2021 Cultivar Trials of Bedding Plants



Pennisetum 'Jade Princess'

Horticulture Research and Demonstration Gardens Department of Plant Sciences



Agricultural Experiment Station North Dakota State University Fargo, ND

2021 CULTIVAR TRIALS OF BEDDING PLANTS

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August 3, 2021

2021 Cultivar Trials of Bedding Plants

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Introduction

Performance trials were conducted on over 200 bedding plants in the Horticultural Demonstration and Research plots, part of the Department of Plant Sciences at North Dakota State University.

The horticulture gardens are located on the corner of 12th Ave. N and 18 St. N, on the west edge of the NDSU campus. They are for education, research and display purposes and are open to the public, free of charge, throughout the growing season. Guided tours are also available and contact information for the gardens is located on page 8.

Garden Areas

Bedding Plant Trials: These gardens are located directly off the small parking area on the east side of the gardens. This is an official display garden of All-America Selections (AAS); more information on this organization is on page 7.

Daylilies: Almost 2000 daylily cultivars are located in these gardens on the western edge of the garden area. An official garden of the American Daylily Society, this was the First Public American Hemerocallis Society Historic Daylily Display Garden and the majority of the cultivars are historic (registered with the society prior to 1990).



Hemerocallis 'Trinidad' Wild 1982



Meadow Garden: This area consists of grasses and forbs native to the prairies of the upper Midwest. Little bluestem, prairie drop seed, needle grass, echinacea, asters and prairie smoke are just some of the plants in this area.





Garden areas: (cont.)

Perennial Ornamental Grasses: Both native and non-native perennial grasses are located here. *Miscanthus sacchariflorus* was removed in 2021 due to its invasive nature but the genera of *Schizachyrium* (Little Bluestem), *Calamagrostis* (Feather Reed Grass), *Miscanthus* (Japanese Silver Grass) and *Andropogon* (Big Bluestem) were added.



Xeric Planting: This area consists of plants that are low maintenance and require less water once established. *Salvia yangii* (Russian Sage), *Echinacea*, *Nepeta* and *Baptisia* are some of the genera represented.



Sun/Shade perennials: This area receives both sun and shade so it includes perennials that are tolerant of different light conditions. Some genera here, such as hosta cultivars, are also planted in the full shade area for comparison.



Garden areas: (cont.)

Shade planting: This is a dry, shady area located under a grove of poplar and pine trees. There are mostly perennials here but there is also a small area for shade tolerant annuals.





Accessibility Garden: These raised beds are designed for gardeners who may be wheelchair bound or otherwise unable to bend or garden in ground level beds. This area is located directly off the parking area adjacent to 18th street. Different types of annuals are planted here.



Darwin Perennials hardiness trials: Darwin Perennials is a division of Ball Horticultural Company and has been sending perennials to the NDSU horticulture gardens since 2015 to evaluate for cold hardiness. Below are some of the *Monarda* and *Echinacea* planted in 2021.





Garden areas: (cont.)

Newest Addition: Small ornamental shrubs: A small shrub demonstration area was added in June of 2021. Genera here include *Berberis* (Barberry), *Diervilla*, *Physocarpus* (Ninebark), *Potentilla*, *Spirea*, *Syringa* (Lilac), and *Weigela*.



Bedding Plant Trials Culture

The plants for the bedding plant trials were seeded in the horticulture and forestry greenhouse on the NDSU campus from January through April. Specific dates can be found in the report table on pages 9-61. When at the proper stage, seedlings were transplanted into cell packs containing a peat-based growing medium and finished in the greenhouses.

Coleus 'Main Street Beale Street' and *Celosia* 'Kelos Candela Pink' were received as rooted cuttings on April 1. The plants had partially frozen and replacements for the Coleus arrived on April 8. They were all potted into cell packs with the same peat-based growing medium used for the seed started cultivars.

Six to 12 plants of each cultivar were planted into the beds June 2 and 3. The All-America Selections bed was planted June 3 and the handicapped accessible bed was planted June 7.

Hand weeding was done on a weekly basis but Razor® Pro¹ (glyphosate) was used for spot treating perennial weeds.

Miracle-Gro® Liquafeed 12-4-8 was foliarly applied June 18 and July 31.

Water was applied through drip irrigation (full sun beds) and overhead irrigation (shade beds).

Weather

Fargo temperatures for June-August were warmer than the 30 year average. Precipitation was lower in June and July but slightly higher than the 30 year average in August. (Table 1).

Table 1. 2021 and 1991-2020 June-August Average Temperature and Precipitation for Fargo, ND. 2

| | Average Temperature (°F) | | Precipitation (inches) | |
|--------|--------------------------|-----------|------------------------|----------------|
| | 2021 | 1991-2020 | 2021 | Avg. 1991-2020 |
| June | 73 | 66.8 | 3.52 | 4.29 |
| July | 75 | 70.7 | 0.72 | 3.07 |
| August | 72 | 68.8 | 3.00 | 2.60 |

Problems

The hot, dry weather in June and July was the biggest growing challenge in 2021.

¹ 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 ND Agriculture Experiment Station is implied.

² Temperature and precipitation data are from NDAWN and the National Climatic Data Center.

Events

The yard and garden day scheduled for Sept. 2 was cancelled due to rain.

All-America Selections



The NDSU trial garden is an official display garden of All-America Selections (AAS). AAS was founded in 1932 as a way for home gardeners to learn about new and improved varieties of flowers and vegetables. The red, white and blue AAS logo (above) found on seed packets, in catalogs, and in garden articles usually indicates superior cultivars that have been tested in a variety of locations across the United States and Canada. At NDSU, winning varieties are grown in both the bedding plant trials and a separate garden dedicated solely to AAS winners.

For more information on AAS, visit their website: all-americaselections.org.





2021 Winner: Zinnia 'Profusion Red Yellow Bicolor'

August 2021

These were the AAS winners planted at NDSU in 2021:

2017 winners:

Celosia 'Asian Garden' Dianthus 'Supra Pink'

Petunia 'Evening Scentsation' Penstemon 'Twizzle Purple' Vinca 'Mega Bloom Orchid Halo'

Vinca 'Mega Bloom Pink Halo'

Zinnia 'Profusion Red'

2018 Winners:

Canna 'South Pacific Orange'
Gypsophila 'Gypsy White Improved'

2018 Winners: (cont.)

Marigold 'Super Hero Spry' Ornamental Pepper 'Onyx Red' Zinnia 'Queeny Lime Orange'

2019 winners:

Marigold 'Big Duck Gold'
Marigold 'Big Duck Orange'
Marigold 'Big Duck Yellow'
Marigold 'Garuda Deep Gold'
Nasturtium 'Baby Rose'
Petunia 'Wave Carmine Velour'

2019 winners: (cont.)

Vinca 'Mega Bloom Polka Dot' Zinnia 'Holi Scarlet'

2020 winners:

Coleus 'Main Street Beale Street' Rudbeckia 'Amarillo Gold'

2021 winners:

Celosia 'Kelos Candela Pink' Zinnia 'Profusion Red Yellow Bicolor'

Evaluations

Plants were evaluated August 3 and September 9. Measurements for average height and spread were taken and plants were rated on a scale of 1(poor) to 5 (excellent) in 3 areas: bloom, uniformity and vigor. Stars on the top left corners of pictures in the report indicate top performers during that evaluation time. Measurements and notes for each cultivar can be found on pages 9-61.

The following cultivars received stars for **both** evaluation times and are considered superior performers.

2021 Superior Performers (listed alphabetically by genus):

Alternanthera 'Purple Prince' Celosia 'Flamingo Feather' Petunia 'Easy Wave™ Pink Passion' Amaranthus 'Hot Biscuits' Celosia 'Ruby Parfait' Petunia 'Easy Wave™ Yellow' Amaranthus 'Red Spike' Eucalyptus gunnii 'Silver Drop' Petunia 'Evening Scentsation' Canna 'Cannova Bronze Scarlet' Gomphrena 'Fireworks' Petunia 'Horizon Yellow' Gomphrena 'QIS™ Pink' Canna 'Cannova Yellow' Petunia 'Shock Wave® Deep Purple' Canna 'Tropical Yellow' Gomphrena 'Strawberry Fields' Petunia 'Shock Wave® Spark Mix Improved' Capsicum (Ornamental Pepper) 'Onyx Red' Hibiscus 'Mahogany Splendor' Petunia 'Shock Wave® White' Catharanthus (Vinca) 'Mega Bloom Orchid Halo' Melinis nerviglumis 'Savannah' Petunia 'Tickled Pink' Catharanthus (Vinca) 'Mega Bloom Pink Halo' Mirabilis (Four O'Clocks) 'Broken Colors' Petunia 'Tidal Wave Red Velour' Catharanthus (Vinca) 'Mega Bloom Polka Dot' Mirabilis (Four O'Clocks) 'Marbles Mix' Petunia 'Tidal Wave Silver' Celosia 'Sol™ Gekko Green' Ocimum (Basil) 'Aromatto' Plectranthus (Coleus) 'Mainstreet Beale Street' Celosia 'Sol™ Lizzard Leaf' Ocimum (Basil) 'Everleaf Thai Towers' Salvia farinacea 'Evolution' Celosia 'Arrabona Red' Pennisetum glaucum 'Jade Princess' Talinum 'Limon' Celosia 'Dragon's Breath' Petunia 'E3 Easy Wave™ Pink Cosmo' Verbena bonariensis Celosia 'Eternity Improved' Petunia 'E3 Easy Wave™ White' Zinnia elegans 'Whirligig' Celosia 'Sunday Gold' Petunia 'Easy Wave™ Burgundy Velour' Zinnia scabiosa 'Zinderella Orange'

Acknowledgements

Celosia 'Asian Garden'

'Thank you' to supporters of the 2021 gardens including All-America Selections and Ball Horticultural Company. We are grateful for the support of these companies and hope results from our efforts are beneficial in their research for new and improved cultivars.

