also nice in Dickinson but seemed slow in blooming. Top performers in Fargo included '**American Indian Orange**', '**Antigua Gold**', '**Antigua Orange**', and '**Inca Gold**'. In Dickinson, '**Antigua Orange**' was the only one with high marks during one of the evaluations.

	Fargo				Dickinson				Comments
	July 20		August 25		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
American Marigold									
American Indian Gold-Gri	10-12"	10-12"	12-15"	12-15"	--	--	--	--	<b>Fargo</b> -Vigorous, floriferous and uniform-especially in August <b>Dickinson</b> -Not tested
American Indian Orange-Gri	12	12	15	12-15	--	--	--	--	<b>F</b> -Uniform, floriferous and nice all season <b>D</b> -Not tested

American Indian Yellow-Gri	12	10-12	15-18	12-15	10-12"	6-8"	12-14"	12"	<b>F</b> -Uniform, floriferous and nice in July; lots of dead heads in August <b>D</b> -Nice bloom in August, one sick plant
Antigua Gold-GS	8-10	8-10	12-15	12-15	9-12	6-9	10	12-14	<b>F</b> -Uniform, floriferous, healthy, nice all season <b>D</b> -Nice plants, bloomed well
Antigua Orange-GS	10	10-12	10	12-15	9-12	6-9	10	10	<b>F</b> -Uniform, floriferous, healthy plants all season <b>D</b> -Nice, uniform, floriferous
Antigua Primrose-GS	8	10-12	10-12	12-15	9-12	6-9	10-12	10	<b>F</b> -Yellow; Uniform, floriferous, more dead heads evident in August <b>D</b> -Nice, uniform, floriferous
Antigua Yellow-GS	8	10-12	10-12	10-12	6-12	6-9	10	10	<b>F</b> -Uniform, floriferous, nice early, dead heads evident in August <b>D</b> -Did alright, one poor plant
Atlantis Orange-Bod	10-14	10-12	12-15	12-15	--	--	--	--	<b>F</b> -Not as uniform as others, more dead heads obvious in August <b>D</b> -Not tested
Atlantis Yellow-Bod	14	12-14	15-18	12-15	--	--	--	--	<b>F</b> -Floriferous and uniform early, did alright by August <b>D</b> -Not tested
Discovery Orange-Bod	8	10	10-12	10-12	--	--	--	--	<b>F</b> -Floriferous, smaller plants but uniform, some Aster Yellows in August <b>D</b> -Not tested
Discovery Yellow-Bod	8	10	10-12	8-12	--	--	--	--	<b>F</b> -Uniform and floriferous in July, did alright in August <b>D</b> -Not tested
Excel Mix-GS	10-15	10-14	10-18	12-18	--	--	--	--	<b>F</b> -Blooming nicely but lacked uniformity in size <b>D</b> -Not tested
French Vanilla Hybrid-Bur	8-12	8-12	12-15	12-15	--	--	--	--	<b>F</b> -Pale creamy yellow; Not uniform and petals showed a lot of bruising <b>D</b> -Not tested
Inca Gold-GS	12-14	12-14	15-20	12-15	12-14	6-9	18	12-14	<b>F</b> -Uniform, floriferous, nice all season <b>D</b> -Slow to bloom but healthy and vigorous
Inca Orange-GS	12-15	12-14	12-18	12-15	6-12	6-9	16	10	<b>F</b> -Not as floriferous as others but still nice plants <b>D</b> -Slow to bloom, vigorous and healthy

Inca Yellow-GS	14	14	18-22	12-15	10-12	6-9	16-18	14	<b>F</b> -Uniform early, not as floriferous as others <b>D</b> -Slow to bloom, vigorous and healthy
Perfection Gold-GS	12-15	12-14	20-22	15-20	12-14	6-9	16	14	<b>F</b> -Not blooming uniformly, plants were nice and healthy <b>D</b> -Healthy, slow to bloom but uniform
Perfection Mix-GS	15	12-14	20-22	12-15	--	--	--	--	<b>F</b> -Healthy but never bloomed very uniformly <b>D</b> -Not tested
Perfection Orange-GS	15	12-14	20-22	12-15	10-12	6-9	16	12	<b>F</b> -Nice, not as floriferous as some but healthy and vigorous <b>D</b> -Slow to bloom but healthy and uniform
Perfection Yellow-GS	14	12-14	20-22	15-18	10-12	6-9	16-18	12-14	<b>F</b> -Nice in August- uniform, healthy, floriferous <b>D</b> -Slow to bloom but good bloom, vigorous in August

**Tagetes patula-French Marigold.** The French marigolds did well at the beginning of the season but many were showing signs of Aster Yellows by August. **'Hero Flame Improved'** and **'Little Hero Orange'** were the only two that performed consistently well all season in Fargo.

