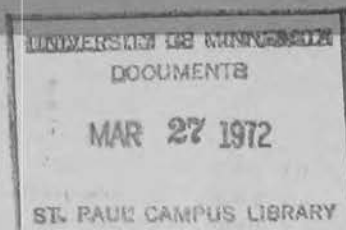


# Arboretum Review



## Arboretum nut trees

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 LEON C. SNYDER



There is considerable interest in growing nut trees in Minnesota. Very little has been written, though, on nut tree culture for this area. Our plantings in the arboretum are still young and many of our trees have not produced nuts. The observations in this review are based on reports from this area as well as on those made in the arboretum.

***Carya cordiformis* (Bitternut Hickory)**—This is the common hickory native to Minnesota. It can be found throughout the hardwood forests as far north as St. Louis County and the headwaters of the Mississippi. It is common in the arboretum. The bark on young trees is quite smooth and gray. The buds are elongated and yellowish, making the species easy to recognize during the winter. This species does best in an undisturbed woodlot. In the open, the trees are subject to insect gall and borers and are short-lived. The nuts are rather small and the seeds are very bitter. The wood is very hard and used in the manufacture of tool handles.

***Carya laciniosa* (Shellbark Hickory)**—The shellbark hickory is native throughout the eastern United States and occurs in Canada along the north shore of Lake Erie. Our experience with the shellbark hickory in Minnesota is quite limited. About 1870 Peter Gideon, the originator of the Wealthy apple, planted nuts from Illinois at his home near Excelsior. Trees from this planting are still living and are now large, stately trees. Seeds from these trees were planted at the Horticultural Research Center in the 1940s. Two of the resulting seedlings were moved to the arboretum in 1957 and in 1963. Both trees are growing well and are about 18 feet tall. The trees at the research center are larger. This species appears to be completely hardy in the Twin Cities area. Trees of this species have been reported at Canby, Minnesota and Carl Weschcke has reported success at River Falls, Wisconsin. The bark on young trees is quite smooth but becomes quite rough on mature trees. The leaves are pinnately compound, and quite large with a large terminal leaflet. The wood is very hard and is used in the manufacture of skis and tool handles. The nuts are sweet and edible.

***Carya ovata* (Shagbark Hickory)**—The shagbark hickory is native from Maine to Florida and reaches westward to the southeastern counties of Minnesota. Trees started from seeds planted in the arboretum are doing well. A number of trees have been planted in southern Minnesota and in the Twin Cities area. The bark on mature trees peels off in shaggy strips. The wood is the strongest and heaviest of our native hardwoods and is used in making tool handles, skis, bows, and baskets. The nuts have about the best flavor of any of our native nuts. Many of the nuts are hard shelled and difficult to crack. A few varieties have been selected that have meats that are easy to remove. The Weschcke variety is one that should prove hardy from the Twin Cities and southward.

***Castanea dentata* (American Chestnut)**—The American chestnut, once one of the most common and stately of the North American hardwoods, just about has been eliminated within its natural range by the Chestnut blight disease. A few isolated trees that were planted along the Mississippi River and westward have escaped the ravages of the disease. Trees have been reported from Houston County, Faribault, Cannon Falls, Sacred Heart, and the Twin Cities. There are also a few trees near Trempealeau, Wisconsin. Seedlings have been planted in the arboretum and the largest are now about 5 inches in diameter and 20 feet tall. The nuts of the chestnut are edible and especially tasty when roasted. The leaves of the American chestnut are large, thin, and coarsely toothed. The staminate flowers are borne in long pendant clusters. Pistillate flowers are borne at the base of the staminate catkins. The time of bloom is late so there is usually no problem with spring frosts. How long we can grow the American chestnut in this area without having the trees killed by the dreaded blight is not known. Growing chestnuts, except as a novelty, is not advised.

***Castanea mollissima* (Chinese Chestnut)**—Efforts to grow the Chinese chestnut in this area generally have failed. The trees



Carpathian walnuts from an English walnut tree (*Juglans regia*).

