

SOILS FOR LANDSCAPE DEVELOPMENT

By Elke Haege

Increasing toxicity in soil mixes can be costly and sometimes require whole of landscape replacement, a new book published by CSIRO reveals.

Builders and landscape contractors will have noticed changes in purchasing soil over the last decade.

Of concern is the increased supply of soil mixes that are toxic and/or detrimental to plant health and growth requiring whole of landscape replacement – even after 12 months and sometimes two to three years.

Simon Leake, soil scientist and director of the Sydney Soil & Environmental Laboratory (SESL), who together with Elke Haege, an award-winning landscape architect and consulting arborist, have worked for several years consulting soil suppliers, purchasers and architects and published 'Soils for Landscape Development: Selection, Specification and Validation' through CSIRO Publishing, which tackles these issues.

As a builder or landscape contractor, expect to see these specifications in your next projects and start stockpiling site soil as this book is designed so that each specification can be either referenced in design documentation or can be copied or scanned to be used in a specification (an editable PDF version of the specifications is available).

Pre-compliant soil suppliers

As soil suppliers are obtaining pre-compliance for their mixes, builders purchasing these soils need to ask their soil supplier for the certificate that the soil delivered to you is compliant with the mix you ordered.

Reducing project cost and time and improving environmental credentials.

Two main drivers behind Simon and Elke's work is to elevate the benchmark and longevity of landscape installations as well as to increase the awareness of site soil as an asset, reducing project costs of exporting fill, importing new

soil and the environmental footprint associated with transporting soil and increased longevity of landscapes.

Communicate with project team and purchase compliant soil mixes

Replacing and replanting soil and plants is not fun; it's bad for the environment and your project costs. Get the soil mix right in the beginning to avoid replacement costs 12 months down the track – even two to three years in some instances.

Soils for Landscape Development: Selection, Specification and Validation is available from the CSIRO website: www.publish.csiro.au/pid/7081.htm

The book clearly and practically outlines:

- 'The Soil Design and Approach Method'
 - Six steps in working out if site soil can be used or if new imported soil mixes need to be bought.
 - Project costs can be reduced by using site soil or ameliorating it
 - Fertile soil is a finite resource and often a site asset.

SOIL TESTING

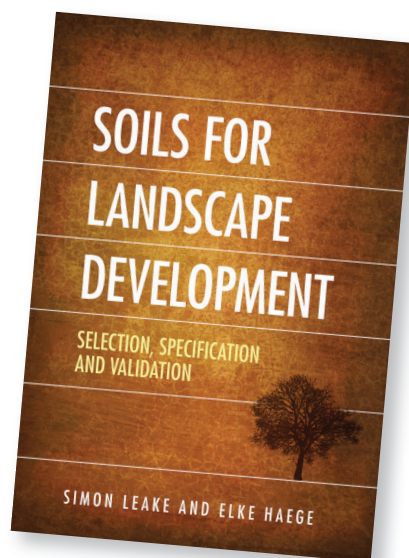
PERCHED SOIL



A clod with two distinct soil horizons creates an unintentional perched system due to former construction contamination and poor soil preparation or investigation. The waterlogged layer (dark/fine/high clay content horizon) is very high in the profile inhibiting root growth below, as there are not enough air spaces, having been compacted due to construction methods. Gravels and other foreign fragments can also be seen in the clod. A Prunus tree suffered severe fungal attack brought on by this soil situation and finally lost the battle after three years. After costly soil rectification of the layers and drainage improvements, a new tree will be planted. Three years of time, effort, considerable cost and a great reduction in potential environmental benefits could have been avoided if the correct soil conditions had been provided in the first place.

- Thirteen example specifications
 - These are applicable for the most project types (e.g. soil mixes for turf, native garden beds, advanced trees or lightweight rooftop soil mixes)
 - Example specifications are typically two pages and include not only the properties of the soil mix, but suggested components that will make up each typical mix – and a short description of the soil mix and its application, which is helpful for the soil supplier, soil testing laboratory, purchaser and the specifier
 - This means that to select the soil type, you don't need a soil science degree or complete understanding of the chemistry behind the mix
- 'The Soil Volume Estimator for Trees in Limited Spaces' with a free downloadable Excel file. This assists the builder, designer, approval authority and developer in working out how much soil volume is needed for trees such as in a street, paved area or small court garden.

For your chance to win a free copy, email richard.szabo@crowtherblayne.com.au with *Soils For Landscape Development* as the subject.



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Co-author Elke Haege runs her own business called ELKE Landscape Architect.

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