French Marigold	Fargo				Dickinson				Comments
	July 20		August 25		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Aurora Mix-WFS	8-10"	8-12"	8-12"	10-12"	--	--	--	--	<b>Fargo</b> -Nice mix of colors, lacked uniformity early <b>Dickinson</b> -Not tested
Bonanza Bolero-AAS(99)	6-8	8-10	8-10	10-12	3-6"	4-6"	6-8"	8"	<b>F</b> -Gold/bronze; Uniform and floriferous early, possible Aster Yellows in August <b>D</b> -Did alright
Hero Bee-Bod	8	8-10	8-10	10-12	--	--	--	--	<b>F</b> -Yellow/bronze; Uniform and floriferous but Aster Yellows showing up in July <b>D</b> -Not tested
Hero Flame Improved-Bod	8	10	10-12	10-12	--	--	--	--	<b>F</b> -Orange/bronze; Uniform, healthy, floriferous, nice all season <b>D</b> -Not tested
Hero Orange Improved-Bod	8-10	10	10-12	10-12	--	--	--	--	<b>F</b> -Aster Yellows a problem <b>D</b> -Not tested
Hero Yellow-Bod	6	6-8	8	8-10	--	--	--	--	<b>F</b> -Not as uniform or floriferous as some others



									<b>D</b> -Not tested
Janie Gold-WFS	6-8	6-8	8	10	--	--	--	--	<b>F</b> -Dead heads more obvious on this cultivar, very uniform in August <b>D</b> -Not tested
Janie Mixed-WFS	8	10	8-10	10-12	--	--	--	--	<b>F</b> -Uniform and floriferous in July, Aster Yellows present in August <b>D</b> -Not tested
Little Hero Fire-Bod	6-8	6-8	8	10	--	--	--	--	<b>F</b> -Gold/bronze; Uniform but dead heads are quite obvious <b>D</b> -Not tested
Little Hero Flame-Bod	4-8	4-8	8	8-10	--	--	--	--	<b>F</b> -Orange/bronze; Not as uniform or floriferous as others, Aster Yellows <b>D</b> -Not tested
Little Hero Harmony-Bod	6	6	6-8	8-10	--	--	--	--	<b>F</b> -Bronze/orange; Nice in July but lost uniformity in August <b>D</b> -Not tested
Little Hero Orange-Bod	6	8	8-10	10-12	--	--	--	--	<b>F</b> -Uniform and floriferous, healthy all season <b>D</b> -Not tested
Little Hero Yellow-Bod	6-8	8-10	8	10-12	--	--	--	--	<b>F</b> -Uniform, floriferous and healthy in August <b>D</b> -Not tested
Safari Mix-Bod	10	10-12	10-14	10-12	--	--	--	--	<b>F</b> -Mix of colors; Uniform and floriferous early, Aster Yellows in August <b>D</b> -Not tested
Safari Tangerine-Bod	8	10	8-10	10-12	--	--	--	--	<b>F</b> -Orange; Floriferous, uniform early, Aster Yellows in August <b>D</b> -Not tested
Safari Yellow-Bod	8	10	10	10-12	--	--	--	--	<b>F</b> -Not as floriferous as others in July but by August was very nice <b>D</b> -Not tested
Troubadour Yellow-WFS	8-10	8-10	8-10	12-14	--	--	--	--	<b>F</b> -Did alright in July but was floriferous, uniform and healthy in August <b>D</b> -Not tested

**Tagetes tenuifolia-Signet Marigold.**

	Fargo				Comments
	July 20		August 25		
	Hgt.	Spr.	Hgt.	Spr.	
Luna Lemon Yellow-	8-12"	10-	10-	12-	Floriferous and nice early but Aster Yellows was bad in August

Da		12"	12"	14"	
Starfire Mix-Pk	10-12	8-10	10-14	10-14	Orange/bronze, gold/bronze; Nice early but lost uniformity and had Aster Yellows in August

***Tithonia rotundifolia*-Mexican Sunflower.** In Fargo, tithonia typically grow well and put on lots of foliage but are slow to bloom. By the August evaluation, '**Fiesta del Sol**', an All-America Selection for 2000, was floriferous and healthy while '**Aztec Sun**' was dying. We suspected Verticillium wilt but that was not diagnostically confirmed.