I'd also like to extend a special 'thank you' to Esther McGinnis, coordinator of the Master Gardener (MG) program, and the MG volunteers who provided over 200 hours of service from May through October. Their help, from spring clean-up to planting the trial gardens to summer maintenance and fall clean-up, is greatly appreciated.

Petunia 'Easy Wave™ Lavender Sky Blue'

Contact Information

For more information about the Horticultural Demonstration and Research plots at North Dakota State University, visit https://www.ndsu.edu/agriculture/academics/academic-units/plant-sciences/research/horticulture-research-demonstration-gardens or contact:

Barb Laschkewitsch Department of Plant Sciences NDSU Dept. 7670, PO Box 6050 Fargo, ND 58105-6050

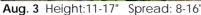
Phone: 701-231-7484

E-mail: barbara.laschkewitsc@ndsu.edu

Agastache aurantiaca 'Fragrant Carpet Mix'

seed source: Park Seed







Sept. 9 Height: 15-21" Spread: 18-24"

Bloom was better in August but plants were vigorous all summer. There were some differences in height and spread over the course of the summer. Agastache was started in the greenhouse on Feb. 22.

Agastache rupestris (Giant Hyssop)

seed source: Park Seed



Aug. 3 Height: 27-29" Spread: 19-20"



Sept. 9 Height: 30-36" Spread: 30"

This hyssop was very uniform and vigorous all season. Bloom was better early in the season.

Ageratum houstonianum 'Blue Horizon'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 24-28" Spread: 28-30"



Sept. 9 Height: 24-26" Spread: 30-33"

This was a top performer in early August with good bloom, vigor and uniformity. Still vigorous in September but it was past its peak bloom. The *Ageratum* was started in the greenhouse on March 11.

Alternanthera brasiliana 'Purple Prince'

seed source: Burpee



Aug. 3 Height: 9" Spread: 18"



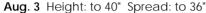
Sept. 9 Height: to 12" Spread: 23-24"

'Purple Prince' was a top performer all summer. It was very uniform in size and had good vigor. *Alternanthera* was seeded in the greenhouse on January 14.

Amaranthus caudatus 'Coral Fountain'

seed source: Johnny's Selected Seeds







Sept. 9 Height: to 36" Spread: to 36'

Stems tended to fall over with the weight of the flowers. These get quite large and need space to grow. Amaranth were seeded in the greenhouse on April 6.

Amaranthus cruentus 'Hopi Red Dye'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 33-36" Spread: to 36"



Sept. 9 Height: to 36" Spread: to 36"

Doing really well early in the season with good bloom, vigor and uniformity. Still nice by the September evaluation but being over-shadowed by *Amaranthus* 'Red Spike'.

Amaranthus cruentus 'Hot Biscuits'

seed source: Johnny's Selected Seeds



Aug. 3 Height: to 45" Spread: to 36"



Sept. 9 Height: 45-50" Spread: 36-40"

Another Amaranth that did really well this summer with good bloom, vigor and uniformity. It is quite large and needs a lot of space.

Amaranthus cruentus 'Red Spike'

seed source: Johnny's Selected Seeds



Aug. 3 Height: to 42" Spread: to 42"



Sept. 9 Height: to 50" Spread: to 36"

Like the other Amaranths, this was a good performer all season but it needs a lot of space.

Angelonia angustifolia 'Serena Mix'

seed source: Park Seed







Sept. 9 Height: 10-16" Spread: 18-20

Nicest early in the summer with good bloom, vigor and uniformity. Bloom declined in September but vigor was still good. *Angelonia* were started in the greenhouse on Feb. 22.

Angelonia angustifolia 'Serena Rose'

seed source: Park Seed



Aug. 3 Height: 9-11" Spread: 8-11"



Sept. 9 Height: 14-15" Spread: 13-15"

Similar to 'Serena Mix' in that it was nicest early in the summer but had a decline in bloom by September.

Angelonia angustifolia 'Serena White'

seed source: Park Seed



Aug. 3 Height: 10-12" Spread: 14-15"



Sept. 9 Height: 14-15" Spread: 18-20"

Nicest early in the season with a decline in bloom by September.

Antirrhinum majus (Snapdragon) 'Black Prince'

seed source: Park Seed



Aug. 3 Height: 11-13" Spread: 10-14"



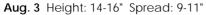
Sept. 9 Height: to 18" Spread: 12-18"

Bloom was in decline for both evaluation periods. Snapdragons were started in the greenhouse on March 25.

Antirrhinum majus (Snapdragon) 'Bridal Pink'

seed source: Johnny's Selected Seeds







Sept. 9 Height: to 20" Spread: 10-15"

Bloom was in a lull for first evaluation but there was a nice flush of bloom early September.

Antirrhinum majus (Snapdragon) 'Candy Tops Mix'

seed source: Park Seed



Aug. 3 Height: 6-9" Spread: 9-10"



Sept. 9 Height: 6-8" Spread: 8-10"

Didn't have much vigor or bloom for most of the season.

Antirrhinum majus (Snapdragon) 'Madame Butterfly Mix'

Aug. 3 Height: 14-16" Spread: 10-12"



Sept. 9 Height: to 22" Spread: 15-20"

One of the more vigorous snapdragons this season with a nice second flush of bloom in September.

Antirrhinum majus (Snapdragon) 'Rocket Golden Hybrid'

seed source: Park Seed



Aug. 3 Height: 14-20" Spread: 12-14"



Sept. 9 Height: to 24" Spread: 15-22"

Some stems were falling over but bloom was nice, especially in September.

Antirrhinum majus (Snapdragon) 'Rocket Hybrid Mix'

seed source: Park Seed



Aug. 3 Height: 13-20" Spread: 14-18"



Sept. 9 Height: to 24" Spread: to 20"

This snapdragon looked nicer in September with a second flush of blooms.

Antirrhinum majus (Snapdragon) 'Twinny Appleblossom'

seed source: Park Seed



Aug. 3 Height: 5-10" Spread: 10-12"



Sept. 9 Height: 9-10" Spread: 10-12'

This was nice in September with a second flush of bloom.

Antirrhinum majus (Snapdragon) 'Twinny Mix'

seed source: Park Seed



Aug. 3 Height: 7-9" Spread: 9-11"



Sept. 9 Height: 8-10" Spread: 10-15"

This is one of the few snapdragons that looked better early in the season. Didn't have much of a mix, though, with mostly yellow-flowered plants.

Begonia boliviensis 'San Francisco' seed source: Park Seed

Aug. 3 Height: 4-5" Spread: 15-17"

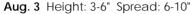


Sept. 9 Height: 8" Spread: 20"

This begonia does much better in hanging pots with its long, dangling stems. The seeds were started in the greenhouse on January 14.

Begonia x hybrida 'Funky® Scarlet' seed source: Park Seed







Sept. 9 Height: 6-9" Spread: 7-9"

'Funky Scarlet' was not vigorous although the small plants had decent bloom. Seed was started in the greenhouse on January 14.

Begonia x hybrida 'Tophat™ Rose Bicolor'

seed source: Park Seed



Aug. 3 Height: 10-12" Spread: 10-13"



Sept. 9 Height: 12-14" Spread: 11-15"

Bloom was nice all summer but the plants weren't very vigorous. Seed was started in the greenhouse on Jan. 14.

Begonia interspecific 'Megawatt™ Pink Bronze Leaf Improved'

seed source: PanAmerican Seed



Aug. 3 Height: 7-11" Spread: 10-13"



Sept. 9 Height: 10-12" Spread: to 13"

One of the nicest begonias this summer with nice bloom and vigor. Seed was started in the greenhouse on January 25.

Begonia semperflorens-cultorum 'Fiona Red'

seed source: Park Seed



Aug. 3 Height: 5-7" Spread: 5-8'



Sept. 9 Height: 5-8" Spread: 5-9"

Like the other begonias, this wasn't very vigorous although bloom was good. Seed was started in the greenhouse on January 14.

