Late Summer Flowering Trees. As the summer advances and June passes into July, the trees and shrubs which blossom late become scarcer and those which develop conspicuous bloom at this season are well worth studying by those desiring good late flowering species. In former years our native Common Chestnut (Castanea dentata) was one of the most conspicuous objects in the landscape in middle and southern New England during the early part of July. But the masses of flowers of this fine tree are now only memories to the older generation of our people and they are unknown to the young people of today. The last of the old native trees in the Arboretum have gone because of the attacks of the Chestnut Blight (Endothia parasitica) and there may never again be chestnut trees in the Arboretum which would equal them in size and proportion.

The Chinquapin or Dwarf Chestnut (Castanea pumila) in the Arboretum was planted as a small group of a dozen or more plants twenty-five or thirty years ago and these little trees have successfully withstood the attacks of the blight, though they are not immune to it. Beginning its flowering in the last half of June, it becomes most conspicuous towards the end of the month and continues to produce a diminishing inflorescence until about the middle of July. It is classed as a shrub or small tree in its native habitat, which extends from Pennsylvania to Florida and Texas. While it becomes larger in parts of the Southwest, in the Arboretum the stems are usually not more than ten or twelve feet high. Occasionally the blight causes the death of a stem which is usually replaced by others which arise from the base or stump. The flowers are followed by small burs concealing small brown nuts, (about half an inch in length) which contain sweet, fine flavored kernels. This interesting species offers attractive material for the plant hybridizer. Indeed the late Dr. Van Fleet developed a hybrid between this species and our Common Chestnut which produced distinctly larger fruit than that which grows naturally on the Chinquapin.
The European Chesnut is not hardy enough to be considered as suitable in plantations for Massachusetts, but there is at least one Chinese species which produces superior fruit and which has shown probable adaptability to our climatic conditions. This is Castanea mollissima which has been grown in China for untold centuries and has been so selected or improved by the Chinese that there are now forms which produce nuts equal in size to any others known. Frank H. Meyer, indefatigable collector for the U. S. Department of Agriculture, found the Chestnut Blight upon this species in China so that that country is considered the home of the disease. But, although not immune, the trees are able to survive in spite of infection. In the Arboretum the trees blossom at about the same time as our native species, perhaps a little later. They are now 15 or 20 feet high, with a broader spread of branches, the stems branching at or near the ground, so that the plants have the effect of very large, strong, full-branched shrubs. The species is to be valued for its fruit rather than for its flowers or wood. There are other species in eastern Asia, at least one of which becomes a large tree which furnishes excellent lumber.

At a little distance the Sorrel-tree or Sour-wood (Oxydendrum arboreum) native from Pennsylvania to Florida and west to Indiana and Louisiana, and the only known species in the genus, has something of the aspect of a chestnut tree when in flower and covered with its numerous panicles of whitish flowers. These Andromeda-like blossoms, however, are more conspicuous and much more attractive than those of the Chestnut. The comparatively short-branched tree has a more narrow and erect aspect than the average Chestnut. The Sorrel-tree is a good subject to plant with Rhododendrons, Kalmias and other ericaceous plants, to which family it belongs. The large, bright green leaves form a handsome foliage effect during the summer, turning scarlet in the autumn. In our New England gardens the trees appear to be generally free from disfigurement by insect attacks or diseases caused by fungi. Under best natural conditions the tree may become 60 feet in height. In cultivation it may begin flowering when only 5 or 6 feet high.

No species of tree is so decidedly showy in this climate in July as Koelreuteria paniculata which, in some catalogues, has been given the name of Varnish-tree, China-tree and Pride of India. All of these common names, and especially the last two, have been applied to other trees belonging to different genera, so that the use of any of them without the accompanying name of "Koelreuteria" might easily prove misleading. "Varnish-tree" is perhaps the name most common of the colloquial names in use, but this name also is misleading inasmuch as it is more properly applied to the Lacquer-tree (Rhus verniciflua) of Japan and China, which yields a resinous juice that is poisonous to the skin when handled and which is the source of the famous lacquer or varnish used on Japanese furniture. This Koelreuteria is a tree which may attain 30 or more feet in height. The leaves are alternate, pinnate or somewhat bipinnate, with 7 to 15 leaflets, the compound leaf often being from a foot to a foot and a half long. The large, broad, loose panicles of small flowers are terminal on the branches and are carried
well above the foliage. They are of a brilliant golden yellow color and are very effective against a background of green foliage. The flowers open gradually so that the tree when in bloom is showy throughout July. The blossoms are followed by large, somewhat angled, inflated capsules which become conspicuous after the passing of the inflorescence. So far, in the Arboretum, the foliage has shown little disfigurement from attacks by insects or fungi.

Of the few late flowering trees which are adapted to the climate of eastern Massachusetts, the Sorrel-tree and the Koelreuteria are decidedly among the best and most showy. The Koelreuteria appears cosmopolitan and adapted to a variety of soil conditions, while the Sorrel-tree range is more restricted because of its preference for acid soils, in common with most other plants of the heath family.

A somewhat conspicuous tree at the present time is Maackia amurensis, a leguminous species, introduced from Manchuria and Japan. It is a small or medium-sized tree, probably attaining 40 to 50 feet in height with rather dull green pinnate foliage. The flowers are borne in terminal, erect, compact racemes, usually several together forming a panicle. The small papilionaceous blossoms are of a dullish white color, the standard being mostly greenish yellow. The flowers are apparently very nectariferous for they are visited by large numbers of bees which tear the petals more or less in their eagerness to get at the secreted sweets. There is a so-called variety of this species known as M. amurensis Buergeri, which has been brought from Japan and which appears to be more floriferous than the type. Whether this is a distinct varietal feature or one which may show variations under domestication, remains to be proved. In any case the species, while a conspicuous feature in plantations when in flower, does not produce blooms for intimate or near acquaintance comparable with many other plants of the same family. It may well be considered as much less desirable than the so-called Pagoda-tree (Sophora japonica) frequently found in American gardens. Commonly considered as Japanese and much planted in Japan, this tree is now believed to be a native of China and Korea. It is a favorite street and shade tree in many parts of China. A fine avenue may be seen on the grounds of the Temple of Heaven in Peiping (Peking). Under favorable conditions this Sophora may become a tree 75 feet high. This species does not blossom in the latitude of Boston until August and good flowering often continues into September. In fact, the flowers are sometimes so late that the pods do not ripen well before hard frost overtakes them and the seeds are often not sufficiently ripened to be viable. The flowers, which are produced in large terminal, loose panicles, are usually yellowish or creamy white, although sometimes slightly pinkish. The Pagoda-tree, so called because often planted in China in the vicinity of pagodas, is, in the Arboretum, the last of the larger trees to produce conspicuous flowers before they are checked by autumnal frosts. It is a hardy tree which should be more often planted in large plantations and parks and squares. A grotesque dwarf, twisted-limbed and pendulous-branched form (S. japonica pendula) of the Pagoda-tree is often grafted on a tall stem and trained into umbrella shape.

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