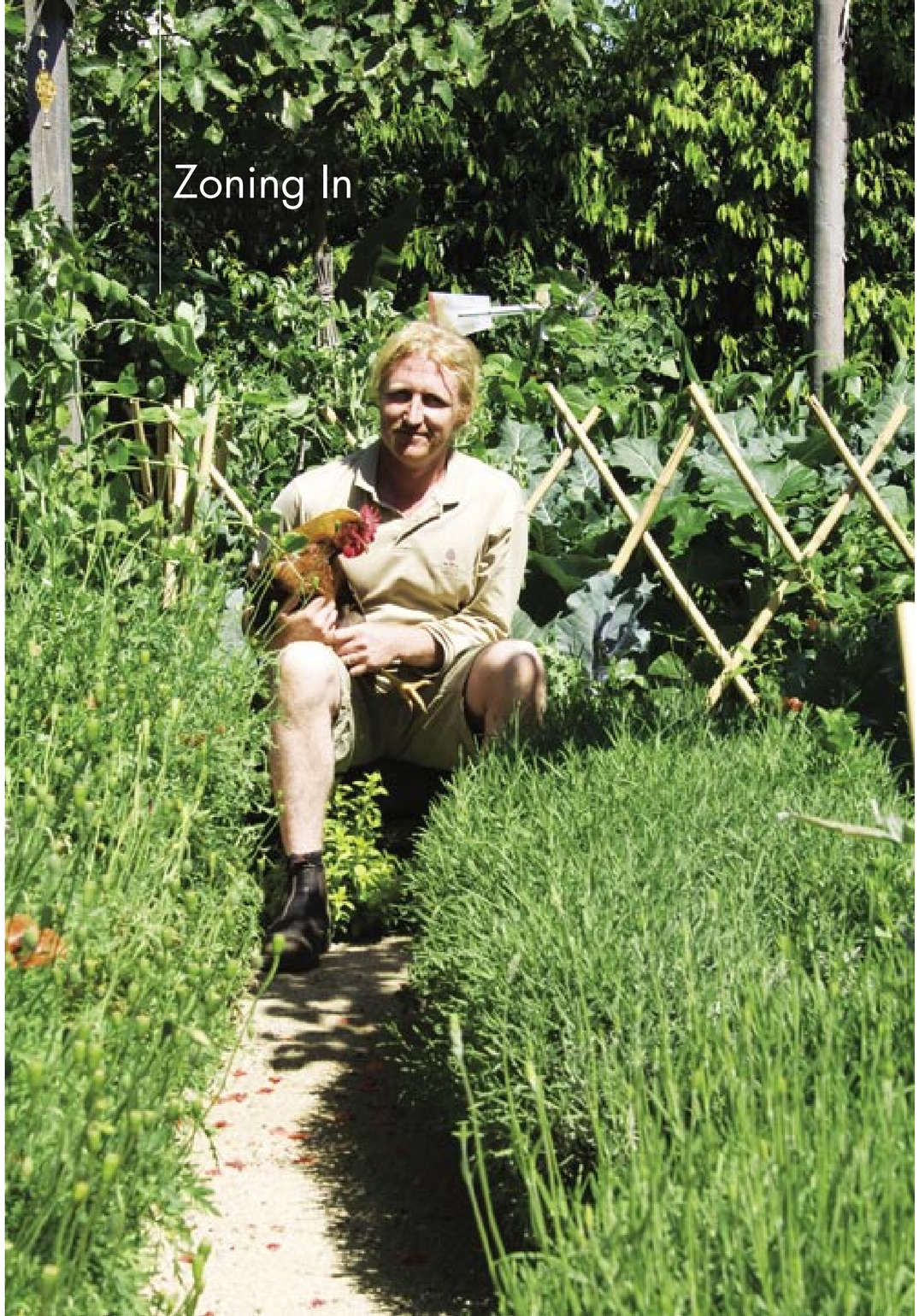
Zoning In



Although relatively young, landscape designer Hendrik Van Leeuwen has amassed enough knowledge - through testing in his own garden - to have some clear theories about how to design sustainably under water restrictions. Jenny Lyon visits his best advertisement - Leeuwen's own backyard.

