

Massaria interventions

Pruning*

Actions	Advantages	Disadvantages	Initial impact on Tree Health	Effect on tree health wellbeing and amenity benefits	Effectiveness against massaria	Durability	Indicative Total Costs Over 30 Year Period Per Tree
Repeated massaria Branch Removal	- Removes affected branch - Quick initial resolution NB - Branches identified for treatment do not necessarily need to be pruned back to their origin (stabilised rather than removed)	- Pruning in anticipation of branches dying is not recommended as it is likely to place increased demands on tree energy reserves - Disfigures crowns over time - Reduction of crown density - Increased local exposure - May speed up progression within remaining crown - Damages tree and may shorten life span	Negative	Reduced	Short term, no medium to long term effectiveness	As little as 3 months	£1,000 - £6,000
Crown reduction works (2 Year Pollard Cycle)	Crown reduced trees do not appear to suffer from branch failure due to massaria	- Damages tree and may shorten life span - Disfigures the canopy of the tree - Commitment to ongoing re-reduction works required and increased maintenance costs	Negative	Reduced	Appears to stop branch failure due to massaria	2 years	£4,000 – £6,500

Massaria interventions

Pruning* (cont)

Actions	Advantages	Disadvantages	Initial impact on Tree Health	Effect on tree health wellbeing and amenity benefits	Effectiveness against massaria	Durability	Indicative Total Costs Over 30 Year Period Per Tree
Crown reduction works (6 year crown volume reduction cycle)	• Crown reduced trees do not appear to suffer from branch failure due to massaria	• Damages tree and may shorten life span • Disfigures the canopy of the tree • Commitment to ongoing re-reduction works required and increased maintenance costs	Negative	Reduced	Appears to stop branch failure due to massaria	6 years	£1,750 - £3,000
Retrenchment Pruning	• Retains trees branch tracery and canopy shape • Mimics the natural self-shedding of the tips of branches apparent in periods of reduced moisture in the soil • Least damaging of the pruning methods and on balance considered to be a potential long term benefit to tree health	• Effectiveness against massaria not yet evaluated • Requires experienced skilled arboriculturists and specialised equipment	Minimal	Minimal	Not yet evaluated	4-6 years	£2,000-£3,000
Other Pruning Considerations	• Sterilisation of equipment not considered necessary	• Transportation of arisings from infected to non-infected sites should be avoided	N/A	N/A	N/A	N/A	N/A

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Non pruning**

Actions	Advantages	Disadvantages	Initial impact on Tree Health	Effect on tree health wellbeing and amenity benefits	Effectiveness against massaria	Durability	Indicative Total Costs Over 30 Year Period Per Tree
Irrigation	• Non-invasive • Trials have demonstrated positive effects with large quantities of water (Equal to an additional 3mm precipitation per day over the year)	• May not be possible under drought orders • Effectiveness of smaller quantities of water not yet known • Only applicable to trees in certain sites	Positive	Increased	Reduces massaria branch incidence with high volume applications. Not yet evaluated with smaller quantities	Needs to be continuous	Unquantifiable due to the range of irrigation options
Mulching	• Non-invasive • Improves overall soil conditions and tree health • Reduces competition for water	• May not be possible for all tree locations • Existing cultural/ management views of trees in grassed areas may need challenging • Effectiveness against massaria not yet evaluated • Only applicable to trees growing in open ground • On a mature tree 12m3 of mulch may be required	Positive	Increased	Not yet evaluated	Annual	£1,500 Upwards
Soil and foliar organic feed	• Non-invasive • Improves overall soil conditions and tree health • No visual changes to canopy or surrounding soil surface	• Effectiveness against massaria not evaluated. Soil application only applicable to trees in open ground	Positive	Increased	Not yet evaluated	Ongoing until assessed benefit is shown	£7,200 *NB Soil only treatment is cheaper (30 - 40% of above total cost) than soil plus foliar feed or foliar on own

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Non pruning** (cont)

Actions	Advantages	Disadvantages	Initial impact on Tree Health	Effect on tree health wellbeing and amenity benefits	Effectiveness against massaria	Durability	Indicative Total Costs Over 30 Year Period Per Tree
Natural leaf litter retained	• Non-invasive	• May not be possible for all tree locations • Existing cultural/ management views of trees in grassed areas may need challenging • Effectiveness against massaria not yet evaluated • Only applicable to trees growing in open ground	Positive	Increased	Not yet evaluated	Ongoing	£0 to cost of maceration of leaf litter
Soil structure improvement/ decompaction	• Improves rooting potential, porosity and drainage	• Can be invasive • Some methods not effective in all situations • Only applicable to open grown trees • Effectiveness against massaria not yet evaluated	Minimal	Increased	Not yet evaluated	Long Term	£1,500 - £4,000
Physical replacement of soil	• Improves rooting potential, porosity and drainage	• Highly invasive. (recommend phased operational approach) • Difficult to achieve on clay soils • Only applicable to open grown trees • Effectiveness against massaria not yet evaluated	Minimal	Increased	Not yet evaluated	Long Term	£3,000-£5,000

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Non pruning** (cont)

Actions	Advantages	Disadvantages	Initial impact on Tree Health	Effect on tree health wellbeing and amenity benefits	Effectiveness against massaria	Durability	Indicative Total Costs Over 30 Year Period Per Tree
Survey - Ground Level	• Inexpensive • Efficient • Practicable • No specialist equipment required • Targeted • Symptom identification can be readily learned	• Requires experienced inspectors • Increased frequency • Difficult to identify early stages • Weather/ visibility dependent	None	None	N/A	N/A	£250-£300 *NB based on 3 inspections a year at estimated unit rate of £3 per tree
Survey - Aerial	• Early development identified • Can be combined with planned/ routine tree work	• Costly • Time consuming • Labour intensive • Specialised equipment and training	Minimal	None	N/A	N/A	£2,500 - £8,000 *NB This is based on one or two inspections per annum
Engaging stakeholders, public and other staff	• Raises general awareness and understanding of issue. • If managed properly should reduce overall service resource pressure on inspections and collection of management information	• Requires training, engagement and initial impact on resources	N/A	N/A	N/A	N/A	N/A

* All pruning works to be undertaken in accordance to BS 3998 2010

** NB non pruning works do not necessarily negate the need to undertake some form of pruning. Before undertaking, soil tests should be undertaken to establish the soil type, structure as well as biological and mineral assessments