

# *Quercus acutissima*

## Sawtooth Oak, Japanese chestnut oak



*Quercus acutissima* (sawtooth oak) is native to Japan, China, Korea, Northern Thailand, Northern Vietnam and the Himalayas, as a pioneer species that remains part of the climax forests in these areas. This oak was introduced in Europe in 1862 by English botanist Richard Oldham. The tree can grow ten to fifteen metres tall and around ten metres wide and forms a pyramidal crown that becomes egg-shaped and densely branched with maturity. In its original habitats, the sawtooth oak grows up to as much as twenty-five metres tall and forms a broadly spreading crown.

The name *acutissima* refers to the sharp leaf edges. The typical, glossy dark green leaves strongly resemble those of the sweet chestnut (*Castanea sativa*) and for this reason this oak is not always correctly identified as such. The foliage stays on the tree well on into winter; it sheds its old yellow-brown foliage just before the new, fresh green leaves appear in the spring. As the foliage emerges, *Quercus acutissima* produces insignificant female flowers and male yellow-green catkins. In cooler European climates only a few acorns are produced. As it matures, the grey-brown bark of the tree gets deep, orange-brown grooves with an almost cork-like appearance.

*Quercus acutissima* is a very strong tree for future climates. This heat-loving species is able to cope well with drought, air pollution and road salt. This makes it a good option in urban areas where its broad, spreading leaf canopy provides shade in parks, squares, avenues and large gardens. This oak can even be used as an avenue tree but it is necessary to take into account the ultimate size of the broad crown. The sawtooth oak prefers sandy, neutral to slightly acidic, well-drained soils where it can develop deep roots. However, it also tolerates clay soils and loamy soils. In Japan, the wood is used in the cultivation of shiitake mushrooms.

### TYPES OF PLANTING

**Tree types:** standard trees, multi-stemmed trees, shade trees, characteristic trees, solitary shrubs | **Topiary on stem:** multi-stem umbrella

### USE

**Location:** avenue, square, park, central reservation, large garden, cemetery, traffic areas, industrial zones | **Pavement:** none, open, sealed | **Planting concepts:** Climate planting, urban planting

### CHARACTERISTICS

**Crown shape:** egg-shaped | **Crown structure:** dense | **Height:** 10 - 15 m | **Width:** 6 - 10 m | **Winter hardiness zone:** 5A - 9B

### ASPECTS

**Wind:** tolerant to wind | **Soil:** loess, sabulous clay, light clay, sand, loamy soil | **Nutrient level:** moderately rich in nutrients, rich in nutrients | **Soil moisture level:** dry, moist | **Light requirements:** sun, partial shade | **pH range:** acidic, neutral | **Host plant/forage plant:** small mammals, humans | **Extreme environments:** tolerant to salt spray, tolerant to dryness, tolerates air pollution, tolerates heat

### PLANTKENMERKEN

**Flowers:** catkins, discrete, pendulous | **Flower colour:** yellow | **Flowering period:** May - May | **Leaf colour:** dark green, underside grey-green | **Leaves:** deciduous, lanceolate, matt polished, dentate | **Autumn colour:** yellow, yellow-brown, red | **Fruits:** striking, few fruits, acorn | **Fruit colour:** brown | **Bark colour:** grey-brown | **Bark:** deeply furrowed | **Twig colour:** brown | **Twigs:** hairy, bare | **Root system:** deep, tap root

