

Tree Selection for Green Infrastructure

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- Trees are an essential component of green infrastructure.
- The resilience and persistence of trees in green infrastructure relies on appropriate tree selection

But... Can we improve our current approach to tree selection for green infrastructure projects?



How do we currently select trees?

Results from a TDAG survey...

- 60% of respondents (n=302) *always* or *mostly* used tree nursery catalogues.
- Tree nursery catalogues dominated decisions amongst Landscape Architects, Local Authority Officers and Arboricultural Consultants.
- 'Experience' is also very important for those selecting trees.

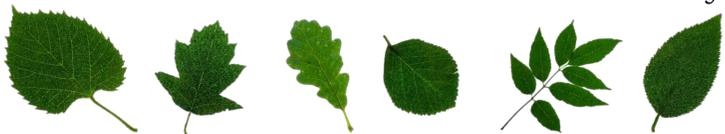


Respondents also say...

"Many of the nursery catalogues offer conflicting advice"

"Never depend on nursery catalogues alone"

"Hard technical information is very difficult to come by with nursery information often being very superficial and based on aesthetic features."



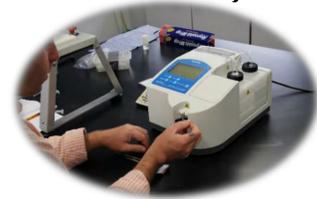
What is the most valued information for those selecting trees?

Future maintenance
Resistance to pests and diseases
Drought tolerance
Cold hardiness, Rooting spread
Wildlife value
Mature size
Shade tolerance
Form
Pollution tolerance
Aesthetic qualities

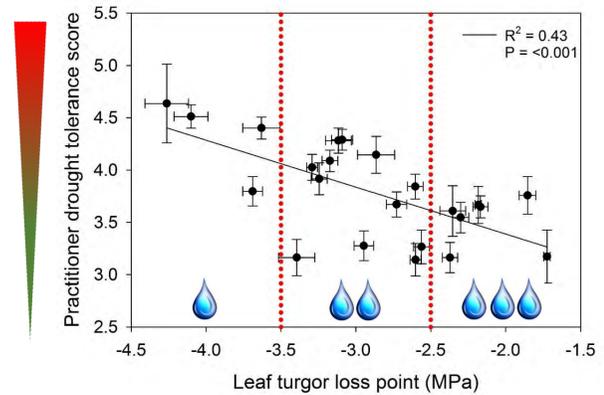
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Can science be used to improve tree selection choices?

The practitioner experience of a tree species' drought tolerance is related to leaf turgor loss point. Therefore, leaf turgor loss can be used to anticipate the performance of species in challenging urban planting sites where drought tolerance is fundamental to tree survival.



Determining leaf turgor loss point using vapour pressure osmometer in the laboratory.



Drought Tolerance



Trees from humid, moist understorey environments do not have the drought tolerance to thrive in difficult urban planting sites

Use science to better inform tree selection decisions!



Trees from drier environments make excellent candidates for tough urban conditions where drought tolerance often determines survival.

Look out for new guidance on species selection for green infrastructure

(Coming 2017)

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