	Fargo				Dickinson				Comments
	July 20		August 25		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Aztec Sun-Pk	12-20"	12-15"	30"	12-18"	--	--	--	--	<b>Fargo</b> -Gold; Not uniform, lots of foliage in July, dying off in August <b>Dickinson</b> -Not tested
Fiesta del Sol Ben, AAS(00)	15	12-15	22-24	15-18	12-18"	9-12"	14-18"	12-16"	<b>F</b> -Orange; Lots of foliage early but few flowers, floriferous and healthy by August <b>D</b> -Didn't bloom well; became ragged (hail storm) by the August evaluation

***Torenia fournieri*-Wishbone Flower.** We started having problems with these in the greenhouse when something (mouse, fungus, etc) destroyed the stem right at the soil level. The ones that did survive did not like being transplanted-we lost most of them. The few that survived outside never thrived.

	Fargo				Dickinson				Comments
	July 20		August 25						
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Clown Formula Mix-Pk	2"	2"	2"	2"	--	--	--	--	<b>Fargo</b> -Only two plants survived, poor, no vigor <b>Dickinson</b> -Died
Duchess Blue and White-GS	--	--	--	--	--	--	--	--	<b>F</b> -Died <b>D</b> -Died
Duchess Deep Blue-GS	2	2	2-6	2-6	--	--	--	--	<b>F</b> -No vigor <b>D</b> -Died

Duchess Light Blue-GS	2-4	2-4	4-6	4-6	--	--	--	--	<b>F</b> -No vigor <b>D</b> -Died
Duchess Pink-GS	2	2	2	2	--	--	--	--	<b>F</b> -No vigor <b>D</b> -Died

**Tropaeolum majus-Nasturtium.** The nasturtiums were all very healthy with lots of vigorous foliage but the flowers remained well hidden. '**Jewel of Africa**' was the most floriferous one.

	Fargo				Comments
	July 20		August 25		
	Hgt.	Spr.	Hgt.	Spr.	
Alaska-Pk	6-10"	6-12"	8-14"	12-15"	Gold, orange; Variegated foliage, not many flowers-even into August- but foliage is nice
Jewel of Africa-Pk	10-12	12-14	12-18	15-18	Orange, yellow, burgundy; More flowers showing than others
Moonlight-Pk	12-15	12-14	15-20	15-20	Yellow; Nicest group of the nasturtiums in July, starting to vine more than the others in August
Whirlybird Blend-Pk	8-12	8-12	12-20	12-18	Yellow, orange, red; Lacked uniformity but very vigorous, not many flowers showing up by August

**Verbena canadensis-Rose Vervain.** This verbena may be hardy in zones 5-9 but is planted as an annual here. It did alright this past summer but wasn't as vigorous or floriferous as some of the common or garden verbena (*V. x hybrida*).

	Fargo				Comments
	July 20		August 25		
	Hgt.	Spr.	Hgt.	Spr.	
Perfecta-Pk	6-8"	6-10"	10-12"	12-14"	Hot pink; Not as vigorous as others-one dead plant, looked good in August

**Verbena x hybrida-Garden Verbena.** This year the garden verbena did very well. The rabbits left them alone (for the most part) and they were doing good well into August. '**Novalis Deep Blue/White Eye**' had the most striking color and did the best over the course of the

summer while '**Quartz Burgundy**' and '**Waterfall Mix**' also did well.

	Fargo				Dickinson				Comments
	July 20		August 25		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Novalis Deep Blue/White Eye-AAS(89),Ben	8-10"	8-10"	10-12"	12-14"	4-6"	4-6"	6"	8-10"	<b>Fargo</b> -Deep purple blue, white eye; Striking color, vigorous, uniform, floriferous <b>Dickinson</b> -Some flowers by August; didn't do as well as it did in Fargo
Quartz Burgundy-AAS (99)	8	12	8	12-14	4-6	3-6	6	10-12	<b>F</b> -Burgundy; Uniform, floriferous and healthy in July, past peak bloom by August <b>D</b> -Didn't bloom very well, slow to bloom
Violet Eyes-Bur	6-8	6-10	8-10	12-14	--	--	--	--	<b>F</b> -Pale pink, pale lavender with dark eyes; Not as floriferous or uniform as others <b>D</b> -Not tested
Vivacious Mix-Bur	6-10	8-10	10-12	12-14	--	--	--	--	<b>F</b> -Red, pink, purple; Floriferous and vigorous but not uniform in size <b>D</b> -Not tested
Waterfalls Mix-Bur	6-8	8-10	6-8	10-12	--	--	--	--	<b>F</b> -Blues and white; Looked good, nice mix of colors <b>D</b> -Not tested

**Verbena tenuisecta (V. speciosa)-Moss Verbena.** This spreading verbena has done well each year it's been planted. The only drawback with it is that it does stop flowering somewhat if not deadheaded.