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kill back each winter and never develop a tree form. The European chestnut, *C. sativa*, also is lacking in hardiness.

***Corylus americana* (Common Hazelnut)**—This is a common shrub in thickets and pastures throughout the region. The leaves resemble birch leaves but the twigs are quite hairy. The plants are usually 5 to 6 feet tall. The nuts resemble small filberts and are quite good if one has the patience to shell them. The nuts are apt to be wormy unless the plants are properly sprayed.

***Corylus avellana* (European Hazelnut)**—This species has been tried but has not proven to be completely hardy. Hybrids with our native hazels produce edible nuts that are somewhat larger than our native ones.

***Corylus colurna* (Turkish Hazelnut)**—This species is of tree form and has been much harder than one would expect. Trees in our arboretum at Waseca are now 4 or 5 inches in diameter and about 25 feet tall. Plants here at the arboretum are doing well. So far no nuts have been produced. The trees have an interesting corky bark.

***Corylus cornuta* (Beaked Hazelnut)**—This species is found throughout the area but is more common northward in the vicinity of Lake Superior. The shrubs are larger than the common hazel and the husks around the nuts are beaked.

***Fagus grandiflora* (American Beech)**—This is a large, stately tree found in the eastern states that is characterized by rather smooth, light-gray bark and triangular nuts that are very good to eat if one can beat the squirrels to them. Although the species is native in eastern Wisconsin and the Upper Peninsula of Michigan, it does not like our dry, cold winters. A few trees have been planted in the Twin Cities area and in sheltered locations in the Lake Minnetonka area. Two trees started in the arboretum in 1963 are growing nicely. These were obtained from a Wisconsin seed source. It is not recommended for general planting.

***Fagus sylvatica* (European Beech)**—All attempts to establish this species in the arboretum have failed, although we have tried only bare root plants. Balled and burlapped specimens should be tried. We do not know of any plants of this species or any of its cultivars growing in Minnesota.

***Juglans cinerea* (Butternut)**—The butternut is native along the St. Croix and Mississippi River valleys as far north as Aitkin. It

prefers rich, moist soil and usually can be found at the foot of slopes and in the bottom lands of rivers and streams. The leaves are pinnately compound with from 11 to 17 leaflets. The leaflets and petioles are quite glandular-hairy when young, becoming smooth on the upper surface at maturity. The nuts are elongated and deeply sculptured with sharp ridges. Selections differ in the ease with which the meats can be removed. 'Weschcke' is a cultivar that is quite easy to shell. The meats are sweet and edible.

***Juglans nigra* (Black Walnut)**—This tree is native only in the southern counties of the state, reaching its northern limit near Hastings. The species has been widely planted and will grow considerably north of its natural range. Like the butternut it likes a rich, fertile soil. The pinnately compound leaves are large with from 11 to 17 leaflets. The terminal leaflet is quite small. The bark is rough and dark colored. The nuts are deeply furrowed, nearly round, and covered with a persistent husk. The meats are edible and in demand for culinary use. A number of cultivars have been tried but many of them are either too late in maturity or lacking in hardiness for our climate. The black walnut develops its leaves late in the spring and drops them early in the fall. Leaf-eating insects also can be a problem. Squirrels can dig up your lawn as they gather and bury the nuts. The roots of both the black walnut and butternut give off a toxic substance that makes it difficult to grow certain plants in the root-zone area.

***Juglans regia* (English Walnut)**—The English walnut is not too hardy. The Carpathian strain is the hardiest and some edible nuts have been produced in several locations in southern Minnesota. We have planted several Carpathian walnuts in the arboretum and they suffer some dieback most winters. We also have one on the St. Paul Campus and it has also suffered from winter injury.

***Juglans sieboldiana* (Japanese walnut)**—We planted a Japanese walnut tree in 1959. It is now a vigorous, wide-spreading tree with a trunk diameter of 4 to 5 inches and a height of 20 feet. The leaves are very large and attractive. Our tree has not produced nuts. The heartnut is a type of Japanese walnut that has fruited in plantings at River Falls, Wisconsin. The quality of the nut resembles that of the butternut.

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