

EARTH CARE

Motivated by a passion for ecologically minded gardening, a former grazing block in Hawke's Bay has been transformed into a nourishing food forest, nursery and education centre.

STORY: RACHEL CLARE PHOTOS: SALLY TAGG





Chinese quince (*Pseudocydonia sinensis*).



Chinese artichoke (*Stachys affinis*).



Canadian serviceberry (*Amelanchier canadensis*).

To transform a grassy paddock into a productive food forest, it was imperative to create biomass.

One should never underestimate the influence of a good magazine because that is exactly what started permaculturalist Jo Duff from Kahikatea Farm in Hawke's Bay on the path to sustainable living. In the late 1990s, Jo – who had always been environmentally conscious – was teaching English as a second language in her hometown of Guildford, Surrey in the UK, when she came across a permaculture magazine at work and was immediately inspired. “The subtitle was Solutions for Sustainable Living and I thought, ‘Yes, that’s me’. I’d never heard the word permaculture and realised there were other people out there with similar dreams.” On their mission to create a sustainable life on the land, Jo and her Kiwi husband Aaron spent a year in Australia while Jo studied organics and biodynamics. This included three weeks studying permaculture at Crystal Waters, the world’s first

permaculture ecovillage, established in the 1980s, in Queensland. The couple also wanted to see if living in an ecovillage was for them.

“But we decided that if we were on a mission to spread ideas about sustainability, then we were better off not joining a group of people who were doing it already but going into a conventional agricultural community and sharing our ideas.”

It made sense to live near family, so in 2005, Jo and Aaron purchased a 6.6ha grazing block in rural Poukawa Valley, about 20 minutes from Hastings and just down the road from Aaron’s family.

The land was totally bare, so along with putting a bore in and building a house, they made a bold plan to plant a food forest, establish an organic nursery and teach permaculture workshops.

To transform a grassy paddock into a productive food forest, it was imperative to create biomass – the organic matter dropped from plants that creates soil. “Short of importing

truckloads of wood chips, we needed to grow the stuff on site,” says Jo.

To establish the tree canopy, multifunctional trees were planted that were fast growing, superior nitrogen fixers and hardy enough to cope with both Hawke’s Bay’s droughts and frosts. These included Italian alders and tagasaste (tree lucerne) which is highly regarded as a nurse tree for other trees while they’re getting established. Jo says it’s also a fantastic ‘chop and drop’ crop for creating biomass – branches are lopped off and left to decompose on the forest floor.

Just as in a natural forest, in a food forest plants are layered or ‘stacked’ from the canopy trees down. So the second level of trees in Jo and Aaron’s food forest includes a wide range of fruit trees – including apples, plums and peaches – which thrive in Hawke’s Bay’s dry climate, and less common fruit trees such as medlars, Japanese raisins, carobs, pomegranates and American pawpaws (Jo has never tried one and is yet to find someone

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Jo’s permacultural heroes include local Hawke’s Bay agro-ecologist Nicole Masters, UK food forester Martin Crawford and Robert and Robyn Guyton in Riverton.



Kahikatea Farm grows and sells more than 200 varieties of plant.



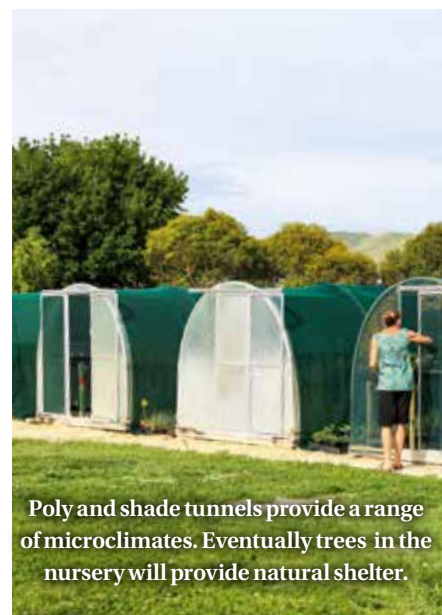
Plastic pots for propagating are washed and reused as much as possible.



Microgreens are supplied to restaurants.



The irrigation systems in the tunnelhouses run on solar power.



Poly and shade tunnels provide a range of microclimates. Eventually trees in the nursery will provide natural shelter.

