

Deciduous shrubs

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from cultivar to cultivar. The autumn coloration ranges from inconspicuous in some clones to brilliant red in others. The clusters of white flowers that appear in middle March are very attractive. Pears are among the most easily cultivated fruit trees for our area. Being long-lived and reasonably well adapted to our climate, they often survive long after cultivation has ceased. Some pear varieties are susceptible to a bacterial disease, fire blight, which often kills the entire tree, but other varieties are largely resistant. Some satisfactory fruit can usually be harvested without the use of pesticides.

5. Deciduous shrubs

These plants are primarily used for their floral display or for accents in the landscape, but in our area with its rich supply of evergreens, these are not usually used for foundation plantings. The size of most of these species can be controlled by pruning, but the necessity of pruning should be considered before planting because pruning limits flowering and fruit set. Furthermore, if pruning is necessary, evergreens should be used since most heavily pruned deciduous shrubs are unsightly in the winter season. Several of the plants in this grouping have ornamental fruits as well as flowers.

Acer palmatum Thunb., Japanese Maple. The numerous cultivars of the rather small and slow-growing Japanese maple are treasured plants wherever they are grown in the United States. The shapes and final size vary from clone to clone, but the larger forms mature into large (up to 15 feet), spreading shrubs or small trees with interesting scaffold and branch arrangements. The small, palmately lobed leaves vary greatly in dissection from clone to clone, but the texture of the tree is always fine. The foliage matures into shades of red, orange and yellow in the autumn with the varieties having red summer pigmentation making the most brilliant show. The flowers are inconspicuous. The species is only occasionally planted in North Carolina, but specimens observed in a variety of habitats appear to be in good health and vigor. Possibly the availability or cost of transplants has limited the distribution of this species in our area.

Table 4. Parameters of cultivation of deciduous shrubs grown in North Carolina

Species	Date brought into cultivation	Place of origin	Frequency of cultivation
<i>Acer palmatum</i>	1820	Japan	occasional
<i>Aesculus pavia</i>	-	native	rare
<i>Aralia spinosa</i>	-	native	rare
<i>Callicarpa americana</i>	-	native	rare (in central N.C.)
<i>Chaenomeles japonica</i>	1879	Japan	common
<i>Chionanthus virginicus</i>	-	native	infrequent
<i>Elaeagnus umbellata</i>	1830	China, Japan, Korea	rare*
<i>Euonymus americanus</i>	-	native	rare
<i>E. alatus</i>	1860	N.E.Asia to C.China	occasional
<i>Forsythia viridissima</i>	1844	China	common
<i>Hibiscus syriacus</i>	before 1790	China, India	common
<i>Hydrangea macrophylla</i>	1790	Japan	occasional
<i>Jasminum nudiflorum</i>	1844	China	common
<i>Poncirus trifoliata</i>	1850	N. China, Korea	occasional
<i>Rosa</i> species	very early	worldwide	common
<i>Spiraea prunifolia</i>	1864	China	common
<i>Viburnum plicatum</i>	1814	China, Japan	rare
<i>Vitex agnus-castus</i>	1750	S.Europe, W. Asia	infrequent
<i>Wisteria sinensis</i>	1816	China	common (weedy)

*(common escape)

Aesculus pavia L., Red Buckeye. A large shrub of spreading habit and moderate growth rate that may reach about 10 feet in height. The large palmately compound leaves give the plant a coarse texture. The autumn coloration is not showy. Spikes of quite ornamental red flowers are produced about the first of May. This is an easily cultivated native shrub that is only rarely planted in our areas.

A hybrid between this species and *A. hippocastanum*, *A. X carnea*, is widely planted in Europe and other parts of the United States, but it has not been observed in local plantings.

Aralia spinosa L., Devil's Walkingstick. A spiny, large shrub to small tree of erect habit that reaches 20 or more feet in height in maturity. The sparse branch formation and the large leaflets on the bipinnately compound leaves give this plant a very coarse texture. The display of autumn foliage is in shades of red and orange, and attractive large clusters of

small white flowers are produced in late summer. The clusters of black berries are effective in the autumn, but they are readily harvested by the birds. This is an unusual, almost tropical-appearing, tree that is easily cultivated but, due to its coarseness, is out of place in many gardens.