Bidens humilis 'Gold Nuggets'

seed source: Burpee





Aug. 3 Height: 3-5" Spread: 6-15"

Sept. 9 Height: 2-4" Spread: 10-20"

Nice mounding habit but bloom and vigor were never very good. Seed was started in the greenhouse on March 11.

Calendula officinalis 'Alpha'

seed source: Johnny's Selected Seeds





Aug. 3 Height: 27-28" Spread: 28-32'

Sept. 9 Height: to 25" Spread: to 25"

Infestation of aphids and black beetles early in the season and past peak bloom by first evaluation. Plants in serious decline by September. Seed was started in the greenhouse on April 6.

Calendula officinalis 'Orange Flash'

seed source: Park Seed





Aug. 3 Height: 17-20" Spread: 20-22"

Sept. 9 Height: 17-19" Spread: to 22"

Similar to 'Alpha' with aphids and black beetles infesting plants early in the summer. Very poor bloom and vigor by September.

Canna x generalis 'Cannova Bronze Scarlet'

seed source: Burpee





Aug. 3 Height: 36-42" Spread: 20-24"

Sept. 9 Height: 40-48" Spread: 20-22"

Nice all season with good bloom, vigor and uniformity. Cannas were seed started in the greenhouse on Feb. 11.

Canna x generalis 'Cannova Yellow'

seed source: Burpee



Aug. 3 Height: 36-38" Spread: 20-22"

Sept. 9 Height: to 50" Spread: to 20"

Nice all season with good bloom, vigor and uniformity.

Canna x generalis 'South Pacific Orange'

seed source: All-America Selections





Aug. 3 Height: 28-30" Spread: 13-23"

Sept. 9 Height: 30-33" Spread: to 24"

2018 All-America Selections (AAS) Flower Winner. Not uniform in bloom early in the season but very nice later with good bloom, vigor and uniformity.

Canna x generalis 'Tropical Red'

seed source: Park Seed Wholesale





Aug. 3 Height: 20-24" Spread: 14-18"

Sept. 9 Height: 36-40" Spread: 20-22"

Slow to bloom but very nice by September with good bloom, vigor and uniformity.

Canna x generalis 'Tropical Rose'

seed source: Park Seed Wholesale





Aug. 3 Height: 25-29" Spread: 13-17"

Sept. 9 Height: to 36" Spread: to 20"

One of the least vigorous cannas this year.

Canna x generalis 'Tropical White'

seed source: Park Seed Wholesale



Aug. 3 Height: 12-23" Spread: 8-20"



Sept. 9 Height: to 30" Spread: to 20"

The least vigorous canna this summer.

Canna x generalis 'Tropical Yellow'

seed source: Park Seed Wholesale



Aug. 3 Height: 26-29" Spread: 20-22"



Sept. 9 Height: 30-33" Spread: to 28"

Nice all season with good bloom, vigor and uniformity.

Capsicum annuum (Ornamental Pepper) 'Onyx Red'

seed source: All-America Selections



Aug. 3 Height: 13-16" Spread: 12-15"



Sept. 9 Height: 10-15" Spread: 12-16"

2018 All-America Selections (AAS) Flower Winner. Did well all season with good vigor, uniformity and lots of peppers produced. Seeds were started on February 18.

Catharanthus roseus (Vinca) 'Mega Bloom Orchid Halo'

seed source: All-America Selections



2017 All-America Selections (AAS) Flower Winner. This was a top performer all summer with good bloom, vigor and size uniformity. Vinca were started from seed in the greenhouse on Feb. 22.

Catharanthus roseus (Vinca) 'Mega Bloom Pink Halo'

seed source: All-America Selections



Aug. 3 Height: 11-12" Spread: 11-13"

Sept. 9 Height: 10-12" Spread: 15-17"

2017 All-America Selections (AAS) Flower Winner. This was a top performer all summer with good bloom, vigor and size uniformity.

Catharanthus roseus (Vinca) 'Mega Bloom Polka Dot'

seed source: All-America Selections



Aug. 3 Height: 10-11" Spread: 12-13"



Sept. 9 Height: 10-12" Spread: 15-17"

2019 All-America Selections (AAS) Flower Winner. Another top performing vinca with good bloom, vigor and size uniformity all season.

Celosia argentea 'Sol™ Gekko Green'

seed source: PanAmerican Seed



Aug. 3 Height: 14-18" Spread: 12-17'



Sept. 9 Height: 18-20" Spread: to 21"

The new 'Sol™' series of Celosia is meant as a sun alternative foliage accent to coleus. 'Sol™ Gekko Green' was a top performer all season. Celosia were seed started on March 17.

Celosia argentea 'Sol™ Lizzard Leaf'

seed source: PanAmerican Seed



Aug. 3 Height: 10-14" Spread: 11-15'



Sept. 9 Height: 12-14" Spread: 15"

Another 'SolTM' celosia with the focus on foliage. This was also a top performer this summer.

Celosia argentea (plumosa group) 'Arrabona Red'

seed source: Burpee



Aug. 3 Height: 18-20" Spread: 16-17"

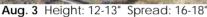
Sept. 9 Height: to 26" Spread: to 26'

This *Celosia* has been a consistently good performer in the trials. This year was no different with good bloom, vigor and uniformity all summer.

Celosia argentea (plumosa group) 'Dragon's Breath'

seed source: Park Seed







Sept. 9 Height: 30" Spread: 33"

No obvious flowers were present early in the season but the reddish/green foliage made up for that. This plant can get quite large and showy.

Celosia argentea (plumosa group) 'Eternity Improved'



Aug. 3 Height: 24-30" Spread: 12-14"



Sept. 9 Height: to 30" Spread: 20-22"

Nice red celosia that did well all summer.

Celosia argentea (plumosa group) 'First Flame Purple'

seed source: Park Seed



Aug. 3 Height: 9-14" Spread: 6-14"



Sept. 9 Height: 10-12" Spread: 12-15"

Bloom and vigor were good all summer but there were some differences in height.

Celosia argentea (plumosa group) 'Sunday Gold'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 33-36" Spread: 24-26"



Sept. 9 Height: to 33" Spread: to 30"

Nice all season with good bloom, vigor and uniformity.

Celosia argentea (plumosa group) 'Sylphid'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 25-32" Spread: 20-25'



Sept. 9 Height: to 42" Spread: 33-36"

This was slow to start blooming but was full of flowers by September. It was also very vigorous.

Celosia argentea (spicata group) 'Asian Garden'

seed source: All-America Selections



Aug. 3 Height: 24-28" Spread: 28-30"



Sept. 9 Height: 28-30" Spread: to 30"

2017 All-America Selections (AAS) Flower Winner. Top performer all summer with good bloom, vigor and uniformity.

Celosia argentea (spicata group) 'Celway™ Terracotta' seed source: Johnny's Selected Seeds



Aug. 3 Height: 32-33" Spread: 22-24"



Sept. 9 Height: to 30" Spread: to 36"

Just starting to bloom by early August but was very floriferous by September. Very good vigor all season.

Celosia argentea (spicata group) 'Flamingo Feather'

seed source: Johnny's Selected Seeds





Aug. 3 Height: 40-45" Spread: 28-30"

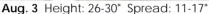
Sept. 9 Height: to 48" Spread: to 33"

This was similar to the other celosia with good bloom, vigor and uniformity. My one problem with this one is the washed-out color of the blooms.

Celosia argentea (spicata group) 'Kelos® Candela Pink'

plant source: All-America Selections







Sept. 9 Height: 30-36" Spread: 20-22"

2021 All-America Selections Flower Winner. Not as vigorous or uniform as other celosia early but was blooming very well by September. Rooted cuttings were received April 1.

Celosia argentea (spicata group) 'Ruby Parfait'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 24-27" Spread: 28-30"



Sept. 9 Height: 30-32" Spread: to 30"

Very nice all summer with good bloom, vigor and uniformity.

Centaurea cyanus (Bachelor's Button) 'Black Button'

seed source: Johnny's Selected Seeds



Aug. 3 Height: to 24" Spread: 10-12"



Sept. 9 Height: 18-26" Spread: 12-15"

Not uniform in bloom but otherwise these did alright. Centaurea seed were started in the greenhouse on April 12.

Centaurea cyanus (Bachelor's Button) 'Classic Magic'

seed source: Johnny's Selected Seeds



Aug. 3 Height: to 24" Spread: 9-11"



Sept. 9 Height: 15-25" Spread: 12-15"

Stems were falling over and there were some differences in height.

Cleome hassleriana 'Queen Mixed Colors'

seed source: Park Seed



Aug. 3 Height: 30-36" Spread: 18-24"



Sept. 9 Height: 30-48" Spread: to 36"

These weren't as vigorous as they normally are but the bloom was good. There were also some differences in height over the course of the summer. Cleome seed were started on Feb. 22.

Dahlia variabilis 'Giant Hybrid Mix' seed source: Johnny's Selected Seeds



Aug. 3 Height: 28-38" Spread: 20-25"



Sept. 9 Height: to 36" Spread: to 24"

Pretty flowers but not uniform in size or bloom time. Seeds for Dahlia were started Feb. 22.

