Asters, the “stars of autumn,” are invaluable additions to the late season garden. They are suitable for many sites and styles of gardening, from rock gardens and meadows to formal bedding and ecological restoration, and are easily grown and propagated.

Asters belong to the Daisy or Sunflower Family, formerly Compositae, now Asteraceae. Their flower heads appear to be a single flower but are actually comprised of many flowers—central disk florets and outer ray florets. Disk florets are generally yellow but may be purple or rose-purple, providing nectar and pollen to visiting insects. Surrounding these are strap-shaped ray florets found in an attractive array of colors including white, pink, blue and purple.

There are an estimated 250-300 species of asters worldwide. Asters are found in a wide range of habitats—from salt marshes, beaches and swamps to fields, woodlands, thickets, limestone cliffs and roadsides. Some thrive in bright sunlight while others are adapted to shade. The asters chosen for this study flower from late July to November, range in height from 9 inches to 6 feet, and vary in habit from clumping to running or vining.
Description of Evaluation Project

In 2002, Mt. Cuba Center, located near Wilmington, DE, (USDA Hardiness Zone 7A/6B) initiated a project to evaluate 56 commercially available species and cultivars of asters, predominantly native to the eastern U.S. A special effort was made to include lesser known species that have not been fully evaluated for their potential ornamental use. Data was collected from 2003-2005. The goal was to recommend superior taxa based on the following observations: floral display (flower color, inflorescence size, flower coverage, bloom period); habit (height, width, foliage quality, habit quality—need for staking or pinching); winter hardiness; cultural adaptability; and disease and pest resistance. Ratings were based on a 1–5 scale with 1=very poor, 5=excellent.

All plants were grown in an 11,000 sq. ft. trial garden protected by an 18-36" wire fence within a 100 acre garden protected by a 10' deer exclusion fence. Most beds were in full sun; however, partial shade was provided to woodland aster species by several nearby mature pines and sweet gum trees located outside the fence. The clay-loam soil in the trial garden, site of a former cut flower garden, had been amended over the years with composted leaves. It had an average pH of 7.0. The planting rows were mounded 2-4" to assure good drainage.

Maintenance was minimal to simulate home gardening conditions. Beds were periodically weeded and hand watered during periods of drought. The beds were not fertilized and were mulched with shredded leaves and hardwood bark. Plants were routinely deadheaded to prevent reseeding. Winter protection was not provided.

Recent Changes in Nomenclature

The term “aster” is still correct if used as a common name but recent changes in botanical nomenclature have made its use incorrect for the species native to North America. According to botanists, the genus Aster is restricted to Eurasia. Those species native to North America that were formerly classified as being in the genus Aster have now been divided into separate genera. Eastern North American genera include: Symphyotrichum, Ionaecis, Eurybia, Seriocarpus, Doellingeria, Ampelaster and Oclema. Fortunately, the specific epithets remain similar to those formerly used and the common name for all the above genera is still aster. For example, Aster novae-angliae is now Symphyotrichum novae-angliae. Even so, the common name remains New England aster.

Historically, the genus Aster, used in a broad sense, has been a catchall genus, fraught with confusion and controversy. The famous 19th century American botanist, Asa Gray, working at Harvard University, attempted to define the limits of the genus and the taxonomy of the individual species. He ultimately took a broad, all encompassing view of Aster that had been accepted until recently. More than 150 North American plants were included in the genus.

In 1994, Dr. Guy Nesom, a research botanist, attempted to reclassify the genus into a number of smaller units based on morphology (form and structure) and chromosomes. He concluded that none of the American so-called “asters” were closely related to Eurasian asters. This was initially met with skepticism but subsequent molecular and taxonomic research supported Nesom’s hypothesis. Since, historically, the first described species of Aster was European, it became necessary for all of the North American species to be transferred to the Latin tongue-twisting genera names previously mentioned.

We have adopted these new names in our plant record system and signage at Mt. Cuba Center. However, in this report they are listed as Aster to avoid confusion, while their currently accepted scientific names are added as a synonym. Note that the majority of the former Aster species belong to the current genera Symphyotrichum and Eurybia.