A closely related species, *Aralia elata* from Japan, is very similar in appearance; in fact, it is somewhat difficult to distinguish the two species. Apparently, most of the specimens cultivated in our area are the native species, *A. spinosa*.

Callicarpa americana L., Beauty-berry, French Mulberry. A shrub of rounded or spreading habit and of moderate growth rate that may reach a height of about 10 feet. Rather large serrate leaves give the bush a moderately coarse texture. The yellowish leaf coloration in the autumn is not showy, but the heavy set of purple to lavender berries that persist into the early winter is most unusual and very ornamental. The bloom which occurs in June and July is not conspicuous. This is a very common native shrub of our coastal plain that is occasionally cultivated in other parts of the state. As an ornamental, it is mostly grown for its unusual colored fruits.

Chaenomeles japonica (Thunb.) Lindl., Flowering Quince. A large spreading shrub of nicely rounded habit and moderate growth rate that reaches a maximum height of about 8 feet. The elongate, dark green leaves create an impression of medium texture similar in appearance to that of the pear. There is no autumn coloration of note since the leaves often drop without coloring in late summer. Before the leaves unfold the plant produces red (usually), shades of pink or white flowers. The floral display is produced in late February or early March and is one of the hallmarks of the North Carolina spring. Large, more or less edible fruits are used for the making of jellies. The best flower set occurs in unpruned, or sparsely pruned, specimens. This is one of our most easily grown and common ornamental shrubs. It has few pests, but its premature defoliation can detract from its appearance in the late summer.

Chionanthus virginicus L., Fringe-tree. A large shrub or small tree of moderate growth rate and rounded to slightly spreading habit that may reach 20 feet in height. Long leaves give this plant a medium-coarse texture.

The foliage turns to a bright yellow in the autumn, and the dark blue fruits may also be ornamental. The airy flowers are produced in loose panicles in late April or early May, and the floral display of a mature specimen can be quite spectacular. This is a widely distributed native species that is readily grown, but not often seen in cultivation. When it is grown in the full sun, the floral display is at its best. This species is worthy of greater use in the landscape.

Elaeagnus umbellata Thunb., Elaeagnus or Silverberry. A rapidly growing shrub that may reach a height of about 10 feet at maturity. This species is more erect in habit and is not as large as *E. pungens*. Small and rather silvery ovate leaves give the bush a medium-fine texture. The autumn coloration is not showy. Inconspicuous, but extremely fragrant, flowers are produced in middle May, and fruits mature in the early autumn. This species is rarely cultivated, but has escaped and become weedy in many piedmont areas.

Euonymus americanus L., Strawberry Bush. A shrub of small to medium size with moderate growth rate that may reach about 6 feet or occasionally more. Some specimens are somewhat erect in habit, but it can be vine-like and have straggling branches. Small elongate leaves give the shrub the impression of moderately fine texture. Plant habit in the shade is open and irregular but when grown in full sun the plant has a better shape. The autumn foliage is weakly evergreen to slowly deciduous without noteworthy coloration of the leaves. Trailing plants tend to be more evergreen while fruiting individuals (adult phase?) seem more prone to be deciduous. The flowers, while interesting in detail, are not conspicuous. Fruits with the color and shape of a strawberry open to expose large orange-red seeds which produce a very ornamental effect in the autumn. This is a very common native plant of rich woods in our area that reaches fruiting size in a few years; however, it is only occasionally cultivated. It requires a rich, or at least a reasonably moist site, but in other respects it is easily grown.

Euonymus alatus (Thunb.) Sieb., Winged Spindle-tree. A large shrub of moderate growth rate and rounded to spreading habit that reaches about 10 feet in height at maturity. The small serrate leaves give this plant a medium-fine texture. It has long-lasting autumn coloration in shades of

crimson and rosy-scarlet. The autumn is the period of the greatest display for this species, and this is the reason for which it is usually planted. The brightly colored fruits add to the autumn show, but the flowers are relatively inconspicuous. The winged spindle-tree is an attractive and well-formed shrub that has an offering for each season, with good summer foliage, excellent autumn coloration and interesting corky outgrowths on the twigs (wings) for the winter. It is more commonly planted in cooler climates, but specimens observed in our area are well formed and in good health.