A Russell Lupin(Lupinus polyphyllus) in Hendrik's garden. **opposite** Hendrik with one of his chooks, surrounded by his vegetable garden.

"My hope is that well-designed, sustainable gardens can go from boutique to mainstream, with people enjoying multiple benefits from gardens, guilt-free." Hendrik Van Leeuwen

A living testament to his clear ideals about healthy thriving sustainable gardens, Hendrik Van Leeuwen, through his business Van Leeuwen Green, has created for his family a garden that sings, almost shouts of what can be achieved on an average suburban block. His garden was included in the 2009 Australian Open Garden Scheme, a perfect inspiration for visitors to see what can be done with careful planning and good advice. Hendrik says he " ... designed the garden to combine food production with aesthetics, functionality and sustainability".

Hendrik designed his garden along the same lines as he approaches all of his landscaping jobs but in the four years he has been working in his garden he has learned a lot. He calls it a "learning landscape", and can offer his clients solutions that working on his own garden has taught him.

With recent droughts and suburban water restrictions, irrigation is often foremost in people's minds when designing a garden. Hendrik's garden uses water from a 9000-litre rainwater tank, drip irrigation and a greywater system: "Drip irrigation is relatively simple and low-cost, and is a far more effective (and less wasteful) way of applying water to plants than all other methods. It has become the standard method in new gardens given the high-level water restrictions currently in force in Melbourne.

"The drip lines are placed beneath mulch so that evaporation is negligible, and water reaches plant roots directly. I installed a 9000-litre water tank behind the work shed as part of the garden design. This is integrated with the house and the garden. The tank water flushes the two toilets until it gets too low. A rain bank system is used so that when the tank empties, the drip irrigation system and toilet flushing automatically switches to mains water.

"With Stage 3a restrictions in place I try to make sure that the tank has a lot in reserve for summer so that I can use this water on the veggies when they need it. Almost all stormwater coming from the house roof is captured. Relatively permeable crushed rock and Dromana toppings are used throughout the garden for paving so that most rainwater falling on the site stays on-site, rather than going into the storm water system. The greywater system is used on many areas of the garden including the fruit trees and the kikuyu turf. Only plant-friendly detergents and cleaning products are used in the house," he says.

With a blank canvas of lawn to start with, Hendrik's garden was divided into three main zones for irrigation. It is simple and sensible, like all good ideas. ➜

top Globe artichokes (Cynara scolymus) are good to look at and great to eat. **bottom** drought tolerant plants surround the (tiny) kikuyu lawn watered by greywater from the house.

The wet zone

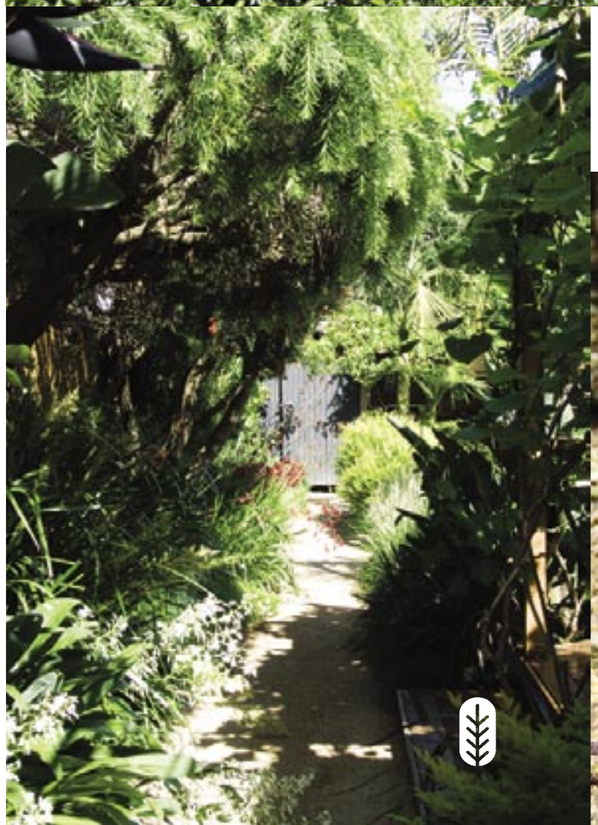
This zone uses the most water; it consists of the sections where Hendrik grows produce, fabulous vegetable beds with a jumble of companion planting "to confuse the insects".
The more ornamental and sculptural eatable plants are close to the house. Hendrik is constantly experimenting with vegetables that he and his partner will actually eat, checking that his choices aren't just for their looks.
The more serious block plantings are up the back, closer to the chook yard, which is just as thriving and well-maintained as the rest of the garden. He applies a fresh layer of pea straw every couple of months, scraping out the old and using this as manure-rich mulch for the rest of the garden. An integral part of this garden's success: the chooks are fed garden scraps – perfect little recycling machines.