	Fargo				Comments
	July 20		August 25		
	Hgt.	Spr.	Hgt.	Spr.	
Imagination-AAS(93)	8-10"	18-20"	10-12"	24-30"	Deep lavender purple; Healthy and vigorous but by August was only blooming around the edges

**Viola cornuta-Viola.** These cool weather annuals do better in shade in cooler weather. Despite that, these were all doing well in the heat of

August. All the violas and pansies were grown under shade cloth in Fargo; in Dickinson they were planted under shade created by trees and shrubs.

	Fargo				Dickinson				Comments
	July 20		August 25		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Babyface Yellow-WFS	4"	6"	6-8"	6-8"	4-6"	4-6"	4-6"	6-8"	<b>Fargo</b> -Yellow; Rabbits munched on early but by August was floriferous and showy <b>Dickinson</b> -Bright and cheery flowers
Penny Azure Wing-GS	3	4	8	10	--	--	--	--	<b>F</b> -Pale purple with white; Uniform and floriferous by August <b>D</b> -Not tested
Penny Blue-GS	2	3-4	6-8	8-10	--	--	--	--	<b>F</b> -Blue; Uniform and floriferous by August <b>D</b> -Not tested
Penny Primrose-GS	2-4	2-4	6	8	--	--	--	--	<b>F</b> -Pale yellow; Uniform, floriferous by August <b>D</b> -Not tested
Penny Violet Beacon-GS	2-4	2-4	6-8	6-8	--	--	--	--	<b>F</b> -Pale lavender; Uniform and floriferous by August <b>D</b> -Not tested
Penny Violet Flare-GS	2-4	4-6	6-8	8	--	--	--	--	<b>F</b> -Deep purple with lavender; Uniform and floriferous <b>D</b> -Not tested

**Viola x wittrockiana-Pansy.**

	Fargo				Comments
	July 20		August 25		
	Hgt.	Spr.	Hgt.	Spr.	
Accord/Banner Mix-GS	2-4"	3-6"	6-8"	8-10"	Mix of colors; Uniform, nice mix of colors, floriferous
Accord/Banner Clear Rose-GS	2-6	2-6	6-8	6-12	Burgundy rose; Not as uniform as the others but floriferous
Accord/ Banner Clear Mix-	4-6	4-6	6-8	8-	Mix of colors; Did well by August

GS				10	
Accord/Banner Violet w/ Face-GS	2-6	4-6	6	6	Violet, white, dark purple; Nice color, uniform plants, blooming well
Universal Plus Clear Mix-GS	2-6	4-6	6-8	6-8	Mix of colors; doing well in August, floriferous, uniform, healthy
Universal Plus Yellow Blotch- GS	6	3	6	6	Yellow, bronze; Not doing as well as others but at edge of shade cloth which may be warmer and brighter

**Wahlenbergia undulata-Wahlenbergia.** This relative of the bellflower (*Campanula*) should get about a foot tall with star-shaped blue flowers. Although slow to start, it did well by August.

	Fargo				
	July 20		August 25		Comments
	Hgt.	Spr.	Hgt.	Spr.	
Melton Bluebird-Pk	8"	6"	8-10"	6-10"	Blue; Not very vigorous in July but looked alright in August

**Zinnia angustifolia (linearis)-Longleaf Zinnia.**

	Fargo				Dickinson				
	July 20		August 25		July 7		August 18		Comments
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Crystal White-AAS(97)	10"	10"	8-12"	12-14"	4-6"	3-6"	8"	8-12"	<b>Fargo</b> -Uniform, floriferous, healthy in July; Lacked uniformity in bloom by August <b>Dickinson</b> -Lacked vigor early-lost two plants by August
Golden Orange-Pk	10	10-12	15	12-15	--	--	--	--	<b>F</b> -Very nice by August-uniform, floriferous, healthy <b>D</b> -Not tested
Mix-Pk	10-12	10-12	12-15	12-15	--	--	--	--	<b>F</b> -White, gold, orange; Didn't bloom as well as others but healthy plants <b>D</b> -Not tested
Star Gold-Pk	8-10	10-12	10-15	12-15	--	--	--	--	<b>F</b> -Not as full or floriferous as others <b>D</b> -Not tested

**Zinnia elegans-Garden Zinnia.** The zinnias performed well at both Fargo and Dickinson. There were no major disease or insect problems and they provided a nice color mass.