Forsythia viridissima Lindl., Forsythia. A medium to large shrub of rapid growth rate and rounded to spreading habit that may reach 10 feet in height, but usually less. Medium-size serrate leaves give this species an appearance of moderately fine texture. The fall coloration is often inconspicuous, but under favorable conditions, an interesting mixture of yellow and magenta-purple shades develop in autumn. The branches are lined with numerous yellow bell-like flowers before the leaves are produced in March. The intensity of the yellow pigmentation, flower size and the freeness of bloom vary greatly from clone to clone. A variety of kinds of forsythia is cultivated in North Carolina, but a check of local specimens shows *F. viridissima* to be most frequent. Some of these are easily grown here while others show a high level of susceptibility to certain soil fungi. In our area the plant is usually smaller than those grown in the north, but the bloom is very dependable here. A test planting of species and varieties of forsythia to determine which types are best adapted to the North Carolina climate would be a worthwhile undertaking.

Hibiscus syriacus L., Shrubby Althea, Rose-of-sharon. A large shrub or small tree of moderately rapid growth rate and distinctly erect habit, usually with several trunks and reaching about 20 feet in height. The entire toothed leaves give the tree a medium texture. The pale yellow autumn coloration is not conspicuous. Throughout the summer, large 2 to 3 inch blooms are produced in shades of pink, lavender or white, and cultivars with double flowers are common. This plant is usually grown for its showy summer bloom. It is very easy to cultivate as long as dry sites are avoided. It is a large plant that has few pests and is at its best in the unpruned condition.

Hydrangea macrophylla (Thunb.) DC., House Hydrangea. A small shrub of moderate growth rate and rounded habit reaching about 4 feet in height in our area. Its coarse texture results from the large glossy leaves. The autumn coloration is not conspicuous. Very large and long-lasting inflorescences in pale blue or pink (depending in part on the acidity of the soil) are produced in early summer and slowly fade to a greenish color as autumn approaches. Although generally tolerant of a variety of cultural conditions, the branches are somewhat cold tender and die back as a result of winter cold in some seasons. With care it can be satisfactorily cultivated in our area. It is also widely cultivated as a pot plant.

A number of other *Hydrangea* species can be cultivated in our area. *Hydrangea quercifolia* Bartr., the very coarse oak-leaf hydrangea is rarely seen; however, specimens observed seemed well adapted and in a good state of vigor. The Peegee hydrangea, *H. paniculata grandiflora* Sieb., so very common in the north, is occasionally cultivated in the North Carolina mountains. Other species are encountered on rare occasions.

Jasminum nudiflorum Lindl., Winter Jasmine. A small shrub of moderately rapid growth rate that reaches about 3 to 4 feet in height. The habit is spreading, and the long arching branches bend to the ground or trail and layer at their tips, thus producing colonies. The small trifoliate leaves give the plant a fine texture. The autumn coloration is not conspicuous. The small yellow flowers are produced during warm periods in January, February or March. This is a very easily grown and almost weedy shrub that is distinctly homely, but any little bush that can produce showers of little yellow flowers in midwinter is worthy of a place in the landscape.

Poncirus trifoliata Raf., Trifoliate Orange. A thorny shrub of moderate growth rate and erect-growing habit that reaches about 10 feet in height, occasionally more. The small leaflets give the shrub a fine texture. The autumn coloration of the foliage is not worthy of note. The flowers, produced in April, are noticeable in a planting. This is an easily grown, but homely, shrub of rather irregular habit. It is very useful where an impenetrable large hedge or hedgerow is desired. This species is placed in the genus *Citrus* by some authorities, and that is likely correct since the tri-

foliate orange is readily grafted and hybridized with *Citrus* species. Some of these hybrids offer promise of cultivating edible *Citrus* clones in zone 7 and 8.