Observations, 2003-2005

Fifty-six taxa of asters, including nine New England aster (Aster novae-angliae) and seven New York aster (Aster novi-belgii) cultivars were observed for ornamental characteristics including floral display and habit, cultural adaptability, winter hardiness and resistance to diseases and pests. Table I (page 8) summarizes these plant characteristics and their performance ratings: 5=excellent, 4=good, 3=fair, 2=poor, 1=very poor. We found that with only a few exceptions, most of the asters in the trial were rated at least good to fair. We were especially interested to learn how the little known species performed in relationship to commercially available cultivars and well-known species.

Individual flower color and size, length of time in bloom, flower coverage and foliage quality, habit quality and plant height and width measurements were recorded for each plant. Flower color ranged from white to dark violet. Flower (flower head) diameter ranged from ½" to 2½". Flower coverage in most cases was excellent, from 75-100%.

Clean, attractive foliage throughout the growing season, which was considered to be an important characteristic, weighed quite heavily in scoring. Many of the New England and New York aster cultivars gave a vibrant, eye-catching show of flower color in autumn but the plants were marred in other seasons by insects and foliar diseases. In particular, Aster laevis ‘Calliope’ and Aster pilosus were disfigured by rusts. Lace bugs were particularly damaging and widespread in 2004, especially on the species with larger leaves such as Aster macrophyllus and Aster novae-angliae.
Another attribute that significantly affected the rating was habit, which ranged from weak and floppy to sturdy and upright. In some cases, the weak and floppy habit of the stems, or spaying, could be controlled by early pinching. In other cases, though, staking was necessary. Ultimately, these habit-modifying maintenance techniques reduced their ratings.

Plants that proved vigorous to the point of being aggressive included *Aster macrophyllus*, *A. prenanthoides*, *A. puniceus* and *A. novae-angliae*. *Aster patens* was notable for its lack of vigor.

*Aster concolor* was the only species that was not winter hardy (see plant description for explanation) and died after being planted several times. *Aster carolinianus* and *Aster puniceus* ssp. *elliottii* flowered so late in the season that they were frost damaged.

The following information includes a description of the top-rated asters and the reasons for their ratings, citing both strengths and weaknesses. Also included are a number of asters that scored lower than the top-rated asters but possessed interesting characteristics that some gardeners might find sufficiently intriguing to include in their gardens.

### Top-rated Asters

*Aster laevis* ‘Bluebird’ (*Symphyotrichum laeve* ‘Bluebird’) Smooth Aster has stout, upright 3-4’ stems and smooth, leathery, slightly glossy, bluish-green leaves that are widely lance-shaped and reduced in size as they proceed up the stem. The medium violet-blue, 1 1/4-1 1/2” flowers with yellow centers are borne in abundance on loose panicles from late September to late October.

- Attractive, pest-free foliage that is generally pleasing throughout the seasons
- Vigorous, upright habit that under most conditions does not require staking and can be controlled through pinching
- Large flower size, excellent coverage and quality
- Drought tolerant; may grow taller and perhaps open up on rich soils

*Aster turbinellus* (*Symphyotrichum turbinellum*) Prairie Aster is a mounded 3-3 1/2’, shrub-like perennial of delicate texture. Its 1 1/4-1 1/2” violet flowers are born in abundance on numerous stiff, wiry, leafless branches near the tips of the stems, nearly covering them, and giving the plant a billowy, cloud-like appearance. The foliage at the base of the plant is lance-shaped, 2-4” long, clean, and rich medium green in color.

- Attractive mounding habit, excellent foliage texture
- Large flowers, abundantly produced
- Disease resistant; excellent health and vigor
- Drought tolerant; may open up on rich soils but overall appearance is attractive due to its billowy habit

### Some New Names for Eastern North American Asters:

**SYMPHYOTRICHUM IONACTIS EURYBIA SERIOCARPUS DOELLINGERIA AMPELEASTER & OCLEMENA**
**Aster lateriflorus ‘Lovely’** *(Symphyotrichum lateriflorum ‘Lovely’)*  
**Calico Aster** produces a profusion of star-shaped ½” light violet flowers with rosy-pink centers from early to late September, on stiff, very twiggly, 2 ½-3’ stems. The tiny, toothed leaves are dark green.

