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4. Fruit and nut trees

The common temperate species cultivated for their fruits and seeds (see Table 3) are for the most part easily grown in this regions; however, harvesting satisfactory crops from these plants is quite another matter. Along with the usual insects and diseases, the central piedmont region is plagued by late spring freezes. Typically, these cold periods follow the early "false spring" during which time the early-blooming fruit trees flower and set fruit. Frequently, these freezing periods completely destroy the fruit crop. While orchards are not practical in this area, many gardeners grow these trees, hoping for the favorable season which does come from time to time.

Carya illinoensis (Wang.) K. Koch, Pecan. A large, long-lived tree of moderate growth rate that may reach about 80 feet in height at maturity. The habit is finally broadly spreading, but the branch spread of the tree does not exceed the height. A moderately fine-textured and airy appearance is produced by the numerous small leaflets pinnately arranged on the compound leaves. The open airy appearance is further augmented by the open arrangement of the long and remarkably slender branches. The deciduous foliage does not color in the autumn, and the flowers are also inconspicuous. The pecan is not only the producer of one of our most popular edible nuts, but it is also a handsome and easily cultured shade tree throughout North Carolina and the rest of the southeast. The wild form is a fine shade tree but has smaller thick-shelled nuts. Among the cultivated forms, the nuts on some of the older varieties are damaged by disease in our area, but disease resistant varieties are available. As is the case with many of our fruiting trees, good fruit set requires co-planting of two different clones for pollination purposes.

Castanea mollissima Bl., Chinese Chestnut. A medium-sized tree of moderately rapid growth rate reaching about 50 feet in height, usually less. Unlike our native species, the habit of the Chinese Chestnut is distinctly spreading even as a young tree. The tree has a moderately coarse-textured appearance that is produced by the long dentate leaves. The deciduous foliage turns to rich shades of yellow and brown in autumn, and particularly on

Table 3. Parameters of cultivation of fruit and nut trees grown in North Carolina

Species	Date brought into cultivation	Place of origin	Frequency of cultivation
<i>Carya illinoensis</i>	native	Central U.S.A.	common
<i>Castanea mollissima</i>	1853	China, Korea	occasional
<i>Diospyros virginiana</i>	native	Eastern U.S.A.	rare
			common wild
<i>Ficus carica</i>	long cultivated	Western Asia	occasional
<i>Juglans nigra</i>	native	Eastern and Central U.S.A.	occasional
			occ. wild
<i>Malus pumila</i>	long cultivated	Europe, Western Asia	common
<i>Prunus armeniaca</i>	long cultivated	Western Asia	rare
<i>P. domestica</i>	long cultivated	Southwestern Asia	occasional
<i>P. persica</i>	long cultivated	China	common
<i>Pyrus communis</i>	long cultivated	Europe, Western Asia	common

younger trees, some of the dry leaves persist throughout the winter. Somewhat conspicuous racemes of small white flowers are produced in late spring (June). The Chinese chestnut is a very easily grown shade tree that produces edible nuts at an early age. For reasons of cross pollination, it is essential that at least two trees be planted in the same general area if nuts are desired. (Solitary trees produce parthenocarpic fruits.) This species is largely resistant, in our area, to the fungal blight which ruined the grander American chestnut, *Castanea dentata* Borkh.; however, cankers have been seen on the cultivated Chinese species in the North Carolina mountains.

Diospyros virginiana L., Persimmon. A small to medium-sized tree of erect habit and moderate growth rate that may reach 60 feet in height. The tree has a medium texture that is produced by the entire elongate leaves. The deciduous autumn foliage and the bloom are not showy, and while the orange fruits may have some ornamental value in autumn, they are unpleasant underfoot. The persimmon is a very common wild tree that is rarely planted; however, the edible fruits are collected and prepared by those interested in folk foods. The trees are often bothered by a number of insect pests which detract from their appearance but probably do not inflict long-term damage.

The large fruited oriental species of cultivated persimmon, *Diospyros*

kaki L.f., is hardy in our area, and some gardeners have had success with it. The failures result not from winter cold but from the inherent difficulties in transplanting *Diospyros*. In a high percentage of cases bare-root specimens from nurseries fail to establish; however, once established in a well drained soil, the cultivars of *D. kaki* are easily cultivated and fruit freely if pollination patterns are properly considered. The less astringent apple-size fruits of the oriental species are more interesting to fruit growers than the grape-size fruits of American species, but they are probably not more flavorful.

