

Tree of Heaven: *Ailanthus altissima*



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BACKGROUND

Introduced: Native to China and north Vietnam; introduced into GB from France in 1751; first recorded outside cultivation in GB in 1935.

Use in GB: Planted in streets, parks, large gardens and country estates.

Invasion: escapes in SE England; invasive in London area and Birmingham. Globally ailanthus is recognised as invasive species, <http://www.europe-aliens.org/> list it in 100 of worst.

THE GOOD

Amenity value: Rapidly growing deciduous tree up to 25 metres tall; often majestic; attractive large alternate pinnate leaves with 5-12 pairs of leaflets; flowers yellowish in large panicles; abundant seeds in keys of striking reddish colour when ripe; tree short lived (about 80 years) then risk of brittle branches breaking easily.

Tolerance: Tolerant of a broad range of site conditions and pollutants; needs sun; tolerance and invasive qualities make it suitable for soil stabilisation and where many other species are unable to survive.

Ecosystem services: Significant contributions in very difficult urban and industrial areas where other species are unable or struggle to survive or contribute.

BUT

THE BAD

Shallow and far reaching roots, lifts pavements esp when restricted, forms runners 15m long.

Invasive: Aggressively invasive by suckering and seed in warmer parts of GB particularly in the London area, Birmingham; appearing along roads, pavements and railway embankments all over London; problem expected to spread due to warmer summers and fewer winter frosts; speed of growth exacerbates problems.

Suckering: Suckers profusely particularly when roots damaged or when roots meet obstructions or tree pruned or cut down; can become multi-stemmed thicket of suckers after cutting down; breaks through asphalt surfaces and joints in concrete and paving.

Regeneration: Seed production prolific and viable in warmer areas; germinates in many inappropriate locations, including in masonry and very close to buildings causing structural problems.

Suppression: most parts of the plant contain chemical that suppresses growth of many other plant species.

Eradication: exceptionally difficult to eradicate because removal generates excessive suckering; treatment with glyphosate (foliar, bark or stump and stem injection) also generates suckering and has to be repeated until eradication achieved which takes 2 or more years.



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Consider the future implications before specifying this plant.



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MORE INFORMATION

Identification: Leaves have unpleasant smell when crushed; twigs and leaf scars are distinguishing features; could be confused with *Rhus typhina* (Stag's Horn Sumach) but *Rhus* twigs have white latex; note that *Ailanthus* sap can produce skin reaction.

In China: usually as isolated trees (probably due to how they are managed)

Uses: In China almost all parts of plant used in traditional medicine; wood used in cabinet work, food steamers, firewood, charcoal; host plant for silkworms (different species to those creating mulberry silk).

Cultural: part of Chinese culture for centuries.

In America: usually suckering bushes rather than trees due to cutting down; known as "tree from hell" and "ghetto palm". Also informally known as "tree of hell" in UK.

Further information:

www.cabi.org/isc/datasheet/3889

en.wikipedia.org/wiki/Ailanthus_altissima

www.nonnativespecies.org/factsheet/factsheet.cfm?speciesId=101

<http://www.europe-aliens.org/speciesFactsheet.do?speciesId=16970#>

Alternative species: choice of alternative species depends on the characteristics required of the plant for the particular location; a few suggestions;

For foliage:

Juglans regia, *J. nigra*

Pterocarya fraxinifolia – in damp conditions; also suckers

Sophora japonica

Toona sinensis

Phellodendron amurense

Euodia hupehensis

For speed of growth:

Acer pseudoplatanus,

Quercus frainetto,

For overall shape and size:

Tilia euchlora

For tolerance of urban conditions:

Alnus glutinosa

Quercus petraea

Toxicodendron vernicifluum – similar in appearance but in some respects more evil – highly toxic and can cause serious skin irritation.