Zelkova serrata: Japanese Zelkova
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Introduction
Zelkova is often listed as a replacement for American Elm since it has roughly the same vase shape and grows 90 to 100 feet tall with a 60 to 80-foot spread. But no tree will truly match the grace and elegance of the American Elm. Zelkova is massive, with the trunk capable of growing to four feet or more in diameter. It has a moderate growth rate and likes a sunny exposure. Branches are more numerous and smaller in diameter than American Elm. Leaves are 1.5 to 4 inches long, turning a brilliant yellow, orange, or burnt umber in the fall.

General Information
Scientific name: Zelkova serrata
Pronunciation: zell-KOE-vuh sair-AY-tuh
Common name(s): Japanese Zelkova, Saw-Leaf Zelkova
Family: Ulmaceae
USDA hardiness zones: 5A through 8B (Fig. 2)
Origin: not native to North America
Invasive potential: little invasive potential
Uses: highway median; street without sidewalk; shade; parking lot island 100-200 sq ft; parking lot island > 200 sq ft; sidewalk cutout (tree pit); tree lawn 4-6 feet wide; tree lawn > 6 ft wide; urban tolerant; Bonsai
Availability: not native to North America

Figure 1. Mature Zelkova serrata: Japanese Zelkova
Credits: Ed Gilman

Figure 2. Range
**Description**

Height: 55 to 80 feet  
Spread: 50 to 75 feet  
Crown uniformity: symmetrical  
Crown shape: vase  
Crown density: moderate  
Growth rate: moderate  
Texture: fine

**Foliage**

Leaf arrangement: alternate (Fig. 3)  
Leaf type: simple  
Leaf margin: serrate  
Leaf shape: oblong, ovate  
Leaf venation: pinnate  
Leaf type and persistence: deciduous  
Leaf blade length: less than 2 inches  
Leaf color: green  
Fall color: red, yellow, orange, copper  
Fall characteristic: showy

**Trunk and Branches**

Trunk/bark/branches: branches don't droop; showy; typically one trunk; thorns  
Pruning requirement: needed for strong structure  
Breakage: susceptible to breakage  
Current year twig color: brown  
Current year twig thickness: thin  
Wood specific gravity: unknown

**Culture**

Light requirement: full sun  
Soil tolerances: sand; loam; clay; acidic; slightly alkaline; occasionally wet; well-drained  
Drought tolerance: high  
Aerosol salt tolerance: moderate

**Other**

Roots: not a problem  
Winter interest: no  
Outstanding tree: no  
Ozone sensitivity: sensitive  
Verticillium wilt susceptibility: resistant  
Pest resistance: resistant to pests/diseases

**Use and Management**

Unfortunately, the branches on Zelkova are often clumped together on the trunk at one point. Double and multiple trunks or leaders with embedded bark are also common. This is not a desirable form for planting in urban areas and needs to be prevented, or corrected, on existing trees. Purchase trees with branches spaced along the trunk so they can develop a secure hold onto the trunk. These will be hard to find but insist on it! Be sure that branches remain less than about half the diameter of the trunk to maintain a strong, durable form. Encourage nurserymen to grow trees with good trunk and branch structure.

The tree will tolerate most soil types, including those with a pH to about 7.5, but prefers a moist deep loam. It is reportedly risky to transplant in the fall. Established trees are fairly drought-tolerant, requiring little irrigation unless located in sandy soil. It makes a wonderful street tree even in restricted-soil tree pits, and is almost pest free. The crowns will eventually grow together if trees are planted on 30-foot-centers, forming a wonderful shaded street. This is a tough, urban tree which is often planted along streets in downtown and residential areas.

Cultivars include: `Green Vase’ somewhat resembles the vase shape of American Elms, is more upright in habit.
and tolerant of pollution, makes a great city street tree and produces a taller and narrower tree than ‘Village Green;’ ‘Village Green’ also resembles the shape of the American Elm and is more winter hardy than ‘Green Vase’, and may have a straighter trunk.

**Diseases**

Normally disease-free as it resists Dutch Elm disease and Elm leaf beetle.

Zelkova is subject to canker diseases particularly if the trunk is repeatedly wounded. Avoid wounding and maintain tree health.