Dianthus amurensis 'Siberian Blues'

seed source: Park Seed



Aug. 3 Height: 6-9" Spread: 4-10"



Sept. 9 Height: 8-10" Spread: 4-15"

These were not very vigorous all year and were not uniform in size. These *Dianthus* seed were started in the greenhouse on March 11.

Dianthus x barbatus 'Jolt™ Purple'

seed source: PanAmerican Seed





Aug. 3 Height: 11-13" Spread: 7-10"

Sept. 9 Height: 11-14" Spread: 11-15"

Not uniform in bloom or size most of the season although the color was a nice, bright pink. These were seeded in the greenhouse on March 11.

Dianthus x barbatus 'Rockin'™ Pink Magic'

seed source: PanAmerican Seed





Aug. 3 Height: 16-18" Spread: 14-16"

Sept. 9 Height: 17-18" Spread: 14-16"

Top performer at the first evaluation due to uniform bloom and size. By Sept. bloom had declined but the plants were still nice. These were seeded on January 29.

Dianthus x barbatus 'Rockin'™ Purple'

seed source: PanAmerican Seed





Aug. 3 Height: 16-18" Spread: 13-19"

Sept. 9 Height: 14-16" Spread: 14-16"

This dianthus was also a top performer for the first evaluation but had a decline in bloom by September. These were seeded on January 25.

Dianthus x barbatus 'Rockin'™ Red'

seed source: PanAmerican Seed





Aug. 3 Height: 14-17" Spread: 10-12"

Sept. 9 Height: 11-17" Spread: 12-16"

Very nice early in the season with a decline in bloom by September. These were seeded on Feb. 2.

Dianthus x barbatus 'Rockin'™ Rose'

seed source: PanAmerican Seed





Aug. 3 Height: 14-17" Spread: 10-12"

Sept. 9 Height: 16-17" Spread: 14-16"

Very bright and showy early with a decline in bloom by September. This dianthus was seeded in the greenhouse on January 25.

Dianthus interspecific 'Supra Pink'

seed source: All-America Selections



Aug. 3 Height: 4-10" Spread: 6-12"



Sept. 9 Height: 8-10" Spread: 9-13'

2017 All-America Selections (AAS) Flower Winner. This wasn't uniform in size and bloom was better in July and August than September. Seed was started in the greenhouse on March 11.

Echinacea x hybrida 'Cheyenne Spirit'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 13-23" Spread: 15-17"



Sept. 9 Height: 18-23" Spread: 15-20"

This was slow to bloom with only a few plants flowering by early August. It quickly filled in and by early September looked nice but there were some differences in height. Seed was started on January 4.

Eucalyptus citriodora (Lemon Bush)

seed source: Johnny's Selected Seeds



Aug. 3 Height: 25-38" Spread: 16-30



Sept. 9 Height: to 50" Spread: to 40"

This was very vigorous and needed more space than I gave it. Attractive foliage has a strong, citronella-like scent. The *Eucalyptus* were seeded in the greenhouse on January 4.

Eucalyptus gunnii 'Silver Drop'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 34-36" Spread: to 22"

Sept. 9 Height: to 50" Spread: to 36"

Good vigor but got too big for the space I had it in. The bushy habit of this was more attractive than 'Baby Blue' which was more of a single stemmed plant.

Eucalyptus pulverulenta 'Baby Blue'

seed source: Johnny's Selected Seeds



Aug. 3 Height: to 30" Spread: 12-15"



Sept. 9 Height: to 30" Spread: to 24'

The stems of this were falling over and it was not as upright as *Eucalyptus* 'Silver Drop'. Had good vigor but was being over-shadowed by the *Eucalyptus* on either side of it.

Euphorbia marginata (Snow-on-the-Mountain)

seed source: Johnny's Selected Seeds



Aug. 3 Height: 22-26" Spread: 25-31'



Sept. 9 Height: 33" Spread: 33"

Very vigorous although some stems were falling over. Nice show of white by September.

Eustoma grandiflorum (Lisianthus) 'Arena III Baby Pink'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 15-20" Spread: 8-10"



Sept. 9 Height: 18-22" Spread: 10-12"

This did well all summer but bloom was best in late August through early September. All lisianthus were seeded in the greenhouse on January 4.

Eustoma grandiflorum (Lisianthus) 'Arena III Blue Picotee'

seed source: Johnny's Selected Seeds





Aug. 3 Height: 13-18" Spread: 8-10"

Sept. 9 Height: 18-22" Spread: 10-12"

Similar to other 'Arena III' lisianthus in that it did nice all summer but bloom was best in September.

Eustoma grandiflorum (Lisianthus) 'Arena III Red'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 15-18" Spread: 8-10'



Sept. 9 Height: 18-20" Spread: 10-12"

This was nice all summer but bloom was best late August through early September.

Eustoma grandiflorum (Lisianthus) 'Charisma Rose'

seed source: Park Seed



Aug. 3 Height: 20-28" Spread: 9-11"



Sept. 9 Height: 12-18" Spread: 8-10"

This lisianthus wasn't quite as floriferous as the other cultivars and stems fell over due to weight of flowers.

Eustoma grandiflorum (Lisianthus) 'Charisma White'

seed source: Park Seed



Aug. 3 Height: 16-18" Spread: 8-11"



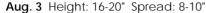
Sept. 9 Height: 18-20" Spread: 8-12"

'Charisma White' wasn't quite as floriferous as other cultivars but stems supported heads better than 'Charisma Rose'.

Eustoma grandiflorum (Lisianthus) 'Mariachi Mix'

seed source: Johnny's Selected Seeds







Sept. 9 Height: 13-18" Spread: 6-8'

Nice mix of colors. Bloom was better earlier in the season and some of the stems bent due to the weight of the flowers.

Eustoma grandiflorum (Lisianthus) 'Rosanne Black Pearl'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 14-18" Spread: 8-9



Sept. 9 Height: 18-22" Spread: 10-12"

Unique color but not as floriferous as other lisianthus and stems seemed more prone to fall over.

Eustoma grandiflorum (Lisianthus) 'Voyage 2 Blue'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 15-20" Spread: 8-10"



Sept. 9 Height: 13-18" Spread: 6-8"

Top performer in the first evaluation with good bloom, vigor and uniformity. Declined in bloom by September.

Eustoma grandiflorum (Lisianthus) 'Voyage 2 Champagne'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 13-20" Spread: 8-10"



Sept. 9 Height: 13-20" Spread: 6-8"

Like the other 'Voyage 2' lisianthus, this one was a top performer for the August evaluation but had a decline in bloom by September.

Eustoma grandiflorum (Lisianthus) 'Voyage 2 Pink'

seed source: Johnny's Selected Seeds





Aug. 3 Height: 13-24" Spread: 8-10"

Sept. 9 Height: to 24" Spread: 6-8"

Top performer for the first evaluation with good bloom, vigor and uniformity. A bit of a decline in bloom by September.

Eustoma grandiflorum (Lisianthus) 'Voyage 2 White Improved'

seed source: Johnny's Selected Seeds







Sept. 9 Height: 13-20" Spread: 6-8"

Top performer on the August evaluation but a decline in bloom by September.

Gaura lindheimeri 'Sparkle White'

seed source: Park Seed Wholesale



Aug. 3 Height: 24-26" Spread: 36-40"



Sept. 9 Height: 27-28" Spread: to 36"

Top performer for the first evaluation with good bloom, vigor and uniformity. There was a decline in bloom by September but vigor was still good. *Gaura* seed was started in the greenhouse on January 14.

Gomphrena globosa 'Fireworks'

seed source: Burpee



Aug. 3 Height: 36-40" Spread: to 36"

Sept. 9 Height: to 36" Spread: to 40"

Top performer all season with good bloom, vigor and uniformity. Gomphrena seed were started in the greenhouse on April 6.

Gomphrena globosa 'QIS™ Pink'

seed source: Johnny's Selected Seeds





Aug. 3 Height: 32-34" Spread: 34-36"

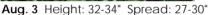
Sept. 9 Height: to 33" Spread: to 33"

Top performer all season with good bloom, vigor and uniformity.

Gomphrena globosa 'Strawberry Fields'

seed source: Burpee







Sept. 9 Height: 33-36" Spread: to 24"

Top performer all season although by September it was getting squeezed by 'QIS Pink' and 'Fireworks'.

Gypsophila muralis 'Gypsy White Improved'

seed source: All-America Selections



Aug. 3 Height: 2-3" Spread: 4-5"



2018 All-America Selections (AAS) Flower Winner. This has never done well in the trials and this year was no exception. Seed was started in the greenhouse on March 17.

Hibiscus acetosella 'Mahogany Splendor'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 36-38" Spread: to 36"



Sept. 9 Height: to 60" Spread: to 36"

Top performer all summer with good vigor and uniformity. Burgundy foliage is very striking. This was seeded in the greenhouse on February 23.