The kikuyu turf/citrus/herb/zone

This irrigation system uses less than the wet zone and through careful plant selection Hendrik ensures that minimum water is used to keep his plants thriving:
"One of the reasons that traditional gardens consume so much water is that so many layers of plants are often packed into the same area: herbaceous perennials as a ground cover, shrubs of varying sizes in the mid layer and lush trees overhead. By simplifying this to one or two layers in most zones (e.g. shrubs only, or trees with low shade-tolerant groundcovers) we reduce the irrigation demand because there is simply less foliage per unit area to be supplied with water. This principle can be seen at work in my garden where large dominating trees are absent. Large shady trees are, of course, a great asset in the right context. In my garden I 'borrow' the feel of large trees from my neighbours' tree plantings."

The zero irrigation zone

Although this zone is not strictly zero irrigation, there are several sections that could rely on rainfall alone to survive. The drip irrigation systems and greywater were included to get the drought-tolerant plants established within that area. One of Hendrick's firm beliefs is that long-life plants are the most sustainable in a garden, so in all areas of his garden that aren't for vegetables the most sensible choice is for plants that are going to live as long as possible. He believes that this is a key design issue that is often overlooked, and it makes perfect sense.
"The problem with short-lived species, even if they are drought- and heat-tolerant, is that they need regular replacement. This is costly financially as well as environmentally. Not only do new plants need extra watering to get them established but also the production of nursery stock uses up very large quantities of water (not to mention the large carbon footprint that comes from greenhouses, the plastic in the pot and the fertilisers).
"Unfortunately many drought-tolerant Australian and Mediterranean plants are short lived, and I avoided using these species in my garden. By contrast, a plant such as Clivea miniata (planted down the south side of the house) can live for fifty years and beyond," says Hendrik. →



top The hedge in the foreground is Lilly Pilly 'Bush Christmas' (Syzygium australe) while the creepers covering the shed are a tangle of Passionfruit 'Nelly Kelly' (Passiflora edulis) and grape, White Muscat (Vitus vinifera). **bottom left** The side path with 'borrowed trees' from the neighbour's garden. **right** The chooks play a role in Hendrik's backyard eco-system.

Castlemaine Slate in the firepit and granitic paths play their role in this sustainably-designed garden.

Although the considerations of water use through zoning and plant selection won Van Leeuwen Green the "Plants in the Landscape" award given by the Landscape Industries Association of Victoria (LIAV), Hendrik has come to look at all aspects of landscaping and the "true environmental cost".

"When I started work on the garden four years ago, I had begun questioning the origin of standard landscaping materials such as timber decking, which sometimes comes from clear-felled Indonesian rainforests, home to orangutans and other wildlife. I decided not to use Merbua from South-East Asia, and instead used durable, sustainably grown and harvested local Sugar Gum from Smart Timbers co-op in Western Victoria. Sugar Gum lasts longer than the overseas sourced wood, saving me (and our clients) money in the long term. I also used Castlemaine Slate for the fire pit, quarried in Victoria, reducing the environmental cost of transporting slate from overseas. The Red Gum sleepers used around garden beds are recycled railway sleepers," he says.

By careful use of long-lived plants and lots of mulch, weeds (which use just as much water as the plants you want) can be kept at bay in his garden, without the need for herbicides. Hendrik believes that even the smallest of backyards have their own ecology and he uses only organic fertilisers and pesticides in all of his gardens.

"We believe that this not only creates a healthy garden but also ensures that the garden environment is safe for our staff to work in and for our clients and their children to enjoy."

He prefers the idea of establishing a healthy little eco-system that will look after itself as much as possible (with a gentle guiding hand when it needs it).

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green

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