- Dwarf, bushy habit and texture reminiscent of a dwarf conifer
- Excellent flower number and coverage
- Drought tolerant and disease resistant
- Pleasing appearance without the need of frequent division
- Great pollinator; when in flower, it hums with insects
- As the plant ages, it has a slight tendency to open up in the middle

**Aster oblongifolius ‘October Skies’** *(Symphyotrichum oblongifolium ‘October Skies’)*  
**Aromatic Aster** has 1 ½-1 ¼” medium violet-blue flowers on 2’ plants from late September to late October. It is a rough, bushy plant with numerous branches bearing short narrow leaves.

- Smaller stature and tighter habit compared to *Aster oblongifolius ‘Raydon’s Favorite’* and *Aster oblongifolius var. angustatus*
- Aromatic foliage, disease and pest resistant
- Attractive flower color, excellent coverage and persistence
- Mounding, cloud-like habit, vigorous growth
- Doesn’t need pinching, branches support each other; if the foliage opens up, it fills in with time

**Aster umbellatus** *(Doellingeria umbellata)*  
**Flat-Topped White Aster** is a bushy 2’ plant with clean, attractive foliage throughout the season. The medium green leaves are up to 4” long and taper at both ends. The showy, ¾” white flowers form a broad flattened cluster, the outer ones being the first to expand. Flowers appear early in the season from late July to late August.

- Early season floral display that fades to a pleasant greenish-white color for weeks after peak bloom
- Clean, neat foliage, attractively arranged on the stems and sufficiently ornamental to stand alone after the plant flowers
- Drought tolerant; pest and disease resistant

**Aster acuminatus** *(Oplemena acuminata)*  
**Mountain Aster** has sharply toothed leaves, about 4” long, which taper to a narrow point. The ¾-1” white flowers are loosely arranged on leafless stalks and produced from early to late September on 2 ½’ plants.

- Good-looking foliage, initially light to medium green, acquiring coppery overtones as it matures; remains ornamental attractive throughout the season
- Burgundy stems; pleasing mounding habit
- Flowers are well presented at the ends of the stems; pleasing contrast between the white flowers and the foliage
- Good groundcover; if the stems splay as they mature, new stems appear from the middle of the plant
**Aster divaricatus 'Raiche'** (Eurybia divaricata 'Raiche') White Wood Aster produces loose clumps of maroon almost black, rather sprawling stems 1 1/2-2' tall. The long-petioled leaves are heart shaped and toothed. The white 3/4-1" flowers have few ray florets, but the mostly terminal, flat-topped clusters are produced in abundance.

- Handsome foliage, mounding habit; pinch several times to produce a more compact habit and prevent splaying
- Tolerant of dry shade; disease and pest resistant
- *Aster divaricatus* 'Silver Spray' is very similar in appearance but did not seem quite as vigorous in our trial

**Aster dumosus** (Symphyotrichum dumosum) Bushy Aster is a 4' tall plant with many upright branches bearing short, narrow leaves. The flower heads are borne along the branches or at their tips, light violet 5/8" flowers appear from late August to late September.

- Attractive flowers that are well displayed around the stem
- Clean foliage that persists; retains foliage to the ground
- Pest and disease resistant; performed well during a very wet summer
- Pinching the plant early in the season produces a denser floral display

**Aster grandiflorus** (Symphyotrichum grandiflorum) Large-Flowered Aster has 1 1/4-1 1/2" medium violet flowers from mid-October to late November at the tips of the leafy bracts, giving the appearance of little buttons. The linear to lance-shaped leaves are stiff, rough textured and up to 3" long.

- Upright oval shape; branches can be pinched to produce a bushier habit and denser floral display
- Large flowers
- Pest and disease resistant; performed well throughout a wet year
- Does not need frequent division

**Aster linariifolius** (Ionactis linariifolius) Stiff Aster has numerous short, stiff, needle-like leaves. Each 12-15" stem usually bears a single flower but there are many stems to a clump. Light violet 1" flowers appear from early September to early October.