Iberis umbellata 'Purple Rain'

seed source: Park Seed





Aug. 3 Height: 3-8" Spread: 3-8"

Sept. 9 Height: 6-8" Spread: 6-8"

This had decent bloom but plants were small and not very vigorous. The seed was started in the greenhouse on March 17.

Impatiens walleriana 'Beacon® Bright Red'

seed source: PanAmerican Seed





Aug. 3 Height: 5-7" Spread: 8-11"

Sept. 9 Height: 4-7" Spread: 10-12"

Bloom was ok but these weren't very vigorous. Impatiens seed was started in the greenhouse on March 11.

Impatiens walleriana 'Beacon® Coral' seed source: PanAmerican Seed





Aug. 3 Height: 5-6" Spread: 8-10"

Sept. 9 Height: 4-6" Spread: 10-12"

Bright color but these plants were a little smaller than some of the other impatiens.

Impatiens walleriana 'Beacon® Formula Mix'

seed source: PanAmerican Seed





Aug. 3 Height: 3-8" Spread: 8-11

Sept. 9 Height: 4-6" Spread: 10-12"

Nice color mix but like the other impatiens, not too vigorous this summer.

Impatiens walleriana 'Beacon® Orange'

seed source: PanAmerican Seed







Sept. 9 Height: 4-6" Spread: 10-12"

These had a bit more vigor than other 'Beacon' impatiens. Bloom was better earlier in the summer.

Impatiens walleriana 'Beacon® Rose'

seed source: PanAmerican Seed



Aug. 3 Height: 3-7" Spread: 8-10"



Sept. 9 Height: 4-6" Spread: 10-12"

This impatiens had slightly better bloom than the others but they had the same lack of vigor.

Impatiens walleriana 'Beacon® Salmon'

seed source: PanAmerican Seed



Aug. 3 Height: 5-7" Spread: 9-12"



Sept. 9 Height: 4-7" Spread: 10-13"

These performed similar to the other 'Beacon' impatiens.

Impatiens walleriana 'Beacon® Violet Shades'

seed source: PanAmerican Seed



Aug. 3 Height: 4-6" Spread: 10-12"



Sept. 9 Height: 4-7" Spread: 10-13"

This one seemed a bit more vigorous than the other 'Beacon' impatiens.

Impatiens walleriana 'Beacon® White'

seed source: PanAmerican Seed



Aug. 3 Height: 3-8" Spread: 8-10"



Sept. 9 Height: 4-6" Spread: 10-12"

Similar performance as the other 'Beacon' impatiens.

Impatiens walleriana 'Extreme Utopia Mix'

seed source: Park Seed



Aug. 3 Height: 4-5" Spread: 4-8"



Sept. 9 Height: 3-5" Spread: 4-11"

One of the poorest impatiens with low vigor and not much bloom.

Impatiens walleriana 'Imara™ XDR Mix'

seed source: Park Seed



Aug. 3 Height: 4-6" Spread: 4-9"



Sept. 9 Height: 5-6" Spread: 8-11"

Another impatiens that didn't have much vigor, especially early in the season. It looked a bit better when the weather cooled off.

Impatiens walleriana 'Imara™ XDR Orange Star'

seed source: Park Seed



Aug. 3 Height: 6-8" Spread: 6-9'



Sept. 9 Height: 6-8" Spread: 10-12"

Not very uniform in size and one of the plants wasn't as vigorous as the others.

Impatiens walleriana 'Imara™ XDR Red Improved'

seed source: Park Seed



Aug. 3 Height: 6-8" Spread: 6-9"



Sept. 9 Height: 4-8" Spread: 6-11"

Not very vigorous although it looked better as the summer cooled off.

Impatiens walleriana 'Imara™ XDR Salmon Shades'

seed source: Park Seed



Aug. 3 Height: 6-7" Spread: 5-9"



Sept. 9 Height: 6-8" Spread: 8-10"

Not very vigorous early but perked up as the summer cooled off.

Impatiens walleriana 'Imara™ XDR White'

seed source: Park Seed



Aug. 3 Height: 5-7" Spread: 7-10"



Sept. 9 Height: 6-8" Spread: 10-12"

This was the nicest 'Imara'™ impatiens.

Ipomoea alba (Moonflower)

seed source: Park Seed



Aug. 3 Spreading to 5'



Sept. 9 Spreading 5'+

Very vigorous vine but not many blooms. Moonflower seed was started in the greenhouse on March 18.

Ipomoea (Mina) lobata 'Jungle Queen'

seed source: Park Seed





Aug. 3 Spreading 3-4'

Sept. 9 Spreading 4-5'

Very vigorous vine but it flowered late. Full of blooms late September and through the first hard frost which was on October 21. The seed was started in the greenhouse on March 18.

Ipomoea x multifida (Cardinal Climber)

seed source: Park Seed





Aug. 3 Spreading 4-5'

Sept. 9 Spreading 5'+

Very vigorous vine. Bloom was better early in the season. Cardinal Climber was started in the greenhouse on March 18.

Lablab purpureus (Dolichos lablab) 'Ruby Moon'

seed source: Johnny's Selected Seeds



Aug. 3 Spreading 4-5'



Sept. 9 Spreading over 5'

Very vigorous vine that bloomed better later in the summer. Was more vigorous than 'Silver Moon' but both had an insect skeletonizing the leaves early in the summer. Lablab seed was started in the greenhouse on April 6.

Lablab purpureus (Dolichos lablab) 'Silver Moon'

seed source: Burpee



Aug. 3 Spreading 2-3'



Sept. 9 Spreading 3-4

Not as vigorous as 'Ruby Moon' and not as many flowers. Insect skeletonizing the leaves early in the summer but whatever it was disappeared by mid-August.

Limonium sinuatum (Statice) 'Mixed Bold Colors'

seed source: Burpee





Aug. 3 Height: 20-25" Spread: 20-30"

Sept. 9 Height: to 24" Spread: to 24'

Did well all summer but there were some differences in size and bloom time. Statice was started in the greenhouse on April 6.

Limonium sinuatum (Statice) 'Seeker Mix'

seed source: Johnny's Selected Seeds





Aug. 3 Height: 25-30" Spread: 30-36

Sept. 9 Height: 28-30" Spread: to 30"

Bloom was very good for the August evaluation but there was a slight decline by September.

Limonium sinuatum (Statice) 'Soiree Mix'

seed source: Park Seed





Aug. 3 Height: 20-25" Spread: 20-30"

Sept. 9 Height: to 27" Spread: to 30"

Very nice for the August evaluation with uniform bloom, vigor and size. There was a decline in bloom by September.

Lobularia maritima 'Carpet of Snow'

seed source: Burpee





Aug. 3 Height: to 17" Spread: to 32"

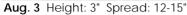
Sept. 9 Height: to 16" Spread: to 30"

'Carpet of Snow' had good vigor but bloom was never very nice. *Lobularia* seed was started in the greenhouse on April 6.

Lobularia maritima 'Easter Bonnet Deep Pink'

seed source: Park Seed







Sept. 9 Height: 2-4" Spread: 13-16"

Very nice in early August with good bloom and vigor but it declined in bloom by September.

Lobularia maritima 'Snow Crystals'

seed source: Park Seed



Aug. 3 Height: 3-4" Spread: 15-16"



Sept. 9 Height: 4-7" Spread: 10-19'

Very nice in early August with good bloom and size uniformity. Decline in bloom and vigor by early September.

Melinis nerviglumis 'Savannah'



Aug. 3 Height: 18-23" Spread: 22-24"

Sept. 9 Height: 32-33" Spread: 33-36"

Always a good performer in the trials and this year was no exception.

Mirabilis jalapa (Four O'Clocks) 'Broken Colors'

seed source: Park Seed

Aug. 3 Height: to 36" Spread: 32-36"

Sept. 9 Height: to 36" Spread: to 40"

Nice bloom and vigor all season. Mirabilis seed was started in the greenhouse on March 4.

Mirabilis jalapa (Four O'Clocks) 'Marbles Mix'

seed source: Burpee





Aug. 3 Height: to 34" Spread: 32-36"

Sept. 9 Height: to 36" Spread: to 40"

Top performer all season with good vigor and bloom.

Nicotiana x hybrida 'Starlight Dancer'

seed source: Johnny's Selected Seeds







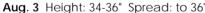
Sept. 9 Height: to 33" Spread: to 30'

Plants were vigorous all season but bloom was best before August. Lots of seedlings coming up around plants creating a weed problem. Nicotiana seed was started in the greenhouse on March 25.

Nicotiana langsdorffii

seed source: Johnny's Selected Seeds







Sept. 9 Height: to 33" Spread: to 30"

Bloomed best before August but plants were vigorous all season. Seedlings coming up around the base of the plants creating a weed problem.

Nicotiana langsdorffii 'Bronze Queen' seed source: Johnny's Selected Seeds

Aug. 3 Height: 26-36" Spread: to 30"



Sept. 9 Height: 21-28" Spread: to 24"

Like the other Nicotiana, this one bloomed best before the first evaluation in August and produced a lot of seeds resulting in a weed problem around the plants.

