



## Center for Landscape and Urban Horticulture

# *Koelreuteria* Species



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**Introduction:** (family Sapindaceae - soapberry)

These are medium-sized deciduous trees native to Asia that are valued for large pyramidal spikes of small yellow flowers borne terminally on shoots in late summer that are followed by conspicuous, papery fruit capsules resembling little Japanese lanterns. The fruit vary in color from deep salmon to greenish red depending on the species. Mature capsules turn tan in color and often persist until the next growing season. Trees are alternate-leaved with large compound leaves. They make good landscape trees and street trees.

**Species and Varieties:**

*Koelreuteria paniculata*. **Goldenrain Tree.** This tree grows to 20-35 ft. tall, 20-40 ft. wide and has open branching, giving moderate shade. Its leaves are pinnately compound and 15 in. long with 7-15 oval, toothed or lobed leaflets, each 1-3 in. long. New leaves are usually purplish, maturing to bright green in summer; may turn yellow to gold in fall, but fall foliage color is unreliable. It produces very showy, 8-14 in.-long flower clusters appearing in mid- to late-summer. Fruit capsules are red, yellowish red, or greenish red when young, maturing to buff brown shades. The fruits persist well into autumn. The tree takes cold, heat, drought, and wind. The selection 'Fastigiata' has a narrow columnar form that is about 25 ft. tall and only 3 ft. wide.

*K. bipinnata* (*K. integrifoliola*). **Chinese Flame Tree.** This species is more refined and elegant than *K. paniculata* and is preferred for use in southern California. Its growth is somewhat slow to moderate, while its mature size is 20-40 ft. tall and wide, and eventually flat topped. Leaves are twice pinnately compound (thus the name *bipinnata*), 1-2 ft. long, divided into 7-12 oval leaflets, and hold onto the tree until December. Leaves turn yellow for a short time before dropping, but fall color is not consistently good. Late-summer flower clusters are like those of *K. paniculata*, but the 2 inch fruit capsules that quickly follow are more colorful, in shades of orange, red or salmon. However, fruit formation is not always dependable. The common name comes from the fact that the fruits of this Chinese tree are red and orange during the late summer and fall. The capsules turn to shades of tan and buff in late fall and often persist into the following growing season.

*K. elegans* (*K. elegans* var. *formosama*). **Flamegold**, sometimes also called Chinese Flame Tree. This tree is very similar in appearance, form, and features to *K. bipinnata* but it is reportedly less cold tolerant and semi-evergreen. It is less widely available but is proving to be popular in southern California. The leaves are about 1½ ft. long, with 9-16 leaflets. As with *K. bipinnata*, bright yellow flowers in late summer or early fall are borne in erect clusters, followed by especially showy clusters of long-lasting, puffy orange-red to salmon fruits. Fall foliage show is often poor. It's leaves are twice and sometimes thrice pinnately compound, with each leaflet 1 ¾-4 in. long.

### History:

*Koelreuteria* is named after Joseph Gottlieb Koelreuter, an 18th century German botanist. The name *paniculata* refers to the panicles that contain the many small flowers. Goldenrain tree is native to eastern Asia (China and Korea). *K. elegans* is native to Taiwan and Fiji. The tree was originally introduced to the United States in 1763.

### Landscape Use and Planting:

These are good patio, lawn, or street trees. *Koelreuteria* are one of the few medium size summer-flowering trees. They are very adaptable to different types of soils as long as drainage is fairly good. Roots are not particularly dense or invasive. Coupled with the moderate shade produced by the canopy, these are good trees to plant under. The fruit capsules are used in both fresh and dried arrangements.

### General Care:

These trees need no special care. Seeds of these trees readily self-sow in landscape beds during the spring and summer which requires removal of the seedlings.

### Fertilization:

Basic fertilizer for the first year of establishment.

### Irrigation:

No special attention is necessary for these trees although good drainage is essential.

### Pruning:

Prune young trees to develop high branching or to shape as they can be inelegant without pruning. Mature trees require very little pruning. The best time to prune is in the winter after leaves have fallen.

### Propagation:

The seed can be processed as soon as ripe or stored to be used later. Budding and grafting has been accomplished using the species as under stocks. Root cuttings are also successful.

### Pest Management:

There are no major pests for these trees and relatively the same for diseases.



**Sources:**

Most nurseries will carry at least one of the species.

**Bibliography:**

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