Rosa species and cultivars. A wide variety of cultivars, many variously hybrid in origin, are grown in this region. The large-flowered hybrid teas and related forms are the most commonly planted, but these can only be successfully managed in our area with the use of pesticides. Many "minor" taxa which are more pest and disease resistant are only infrequently seen in local gardens. No attempt will be made here to enumerate and discuss the great variety of materials in this genus variously grown in North Carolina.

Spiraea prunifolia Sieb. and Zucc., Bridle Wreath Spiraea. A shrub of medium size and moderate growth rate that may reach a height of about 8 feet at maturity. The habit is erect at first, but it takes on a well rounded form in time. Small leaves, elliptic in shape, give this shrub a fine texture. The foliage turns to shades of orange in the autumn, and can be quite striking. Copious quantities of small, double white flowers are produced before the leaves appear in early March on the form *plena*, the one commonly cultivated in our area. This easily grown and rather small shrub is planted for its long-lasting, early spring bloom. Since it is deciduous, pruning results in an unsightly winter appearance and limits the floral display; so it is best used where it has the space to develop naturally.

Viburnum plicatum Thunb., Doublefile Viburnum. A large shrub of rapid growth rate that reaches about 10 feet in height at maturity. The habit is erect in youth, but in time the branch spread about equals the height, and the branches take on a layered horizontal arrangement. The rather large leaves have a rough surface and give this plant a moderately coarse texture. In the late autumn the foliage turns an assortment of shades of orange-tan and red-tan before falling. Large flat flower clusters are produced in early May, followed by clusters of red berries in the early autumn that eventually fade to black. Although this species is easily cultured and very attractive, it is only infrequently cultivated in our area.

Other deciduous species of *Viburnum* are only very rarely seen in North Carolina gardens.

Vitex agnus-castus L., Chaste-tree. A large shrub or small tree of rapid growth rate that has an irregular rounded to oval-erect habit in time and reaches about 15 feet in height. Large, palmately compound leaves have long slender tapering leaflets which give this shrub a moderately fine texture. The fall coloration is not conspicuous. During midsummer, clusters of blue, lavender or white flowers are produced. *Vitex* is a fast-growing deciduous shrub which produces flowers in unusual colors in a season when few shrubs are in bloom. It is a large and easily grown plant which regenerates rapidly after pruning. It is a fine plant for large screens or hedges; however, it is deciduous and best enjoyed as a large specimen.

Wisteria sinensis (Sims) Sweet, Wisteria. A very fast-growing woody vine that may climb to the uppermost branches of large trees. Although it is normally trailing, forms of this species are sometimes maintained as a shrub, "tree wisteria", by careful pruning. Pinnately compound leaves with small leaflets give this vine a fine-textured appearance. The fall coloration is not showy. Long full racemes of blue-violet or white flowers are produced at the time the foliage appears, and the bloom can be spectacular in effect. However, like many Asiatic exotics, wisteria opens its flower buds too soon, and the bloom is often ruined by frost in March. It is an easily cultured, fast-growing and often weedy vine that is capable of growing to great size. Weediness and frost sensitivity are problems that limit the culture of this plant in central North Carolina.

Both the Japanese species, *W. floribunda*, and a native species, *W. frutescens*, are found in cultivation in North Carolina, but a brief check of specimens in our area showed them all to be *W. sinensis*.

Figure 4. Typical leaves of deciduous shrubs listed in chapter 5.

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| 1. <i>Acer palmatum</i> | 10. <i>Forsythia viridissima</i> |
| 2. <i>Aesculus pavia</i> | 11. <i>Hibiscus syriacus</i> |
| 3. <i>Aralia spinosa</i> | 12. <i>Hydrangea macrophylla</i> |
| 4. <i>Callicarpa americana</i> | 13. <i>Jasminum nudiflorum</i> |
| 5. <i>Chaenomeles japonica</i> | 14. <i>Poncirus trifoliata</i> |
| 6. <i>Chionanthus virginicus</i> | 15. <i>Spiraea prunifolia</i> |
| 7. <i>Elaeagnus umbellata</i> | 16. <i>Viburnum plicatum</i> |
| 8. <i>Euonymus americanus</i> | 17. <i>Vitex agnus-castus</i> |
| 9. <i>E. elatus</i> | 18. <i>Wisteria sinensis</i> |