Ocimum basilicum (Basil) 'Amethyst Improved'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 20-25" Spread: 20-27"



Sept. 9 Height: 33-36" Spread: to 30"

Very nice early in the season with a dark purple foliage color. Seed heads distracted from the look in September. Basil seed was started in the greenhouse on March 25.

Ocimum basilicum (Basil) 'Aromatto'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 30-36" Spread: 28-30"



Sept. 9 Height: to 30" Spread: to 24"

Very nice all season with good vigor.

Ocimum basilicum (Basil) 'Everleaf Thai Towers'

seed source: PanAmerican Seed



Aug. 3 Height: 34-36" Spread: 18-20"



Sept. 9 Height: to 40" Spread: 22-24"

This licorice scented basil has a nice, columnar shape. It also flowers later than other basils which helped its overall appearance.

Osteospermum ecklonis 'Akila Grand Canyon Mix'

seed source: Park Seed



Aug. 3 Height: 8-14" Spread: 10-16"



Sept. 9 Height: 8-14" Spread: 9-18"

Nice bloom in August but not uniform in size. Decline in bloom by September evaluation. *Osteospermum* seed was started in the greenhouse on February 11.

Osteospermum ecklonis 'Akila Sunset Shades'

seed source: Park Seed



Aug. 3 Height: 9-11" Spread: 11-14"



Sept. 9 Height: 10-12" Spread: 12-14"

Top performer for August evaluation with nice bloom and size uniformity. Decline in bloom by September.

Osteospermum ecklonis 'Asti Purple'

seed source: Park Seed







Sept. 9 Height: 10-12" Spread: 18-22"

Did well all season and was the best looking Osteospermum in September.

Pelargonium x hortorum 'Maverick Mix'

seed source: Park Seed



Aug. 3 Height: 11-13" Spread: 10-13"



Sept. 9 Height: 13-14" Spread: 15-22"

Nice bloom and vigor all season but not uniform in size. Geranium seed was started in the greenhouse on February 11.

Pelargonium x hortorum 'Maverick Orange'

seed source: Park Seed



Aug. 3 Height: 9-11" Spread: 10-13"



Sept. 9 Height: 10-12" Spread: 13-14"

A top performer in the August evaluation with uniform bloom, vigor and size. Slight decline in bloom by September evaluation.

Pelargonium x hortorum 'Pinto Premium Lavender'

seed source: Park Seed







Sept. 9 Height: 15-16" Spread: 18-19"

Nicest geranium in September with good bloom and vigor.

Pennisetum glaucum 'Jade Princess'

seed source: Park Seed Wholesale



Aug. 3 Height: 28-30" Spread: 28-30"



Sept. 9 Height: 26-30" Spread: 28-30"

Very nice with good vigor and bloom all season. There was some bug damage showing in September but it didn't detract from the appearance of the plants. Seed was started in the greenhouse on February 22.

Penstemon barbatus 'Twizzle Purple'

seed source: All-America Selections



Aug. 3 Height: 32-36" Spread: 12-15"



Sept. 9 Height: 28-30" Spread: 14-21"

2017 All-American Selections (AAS) Flower Winner. This did alright but was never very vigorous and bloom declined by September. Seed was started in the greenhouse on January 14.

Pentas lanceolata 'Lucky Star Mix'

seed source: Park Seed



Aug. 3 Height: 3-8" Spread: 4-10"



Sept. 9 Height: 8-12" Spread: 10-14"

Not uniform in size or bloom for August 3 evaluation; nicer by September. Seed was started in the greenhouse on January 14.

Petunia x hybrida 'Celebrity Mix' (Floribunda)

seed source: Park Seed





Aug. 3 Height: 9-13" Spread: 12-20"

Sept. 9 Height: 12-20" Spread: 20-28"

Nice bloom and vigor all season but not uniform in size between colors. All petunias were started in the greenhouse on March 17.

Petunia x hybrida 'Double Cascade Hybrid Mix' (Grandiflora)

seed source: Park Seed







Sept. 9 Height: 10-12" Spread: 18-20"

Nice, double blossoms but there were some differences in size. Bloom was better early in the season.

Petunia x hybrida 'E3 Easy Wave™ Blue' (Spreading)

seed source: PanAmerican Seed



Aug. 3 Height: 5-7" Spread: 12-18"



Sept. 9 Height: 9-10" Spread: 12-15"

Nice bloom early but there were some size differences. Bloom declined a bit later in the season.

Petunia x hybrida 'E3 Easy Wave™ Coral' (Spreading)

seed source: PanAmerican Seed



Aug. 3 Height: 9-10" Spread: 18-22"



Sept. 9 Height: 10-11" Spread: 18-20"

Top performer in the August evaluation with nice bloom, vigor and uniformity. One of the plants had Aster Yellows in September.

Petunia x hybrida 'E3 Easy Wave™ Pink' (Spreading)

seed source: PanAmerican Seed







Sept. 9 Height: 10-11" Spread: 12-15"

These were showing some disease in early August which progressed to the point where I pulled all the plants on September 22.

Petunia x hybrida 'E3 Easy Wave™ Pink Cosmo' (Spreading)

seed source: PanAmerican Seed



Aug. 3 Height: 9-10" Spread: 18-20"



Sept. 9 Height: 10-13" Spread: 22-24"

One of the showlest plants in the trials this year. Good vigor and bloom all season long.

Petunia x hybrida 'E3 Easy Wave™ Red' (Spreading)

seed source: PanAmerican Seed



Aug. 3 Height: 6-8" Spread: 14-16"



Sept. 9 Height: 6-8" Spread: 13-18"

This was one of the least vigorous of the 'E3 Easy Wave™' petunias. Bloom was best early in the summer.

Petunia x hybrida 'E3 Easy Wave™ Sky Blue' (Spreading)

seed source: PanAmerican Seed



Aug. 3 Height: 6-8" Spread: 14-16"



Sept. 9 Height: 8-9" Spread: 13-20'

Nice bloom but there were some size differences all season.

Petunia x hybrida 'E3 Easy Wave™ White' (Spreading)

seed source: PanAmerican Seed





Aug. 3 Height: 9-11" Spread: 17-20"

Sept. 9 Height: 12-14" Spread: 18-20"

Top performer all season with good uniformity, vigor and bloom.

Petunia x hybrida 'Easy Wave™ Burgundy Velour' (Spreading)

seed source: Park Seed





Aug. 3 Height: 6-8" Spread: 18-20"

Sept. 9 Height: 11-13" Spread: 20-24"

Top performer all season with good uniformity, vigor and bloom.

Petunia x hybrida 'Easy Wave™ Lavender Sky Blue' (Spreading)

seed source: Park Seed





Aug. 3 Height: 6-8" Spread: 20-22"

Sept. 9 Height: to 14" Spread: to 22"

Top performer all season with good uniformity, vigor and bloom.

Petunia x hybrida 'Easy Wave™ Pink Passion' (Spreading)

seed source: Park Seed





Aug. 3 Height: 6-8" Spread: 20-22"

Sept. 9 Height: 10-12" Spread: to 22"

Top performer all season with good bloom, vigor and uniformity. Petunia 'Easy Wave Lavender Sky Blue' was crowding it.

Petunia x hybrida 'Easy Wave™ Yellow' (Spreading)

seed source: Park Seed





Aug. 3 Height: 8-10" Spread: 17-20"

Sept. 9 Height: to 15" Spread: 18-20"

Top performer all season with nice bloom, vigor and uniformity.

Petunia x hybrida 'Evening Scentsation' (Multiflora)

seed source: All-America Selections





Aug. 3 Height: 6-8" Spread: 18-20"

Sept. 9 Height: 9-10" Spread: 24-26'

2017 All-America Selections (AAS) Flower Winner. Did very well all season with good bloom, vigor and size uniformity.

Petunia x hybrida 'Horizon Yellow' (Multiflora)





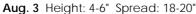
Sept. 9 Height: 12-14" Spread: 18-20"

Top performer all season with good bloom, vigor and uniformity.

Petunia x hybrida 'Purple Wave Improved' (Spreading)

seed source: Park Seed







Sept. 9 Height: to 6" Spread: 28-30"

Bloom was very good all season but these looked especially nice in September.

Petunia x hybrida 'Shock Wave® Deep Purple' (Spreading)

seed source: Park Seed





Aug. 3 Height: 4-7" Spread: 20-22"

Sept. 9 Height: to 6" Spread: 28-30"

Top performer all season with good bloom, vigor and uniformity.

Petunia x hybrida 'Shock Wave® Pink Vein' (Spreading)

seed source: Park Seed





Aug. 3 Height: 6-9" Spread: 20-22"

Sept. 9 Height: 8-10" Spread: 20-24"

Top performer for the August evaluation but slight decline in bloom later in the season.