Ficus carica L., Fig Tree. A large shrub or small tree of rounded or spreading habit and moderately rapid growth rate that may reach about 20 feet in height. The large, palmately lobed leaves of the fig tree give it a coarse-textured appearance. The autumn color of the deciduous foliage and the flowers are not conspicuous. The fig with its large, almost tropical-looking leaves can be a very interesting landscape specimen; however, it is usually grown for its fruits. While the tree, or its fruits, is not seriously harmed by insects or disease, we are just north and west of the region in which figs are fully hardy; however, the hardiest figs can be successfully grown in Chapel Hill in protected localities (with luck!). From a practical point of view, the hardier selections seem to effectively define the cooler limit of zone 8 in our area.

Juglans nigra L., Black Walnut. A large tree of moderate growth rate that reaches 70 feet in height or occasionally more. A large, long-lived and broad-topped tree at maturity which is usually more erect in habit than spreading. The leaflet arrangement and texture are similar to that of the pecan; however, the overall impression is slightly more coarse, compact and less airy. The deciduous leaves often drop prematurely without any significant coloration, and the bloom is inconspicuous. Very easily grown, the native black walnut is occasionally cultivated for shade, its oily nuts or its fine hard wood. It can be a grand tree, but it is a messy plant (always dropping something), and thus not recommended for those preoccupied with neatness. The tendency for premature defoliation can detract from the late summer appearance of the tree.

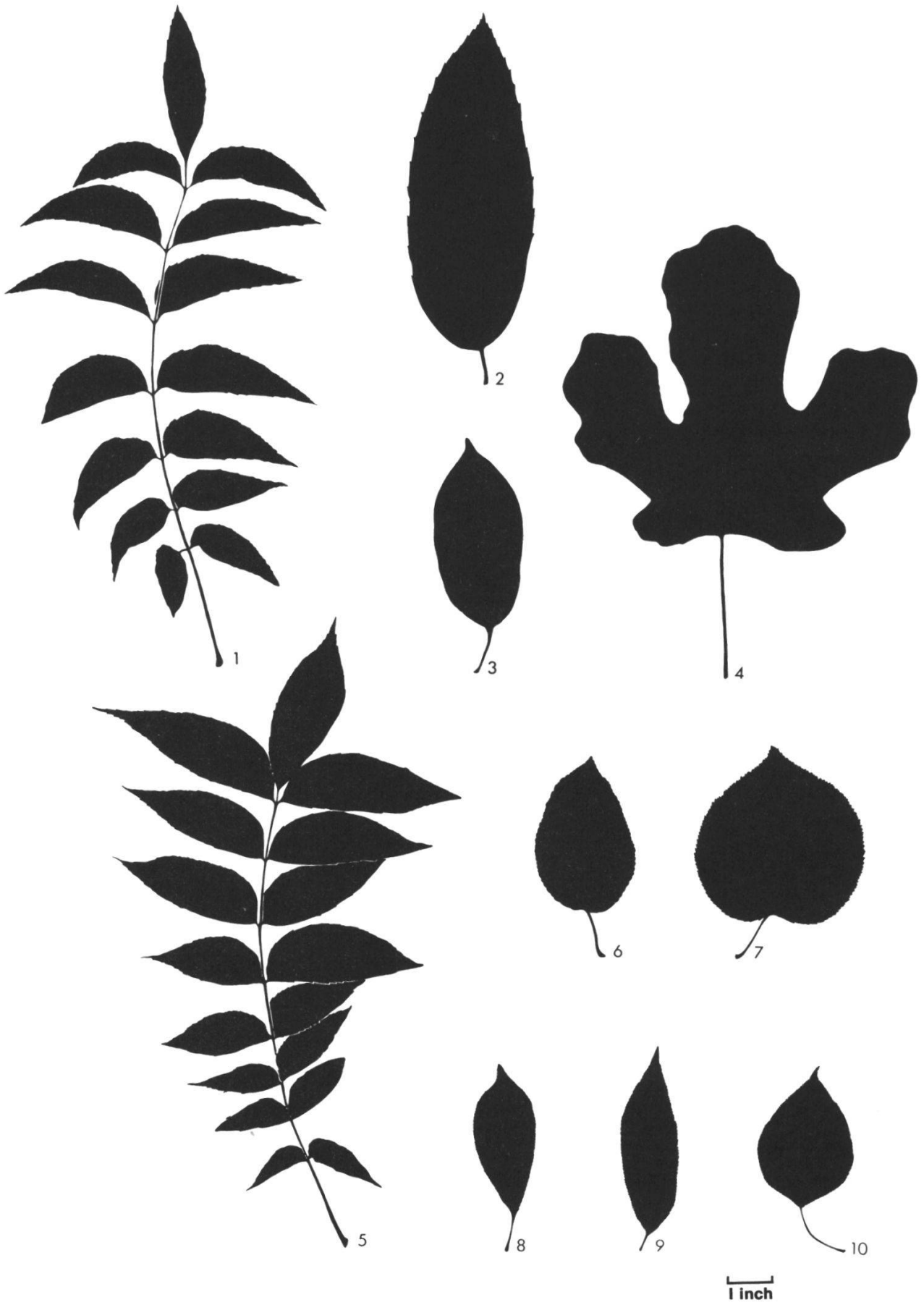
The Carpathian strain of the English or Persian Walnut is certainly hardy in central or coastal North Carolina, but it is rarely cultivated. Perhaps there is a disease or cultural problem, or merely the fact that this species has not been adequately tried.