- Distinctive low stature, conifer-like texture
- Upright-facing flowers produced in abundance
- Outstanding performance in sunny scree (gravel) garden affording excellent drainage
- Disease and pest resistant; drought tolerant
- Does not require frequent division; occasionally opens up in the center but will fill in with time
**Aster novi-belgii ‘Wood’s Purple’** (*Symphyotrichum novi-belgii* ‘Wood’s Purple’)  New York Aster has medium violet, 1-1 1/4” flowers from mid-late September on 14” plants.
- Relatively clean foliage, vigorous growth
- Rich flower color, almost complete coverage
- Low, mounding habit with or without pinching; branches do not splay

**Aster drummondii (Symphyotrichum drummondii) Drummond’s Aster**  is an upright, multi-stemmed, 5-6’ plant that can be reduced in size through pinching, but generally does not need staking. It has rough, lance-shaped leaves and small, 3/4-1” light violet flowers with excellent coverage from mid-September to mid-October.
- Abundant flowers; has potential as a cut flower
- Pest and disease resistant; drought tolerant

**Aster paludosus ssp. hemisphericus** (*Eurybia hemisphericus*)  Prairie Wood Aster has rough, stiff leaves, mostly narrow on relatively unbranched stems. The large 1 1/8-1 1/2” medium to dark violet-blue flowers appear from mid-September to early October on 2’ plants. The sharp bracts beneath the ray florets are numerous, in many rows, forming a broad, round hemispherical head.
- Large flowers with attractive color
- Unusual foliage texture; relatively clean foliage
- Spreading habit that is not aggressive; stems have a tendency to flop, suggesting their use for bank plantings where this characteristic could be used to create a cascading effect

**Aster spectabilis** (*Eurybia spectabilis*)  Showy Aster has very large 2-2 1/4” medium violet flowers closely clustered at the tip of each stem and produced from early September to early October on 12-18” plants. The leaves are elliptic in shape.
- Large flowers produced over a long period of time
- Nice fall and winter burgundy-colored foliage
- Insect and disease resistant
- Rhizomatous habit that is not aggressive
- Stems tend to splay rather than remaining upright
Asters Worth Mentioning:

**Aster color** (Symphyotrichum color) *Eastern Silvery Aster* has numerous small, downy or silky, elliptic leaves that give the plant its distinctive appearance. The medium violet-blue 3/4 -1" flowers are arranged above a typically unbranched, wand-like stem and are produced from mid-October to late November on 1-2' plants.

This late-flowering aster is found in old fields, pinelands, savannas and grassy openings in pine-oak woodlands on dry, sandy soil. It is growing well in the richer soil of the trial garden. Although there is a tendency for the stems to lodge or fall over from the weight of the flowers, it would be suitable for a meadow among grasses for support.

**Aster cordifolius** (Photograph) *Blue Wood Aster* has thin, sharply toothed, heart-shaped leaves, above which appear clouds of 1-1 1/4" light purple flowers on arching, branched 3' stems from late September to late October.

It has merit because of the rich color, large size and abundance of flowers, length of display and non-aggressive habit. It tends to sprawl but pinching controls this problem. It is prone to foliar diseases and poor flowering in wet seasons but this is not a problem in dryer seasons.

**Aster georgianus** (Symphyotrichum georgianum) *Georgia Aster* is a 4' plant that blooms late in the season from mid-October to late November. Its chief attraction is its large 2 1/4-2 1/4" medium violet flowers that are borne at the tips of the branches. The plant has thick, elliptic leaves up to 3" long.

Hardiness has not been a problem.

If this plant were pinched periodically during the season to control height, it would be a good plant for larger spaces. Its vibrant flowers are eye-catching and unusual so late in the season.

**Aster macrophyllus** (Eurybia macrophylla) *Large-Leaf Aster* has creeping rhizomes that produce many clusters of basal leaves. Its light violet-blue 1-1 1/4" flowers are produced from late August to late September on 3-4' plants.

This plant forms a dense, tough, spreading groundcover that is very attractive in shady locations throughout the growing season, but especially when the heart-shaped leaves are fresh in spring. The limiting factor for this species is the rather unattractive, sparse, frequently muddy-white to light violet blue flowers on 3-4' floppy stems that might be removed for a more attractive appearance.