Petunia x hybrida 'Shock Wave® Spark Mix Improved' (Spreading)

seed source: PanAmerican Seed





Aug. 3 Height: 7-9" Spread: 17-20"

Sept. 9 Height: 10-13" Spread: 22-24"

Top performer all season with good vigor, bloom and uniformity.

Petunia x hybrida 'Shock Wave® Volt Mix Improved' (Spreading)

seed source: PanAmerican Seed





Aug. 3 Height: 7-11" Spread: 10-20"

Sept. 9 Height: 10-12" Spread: 18-20"

Nice bloom but not uniform in size or vigor between colors.

Petunia x hybrida 'Shock Wave® White' (Spreading)

seed source: PanAmerican Seed





 Aug. 3 Height: 6-8" Spread: 14-16"
 Sept. 9 Height: 10-12" Spread: 18-20"

Top performer all season with good vigor, bloom and uniformity.



Nice show of color all season but they get quite large and need a bit of space.



Top performer all season with good bloom, vigor and uniformity.



Very nice! Top performer all summer.

Petunia x hybrida 'Wave® Carmine Velour' (Spreading)

seed source: All-America Selections





Aug. 3 Height: 6-8" Spread: 28-30"

Sept. 9 Height: 6" Spread: to 30"

2019 All-American Selections (AAS) Flower Winner. Bloom was nice all season but there was some disease showing up later in the summer-possibly Aster Yellows.

Plectranthus scutellarioides (Coleus) 'Chocolate Mint'

seed source: Burpee





Aug. 3 Height: 5-7" Spread: 4-8'

Sept. 9 Height: 5-10" Spread: 3-9

Poor and no vigor. Coleus seeds were started in the greenhouse on February 22.

Plectranthus scutellarioides (Coleus) 'Mainstreet Beale Street' plant source: All-America Selections

Aug. 3 Height: 12-17" Spread: 12-14" Sept. 9 Height: 13-16" Spread: to 20"

2020 All-America Selections (AAS) Ornamental Vegetative Winner. This coleus did well all season. Rooted cuttings were received on April 1, 2021.

Plectranthus scutellarioides (Coleus) 'Watermelon'

seed source: Burpee





Aug. 3 Height: 4-9" Spread: 4-8"



Sept. 9 Height: 8-10" Spread: 6-8"

Did alright but wasn't that vigorous.

Plectranthus scutellarioides (Coleus) 'Wizard™ Select Mix Improved'

seed source: PanAmerican Seed



Aug. 3 Height: 4-11" Spread: 4-12"



Sept. 9 Height: 8-10" Spread: 10-14"

Nice mix of colors. Some differences in size between colors.

Rudbeckia hirta 'Amarillo Gold'

seed source: All-America Selections



Aug. 3 Height: 7-17" Spread: 5-10"



Sept. 9 Height: 11-17" Spread: 8-13'

2020 All-America Selections (AAS) Flower Winner. Nice bloom all season but there were some differences in size. *Rudbeckia* seeds were started in the greenhouse on March 4.

Rudbeckia hirta 'Cherry Brandy'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 8-20" Spread: 4-13"



Sept. 9 Height: 8-20" Spread: 8-18"

Not uniform in size or bloom early in the season. Bloom was good later in the summer but there were still some size differences.

Rudbeckia hirta 'Indian Summer'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 20-24" Spread: 18-20"



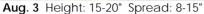
Sept. 9 Height: 20-25" Spread: 30-33"

This did well all summer but was especially nice in September with lots of blooms and good vigor.

Rudbeckia hirta 'Prairie Sun'

seed source: Johnny's Selected Seeds







Sept. 9 Height: 15-20" Spread: 14-20"

Very good bloom all summer but there were some differences in sizes.

Rudbeckia hirta 'Sahara'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 8-18" Spread: 8-14"



Sept. 9 Height: 13-19" Spread: 10-20"

This mix of caramel, red and pink colors bloomed best late in the season.

Salvia farinacea 'Evolution'

seed source: Park Seed



Aug. 3 Height: 18-20" Spread: 20-22"



Sept. 9 Height: 23-25" Spread: 24-26"

Top performer all season with good bloom, vigor and uniformity. Salvia seeds were started in the greenhouse on March 25.

Salvia farinacea 'Victoria Blue'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 22-25" Spread: 15-25"



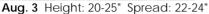
Sept. 9 Height: 30-33" Spread: to 30"

Very nice in September with good bloom, vigor and uniformity.

Salvia interspecific 'Big Blue'

seed source: Park Seed







Sept. 9 Height: 30-33" Spread: to 30"

This is slow to bloom but once it does it's a great display of blue. It also attracts a lot of butterflies.

Scabiosa atropurpurea 'Oxford Blue'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 30-32" Spread: 18-22"



Sept. 9 Height: to 30" Spread: to 36'

This had a pretty blue color and did well all summer. It was past peak bloom by the September evaluation but the seeds heads are also attractive. This was started in the greenhouse on February 18.

Senecio cineraria (Dusty Miller) 'New Look'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 5-6" Spread: 6-9"



Sept. 9 Height: 6-11" Spread: 10-15"

This was not very vigorous and lacked uniformity in size. It finally started looking decent mid-September. Seeds for Dusty Miller were started on March 11.

Senecio cineraria (Dusty Miller) 'Silver Lace'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 3-7" Spread: 3-9"



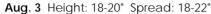
Sept. 9 Height: 8-13" Spread: 9-15'

This was not uniform in size or vigor. It looked the best at the end of the summer.

Tagetes erecta (American Marigold) 'Big Duck Gold'

seed source: All-America Selections







Sept. 9 Height: 28-30" Spread: to 30"

2019 All-America Selections (AAS) Flower Winner. Nicest early with good bloom and uniformity. Some Aster Yellows showed up by September. Marigolds were started in the greenhouse April 6.

Tagetes erecta (American Marigold) 'Big Duck Orange'

seed source: All-America Selections



Aug. 3 Height: 17-19" Spread: 18-20"



Sept. 9 Height: 23-24" Spread: 20"

2019 All-America Selections (AAS) Flower Winner. Nicest in August with good bloom, vigor and uniformity.

Tagetes erecta (American Marigold) 'Big Duck Yellow'

seed source: All-America Selections



Aug. 3 Height: 19-20" Spread: 20-23"



Sept. 9 Height: 22-30" Spread: 24-28

2019 All-America Selections (AAS) Flower Winner. Very nice in August with good bloom, vigor and uniformity. A slight decline in bloom by September.

Tagetes erecta (American Marigold) 'Garuda Deep Gold' seed source: All-America Selections

Aug. 3 Height: to 36" Spread: 32-36"



Sept. 9 Height: to 36" Spread: to 36"

2019 All-America Selections (AAS) Flower Winner. This did well all summer but it gets quite large and needs some room to grow.

Tagetes erecta (American Marigold) 'Giant Orange'

seed source: Johnny's Selected Seeds







Sept. 9 Height: to 30" Spread: 24-28"

Nice early in the season but some Aster Yellows showed up by September.

Tagetes erecta (American Marigold) 'Giant Yellow'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 23-32" Spread: 26-30"



Sept. 9 Height: 22-24" Spread: to 20"

Very nice for August evaluation but declined by September due to Aster Yellows.

Tagetes erecta (American Marigold) 'Nosento Limegreen'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 24-26" Spread: 21-24"



Sept. 9 Height: to 30" Spread: 24-30"

This did alright but wasn't as floriferous or vigorous as some other marigolds.

Tagetes erecta (American Marigold) 'White Swan'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 22-35" Spread: 25-30"



Sept. 9 Height: to 30" Spread: to 30"

Very nice for August evaluation but dead heads detracted from appearance during September evaluation.

Tagetes patula (French Marigold) 'Bonanza Bolero'

seed source: PanAmerican Seed



Aug. 3 Height: 9-10" Spread: 11-13"

Sept. 9 Height: 9-15" Spread: 14-18"

Nicer bloom early in the season and Aster Yellows showing up in September.

Tagetes patula (French Marigold) 'Bonanza Orange'

seed source: PanAmerican Seed



Aug. 3 Height: 15-16" Spread: 17-20"



Sept. 9 Height: 13-15" Spread: to 30"

Nice bloom but Aster Yellows showing up by September.

Tagetes patula (French Marigold) 'Bonanza Yellow'

seed source: PanAmerican Seed



Aug. 3 Height: 12-14" Spread: 17-20"



Sept. 9 Height: 12-14" Spread: to 20"

Nice bloom but Aster Yellows showing up by September.

Tagetes patula (French Marigold) 'Durango Outback Mix'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 15-18" Spread: 15-20"



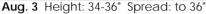
Sept. 9 Height: 13-17" Spread: 18-20

Very nice for August evaluation but Aster Yellows was present in September.

Tagetes patula (French Marigold) 'Golden Guardian'

seed source: Park Seed







Sept. 9 Height: 23-30" Spread: to 36"

This marigold is very vigorous. It formed small shrubs this year but bloom wasn't that great.