Malus pumila Mill., Common Apple. A small to medium-sized tree of moderate growth rate that may reach 45 feet in height but is usually much smaller in our area. It is a tree of spreading habit that develops a rounded top and may become quite large in time, particularly in cooler climates. The small ovate leaves give the tree an appearance of moderately fine texture, while the autumn coloration of the deciduous foliage is not colorful. The apple is probably the most widely cultivated fruit tree in North America; indeed, the apple in bloom is a familiar sight in all temperate countries. It is at its best in somewhat cooler climates, but with care satisfactory crops can be harvested in central North Carolina. The flowers and young fruits are sometimes damaged by spring frosts, and usually satisfactory fruits can only be obtained with assistance of pesticides. Many summer-fruiting varieties are severely injured by canker disease.

Prunus armeniaca L., Apricot. A small to medium-sized tree of distinctly spreading habit and moderately rapid growth rate. Under favorable conditions it may reach 30 feet in height, and may become the largest of the domestic *Prunus* species grown in our area. The small ovate leaves give the tree a medium-fine texture. The autumn coloration of the deciduous foliage is not conspicuous. In early March the apricot is the first of the domestic fruit trees to bloom and has the most striking floral display. It is easily cultured in our area; however, it is best treated as a flowering tree since it virtually always flowers before the last spring freeze has occurred, and consequently, rarely sets fruits.

Figure 3. Typical leaves of fruit and nut trees listed in chapter 4.

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|--------------------------------|----------------------------|
| 1. <i>Carya illinoensis</i> | 6. <i>Malus pumila</i> |
| 2. <i>Castanea mollissima</i> | 7. <i>Prunus armeniaca</i> |
| 3. <i>Diospyros virginiana</i> | 8. <i>P. domestica</i> |
| 4. <i>Ficus carica</i> | 9. <i>P. persica</i> |
| 5. <i>Juglans nigra</i> | 10. <i>Pyrus communis</i> |



Prunus domestica L., Garden Plum. A non-homogeneous grouping of small erect-growing trees (prune plum and Damson) and spreading clones (Japanese varieties) rarely reaching 30 feet in height. The growth rate is moderately rapid in most of these cultivars. The tree has a moderately fine texture which results from the small ovate leaves. The autumn coloration of the deciduous foliage is not noteworthy. In mid-March before the leaves unfold, every twig produces a quantity of small white flowers making a striking floral effect. Many cultivars of plum are cultivated solely for the floral display which comes in several shades of color. The plums are easily cultivated, and like most of the fruiting *Prunus* species, they are reasonably tolerant of our climate. The domestic plums flower so early that the flower buds are often injured by spring freezes, and as is the case with the apple, satisfactory fruit may require the use of pesticides. The prune plum and the Damson (sometimes placed in species *P. insititia* L.) flower are a few weeks later than the Japanese varieties, so they are less likely to be injured by cold; however, Japanese types are most commonly planted.

Prunus persica (L.) Batsch., Peach. A moderately rapidly growing tree of distinctly spreading growth habit that may reach 20 feet in height, but usually much less. Very long, but narrow, entire leaves give the tree a medium texture. The autumn coloration of the deciduous foliage does not add to the autumn landscape. Pink flowers on cultivated types range from noticeable to very showy, and double-flowered types in several colors are also often grown. In the central piedmont the peach is difficult to cultivate. It is tolerant of our rainfall patterns and soils but is attacked by borers and bacterial diseases. The bloom is often damaged by spring freezes, and the fruits are desired by a number of animals in addition to humans. Genetic resistance and pesticides are helpful in overcoming all of these problems except the spring freezes. In the North Carolina sandhills, peaches are commercially grown, but in the central piedmont, successful cultivation is difficult but possible.

Pyrus communis L. Common Pear. A small tree of moderate to moderately slow growth rate that is broadly pyramidal to almost fastigiate in some clones and may reach about 40 feet in height, usually much less. The medium-fine to medium texture of the tree depends on the leaf size, which varies

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.