**Aster schreberi** (Eurybia schreberi) *Schreber's Aster* looks very much like a refined *Aster macrophyllus*. It has white 3/4-1" flowers from mid-July to mid-August on 2 1/2-3' stoloniferous stems. It would also make an effective groundcover.

**Aster nemoralis** (Oelemena nemoralis) *Bog Aster* is a small plant with thin creeping rhizomes and slender stems. The medium purple 1" flowers appear from late August to early September on 10" plants. It is native to northern sphagnum bogs. Under cooler, moister conditions it might make an effective groundcover or rock garden plant. For us, flowering was sparse but the foliage was neat and attractive, though occasionally chlorotic.

**Aster novae-angliae** (Symphyotrichum novae-angliae) *New England Aster* forms a solid, compact mound of medium violet 1 1/2- 1 3/4" flowers on 2' plants from mid-September to early October.

New England asters are susceptible to foliar diseases such as powdery mildew, tar spot and rusts, as well as infestations of Japanese beetles and lace bugs. They need frequent division to maintain vigor and curb wandering rhizomes. They also frequently splay from the weight of the flowers, especially during wet weather. Pinching and staking are absolutely necessary. Although the flowers are extremely colorful, the foliage is a rather non-descript grayish-green color.

Because of its low stature, the flowers of *Aster novae-angliae* ‘Purple Dome’ tend to hide unsightly foliage better than the taller cultivars. It was the most manageable of the New England aster cultivars.

**Aster avitus** (Eurybia avita) *Alexander's Grass-Leaf Aster* didn’t enter the evaluation until 2004 but appears to have potential as an ornamental. The overall appearance is a low mound, 20" tall by 48" wide, with upright stems, grass-like leaves and 3/4-1" light violet flowers borne in abundance. Flowering starts in early September and reaches nearly complete coverage around October 4th. It is native to Stone Mountain, Georgia, as well as granite flat-rocks in Georgia and Pickens County, South Carolina. The native habitat and habit of this aster suggests its possible use as a rock garden plant.
Summary

The plants that gardeners commonly refer to as asters are a diverse group; taxonomists have separated them into a number of genera. To those gardeners who are only familiar with the New England and New York asters, this comparative study of 56 species and cultivars will hopefully raise awareness of the ornamental potential of several other species and cultivars and the quality of their performance in the mid-Atlantic region. Variations in height, color, bloom period, cultural preferences, disease and insect resistance, and hardiness provide ample opportunity to select for a particular site or design requirement.

Fourteen species or cultivars with ratings of 4.5 or above out of 5 were described in detail. These included *Aster laevis* ‘Bluebird’, *Aster turbinellus*, *Aster divaricatus ‘Raiche’*, *Aster densus*, *Aster grandiflorus*, *Aster linariifolius*, *Aster novi-belgii* ‘Wood’s Purple’, *Aster drummondii*, *Aster paludosus* ssp. *hemisphericus* and *Aster spectabilis*. Table 1 provides information that will enable gardeners to learn the merits of all 56 plants surveyed in the study and make selections based on their unique needs.

### TABLE 1

<table>
<thead>
<tr>
<th>ASTER SPECIES</th>
<th>FLOWER COLOR</th>
<th>RHS #</th>
<th>FLOWER SIZE</th>
<th>PEAK BLOOM</th>
<th>BLOOM PERIOD</th>
<th>SIZE</th>
<th>RATING</th>
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<td><em>Aster acuminatus</em></td>
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<td>2-1/2&quot;</td>
<td>10/26</td>
<td>LATE SEPT-LATE OCT</td>
<td>37 X 72&quot;</td>
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<td>2-1/2&quot;</td>
<td>10/26</td>
<td>LATE SEPT-LATE OCT</td>
<td>37 X 72&quot;</td>
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<td>MID SEPT-LATE OCT</td>
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<td>MILD SEPT-LATE OCT</td>
<td>25 X 38&quot;</td>
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<td>9/22</td>
<td>MILD SEPT-LATE OCT</td>
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References


Mr. Cuba Center is a non-profit organization committed to promoting an appreciation for plants native to the Appalachian Piedmont, encouraging their use in gardens, and supporting their conservation in nature.