Tagetes patula (French Marigold) 'Super Hero Spry'

seed source: All-America Selections



Aug. 3 Height: 9-11" Spread: 15-19"



Sept. 9 Height: 12-15" Spread: to 20"

2018 All-America Selections (AAS) Flower Winner. Nicest early in the summer but Aster Yellows showed up by September.

Talinum paniculatum 'Limon'



Aug. 3 Height: to 36" Spread: to 36"



Sept. 9 Height: 36" Spread: 36"

Unique plant with small flowers that turn into red seed balls. Very uniform in size and bloom; a top performer all summer. *Talinum* was seeded in the greenhouse on March 4.

Thunbergia alata 'Blushing Susie'

seed source: Park Seed



Aug. 3 Spreading to 2'



Sept. 9 Spreading 3-4

Not very vigorous early in the season but filled in nicely by September. Seed was started in the greenhouse on March 11.

Tropaeolum majus (Nasturtium) 'Double Dwarf Jewel Mix' seed source: Burpee





Sept. 9 Height: 10-16" Spread: 21-36

These were not uniform in size or vigor. They were better by September but then the blooms were hidden under the foliage. The nasturtium seeds were started in the greenhouse on March 12.

Tropaeolum majus (Nasturtium) 'Phoenix'

seed source: Burpee



Aug. 3 Height: 4-7" Spread: 3-18"



Sept. 9 Height: to 12" Spread: to 36"

Not uniform in size or bloom most of the season.

Tropaeolum majus (Nasturtium) 'Summer Gown'

seed source: Burpee



Aug. 3 Height: 6-7" Spread: 12-14"



Sept. 9 Height: 8-12" Spread: 15-30"

These were adversely effected by the June heat right after they were planted and they never quite recovered.

Tropaeolum minus (Nasturtium) 'Baby Rose'

seed source: All-America Selections



Aug. 3 Height: 3" Spread: 3"



Sept. 9 Height: 3-4" Spread: 4-5"

2019 All-America Selections (AAS) Flower Winner. Very poor performance this year. It was very hot right after these were planted and that seemed to have adversely effected them for the whole season.

Verbena bonariensis

seed source: Johnny's Selected Seeds





Aug. 3 Height: to 38" Spread: 36-40"

Sept. 9 Height: to 36" Spread: to 38"

Top performer all season with good bloom, vigor and uniformity. Seed was started March 11.

Xerochrysum bracteatum (Strawflower) 'Monstrosum Tall Mix'

seed source: Johnny's Selected Seeds





Aug. 3 Height: to 38" Spread: 21-28'

Sept. 9 Height: to 36" Spread: to 30"

Very vigorous plants all summer. Bloom was good but not uniform between colors. Seed was started on April 12.

Zinnia elegans 'Burpeanna Giants Mix' seed source: Burpee



Sept. 9 Height: to 27" Spread: 24"

Aug. 3 Height: 20-26" Spread: 19-22"

 $\label{thm:condition} \textit{Very good bloom but some differences in vigor. } \textit{All zinnia seeds were started in the greenhouse on April 6.}$

Zinnia elegans 'Cactus Flowered Mix' seed source: Johnny's Selected Seeds



Aug. 3 Height: 23-32" Spread: 19-28"

Sept. 9 Height: 20-30" Spread: 20-30"

Very good bloom but some differences in size between the colors.

Zinnia elegans 'Cut and Come Again'

seed source: Burpee



Aug. 3 Height: 25-28" Spread: 29-30"



Sept. 9 Height: 25-28" Spread: 28-30"

Very nice with good bloom all summer.

Zinnia elegans 'Envy'

seed source: Park Seed



Aug. 3 Height: 28-30" Spread: 17-20"



Sept. 9 Height: to 32" Spread: to 34"

Very vigorous all summer but bloom was best in September.

Zinnia elegans 'Giant Dahlia Flowered Mix'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 21-36" Spread: 16-22"



Sept. 9 Height: 28-33" Spread: 21-25"

Very good bloom all season. Some of the stems were falling over in September.

Zinnia elegans 'Giant Golden Yellow'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 24-26" Spread: 28-30"



Sept. 9 Height: 30-36" Spread: 30-33"

Very nice early with good bloom, vigor and uniformity. Bloom was still good in September but stems were falling over.

Zinnia elegans 'Giant Orange'

seed source: Johnny's Selected Seeds







Sept. 9 Height: 30-36" Spread: 30-32"

Very good bloom all season but there were size differences and some stems were falling over, especially later in the summer.

Zinnia elegans 'Holi Scarlet'

seed source: All-America Selections



Aug. 3 Height: 12-17" Spread: 14-18"



Sept. 9 Height: 14-20" Spread: 20-24"

2019 All-America Selections (AAS) Flower Winner. Top performer for August evaluation with good bloom and vigor. Some disease and leaf spotting were showing up by September.

Zinnia elegans 'Oklahoma Formula Mix'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 19-30" Spread: 20-26"



Sept. 9 Height: to 36" Spread: 20-24"

Very good bloom but there were some size differences and stems falling over later in the season.

Zinnia elegans 'Pinca' seed source: Park Seed

Aug. 3 Height: 28-30" Spread: 24-28"



Sept. 9 Height: to 36" Spread: to 36"

Very good bloom but not all the plants had pink flowers.

Zinnia elegans 'Queeny Lime Orange'

seed source: All-America Selections





Aug. 3 Height: 17-36" Spread: 18-23"

Sept. 9 Height: 28-32" Spread: to 36"

2018 All-America Selections (AAS) Flower Winner. This did well all season but was a top performer during the September evaluation.

Zinnia elegans 'Sunbow Mix'

seed source: Johnny's Selected Seeds



Aug. 3 Height: 20-26" Spread: 16-22"



Sept. 9 Height: 27-30" Spread: 20-22"

Nice bloom but not uniform in size between colors.

Zinnia elegans 'Whirligig' seed source: Park Seed



Aug. 3 Height: 23-30" Spread: 21-28"



Sept. 9 Height: to 32" Spread: to 32"

Top performer all season with good bloom and vigor.

Zinnia elegans 'White Wedding'

seed source: Burpee



Aug. 3 Height: 13-20" Spread: 12-22"



Sept. 9 Height: 12-16" Spread: 15-30"

Bloom was better early; browning flower heads detracted in September.

Zinnia haageana 'Jazzy Mix'

seed source: Johnny's Selected Seeds





Aug. 3 Height: 18-20" Spread: 17-20"

Sept. 9 Height: 20-22" Spread: to 30"

Very nice early with good bloom, vigor and uniformity. Bloom was still nice in September but stems were falling over.

Zinnia hybrida 'Profusion Red'

seed source: All-America Selections





Aug. 3 Height: 9-12" Spread: 13-17"

Sept. 9 Height: 10-12" Spread: 18-20"

2017 All-America Selections (AAS) Flower Winner. Very nice for August evaluation. Some disease showed up by September.

Zinnia hybrida 'Profusion Red Yellow Bicolor'

seed source: All-America Selections



Aug. 3 Height: 3-9" Spread: 10-14"



Sept. 9 Height: 8-10" Spread: 10-20"

2021 All-America Selections (AAS) Gold Medal Flower Winner. Very nice bloom all summer with red-centered gold flowers morphing into shades of apricot, salmon and rose.

Zinnia scabiosa 'Zinderella Lilac'

seed source: Park Seed



Aug. 3 Height: 33-35" Spread: 26-28"



Sept. 9 Height: 20-30" Spread: to 24"

Very vigorous all season but bloom was better early in the season.

Zinnia scabiosa 'Zinderella Orange'

Aug. 3 Height: 26-27" Spread: 33-36"

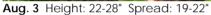
Sept. 9 Height: 30" Spread: 30"

Top performer all summer with good bloom, vigor and uniformity.

Zinnia scabiosa 'Zinderella Peach'

seed source: Park Seed







Sept. 9 Height: 25-30" Spread: to 24"

Very good bloom but some differences in size.

Zinnia scabiosa 'Zinderella Purple'

Se

Aug. 3 Height: 22-36" Spread: 18-22"



Sept. 9 Height: 30-40" Spread: 30"

Very good bloom but there were some size differences.

Seed/Plant Source List-2021¹

All-America Selections
1311 Butterfield Road, Suite 311
Downer's Grove, IL 60515
all-americaselections.org

Burpee (R) 300 Park Ave Warminster, PA 18974 burpee.com Johnny's Selected Seeds (R) 955 Benton Avenue Winslow, Maine 04901-2601 Johnnyseeds.com

PanAmerican Seed (W) 622 Town Road West Chicago, IL 60185-2698 panamseed.com Park Seed (R) 3507 Cokesbury Road Hodges, SC 29653 parkseed.com Park Seed Wholesale (W) 3507 Cokesbury Road Hodges, SC 29653 parkseed.com

¹ Disclaimer-Company names are included for public information; no discrimination is intended and no endorsement by NDSU or the North Dakota Agriculture Experiment Station is implied.

² 'W' after a company name indicates a wholesale or breeding company while an 'R' after a company name indicates a retail company.