	Fargo				Dickinson				Comments
	July 20		August 25		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Blue Point Formula Mix-Ben	12-18"	12-14"	to 30"	12-18"	18-24"	6-12"	20-28"	20"	<b>Fargo</b> -Mix of colors; Slow to bloom but very nice by August <b>Dickinson</b> -Good color range, healthy plants
Candy Stripe-Pk	14	14	--	--	--	--	--	--	<b>F</b> -Only one plant survived transplanting, couldn't find that one in August <b>D</b> -Not tested
Dahlia Flowered Mix-Pk	12-15	12-15	24-30	15-18	--	--	--	--	<b>F</b> -Mix of colors; Nice in August-floriferous, healthy, etc. <b>D</b> -Not tested
Peter Pan Mixture-GS	10-14	10-12	10-18	12-15	9-12	6-9	12-14	12-18	<b>F</b> -Mix of colors; Floriferous but not as uniform as the others, bloomed well <b>D</b> -Nice, good bloom and color-especially early in season
Short Stuff Mixture-GS	8-12	10-12	8-12	10-15	4-6	4-6	6-8	8	<b>F</b> -Mix of colors; Floriferous all season but not as uniform as others <b>D</b> -Floriferous with a good show of color

**Zinnia hybrids.** These hybrids are a cross between *Z. elegans* and *Z. angustifolia*. They have prolific bloom and are resistant to the foliar diseases such as powdery mildew that can be serious on zinnia. The '**Profusion**' series has done particularly well in our test gardens.

	Fargo				Dickinson				Comments
	July 20		August 25		July 7		August 18		
	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	Hgt.	Spr.	
Pinwheel Mix-Pk	8-12"	8-12"	12-18"	12-18"	--	--	--	--	<b>Fargo</b> -Lacked uniformity and didn't bloom as well as 'Profusion' series <b>Dickinson</b> -Not tested
Profusion Cherry AAS (99)	12	12	12-18	12-15	12"	9-12"	12-14"	12"	<b>F</b> -Deep rose; Lost some uniformity by August, otherwise floriferous and showy <b>D</b> -Uniform plants with lots of flowers



Profusion Orange AAS (99)	12	12	15	12- 15	12	9-12	12	10- 12	<b>F</b> -Very nice-uniform, showy, lots of blooms, healthy <b>D</b> -Bright, floriferous plants
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## 1999 Seed Source List

(An 'R' after the seed source abbreviation indicates retail, while a 'W' indicates wholesale or breeding company)

AAS All-America Selections  
311 Butterfield Road Suite 311  
Downers Grove, IL 60515

AT (W) American Takii  
301 Natividad Road  
Salinas, CA 93906

Ben (W) Ernst Benary of America, Inc.  
1444 Larson Street  
Sycamore, IL 60178

Bod (W) Bodger Seeds, LTD  
1800 North Tyler Avenue  
South El Monte, CA 91733-3618

Bur (R) W. Atlee Burpee  
300 Park Avenue  
Warminster, PA 18974

CI (W) Clause Seed  
100 Breen Road  
San Juan Bautista, CA 95045

Da (W) Daehnfeldt, Inc.  
P.O. Box 38

North Manchester, IN 46962

Exp (W) Express Seed Co.  
300 Artino Street  
Oberlin, OH 44074-1263

Gri (W) G. S. Grimes Seeds  
11335 Concord-Hambden Road  
Concord, OH 44077

GS (W) Goldsmith Seeds, Inc.  
P.O. Box 1349  
Gilroy, CA 95021

JSS (R) Johnny's Selected Seed  
Foss Hill Road  
Albion, ME 04910

McF (R) McFayden Seed Co., Ltd.  
Minot, ND 58701

Ogl (W) Oglevee Ltd  
152 Oglevee Lane  
Connellsville, PA 15425

Pk (R) Park Seed Co.  
P.O. Box 31  
Greenwood, SC 29646

RS (W) Royal Sluis  
910 Duncan Avenue  
San Juan Bautista, CA 95045

Unk Unknown seed source

WFS (W) Waller Flowerseed Co.  
P.O. Box 70

<sup>1</sup> Disclaimer-Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by NDSU or the North Dakota Agriculture Experiment Station is implied.

<sup>2</sup> Temperature and precipitation data are from NDAWN and the National Weather Service.

<sup>3</sup> Letters in parenthesis indicate seed source. The seed source list can be found on the last page of the report