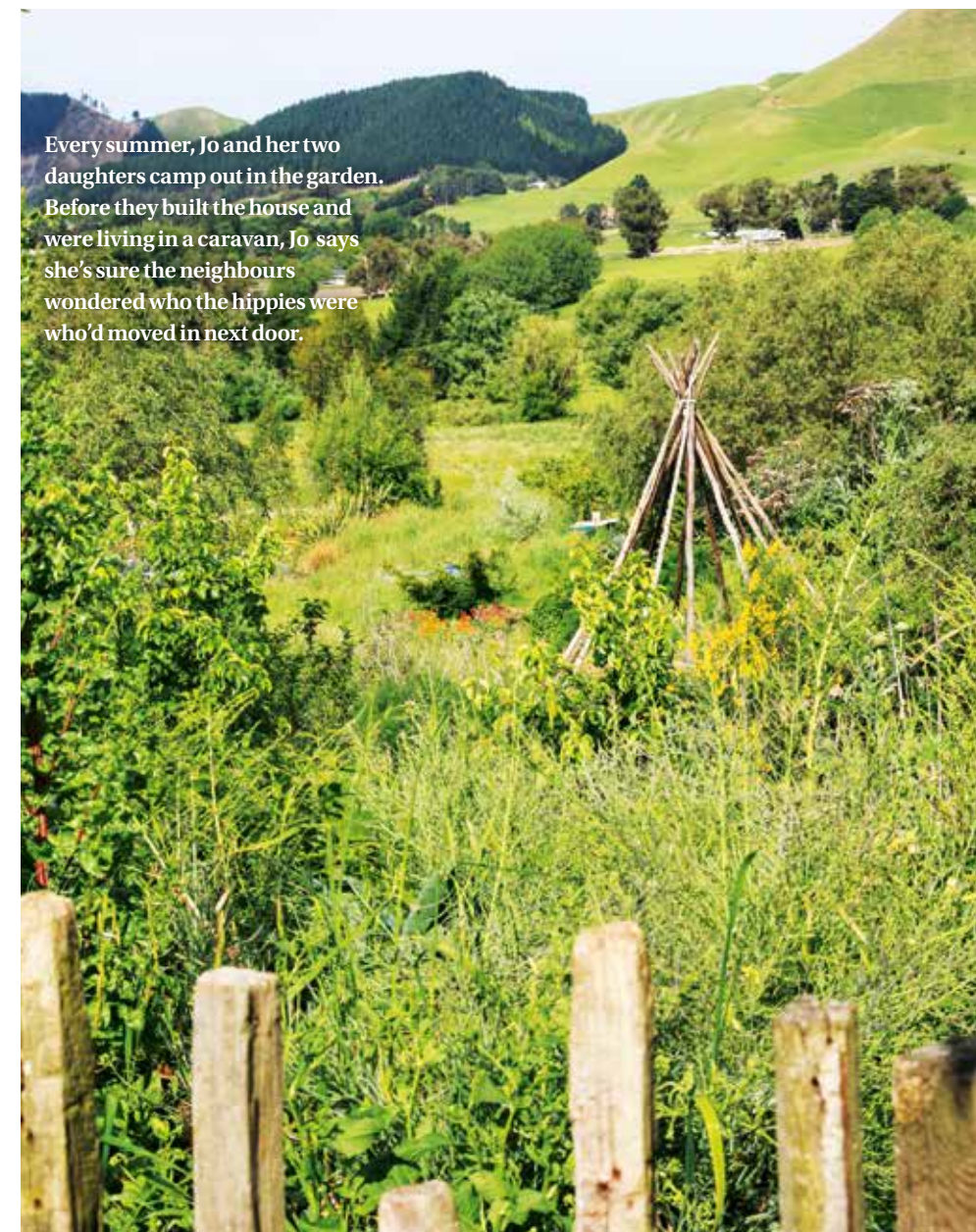
who has, although she asks every American she meets), all grown from seed. Beneath the trees is a shrub layer, including currants, blueberries, osmanthus, aronia berries and japonicas. Then forming a broad scale groundcover are plants such as rhubarb, self-seeding purple urenika potatoes, bunching onions and aquilegias.

Although Jo grows some annuals, and to begin with half the nursery was devoted to annual vege seedlings for market, Kahikatea Farm's focus now is strongly on perennials. "This allows the soil to regenerate and build structure and life without us constantly interfering. That means less work for us too!"

Where possible, Jo also grows true species rather than cultivars, saying she believes they're better for bees and probably better medicinally.

A true plantaholic, lately she has been working her way through the campanula (bellflower) genus to work out which species have the best-tasting leaves – so far the Korean and Serbian ones are proving to be the most palatable.

Sourcing and growing unusual varieties of plants is one of Jo's favourite activities and the online nursery sells more than 200 types of plants including perennial vegetables, dye plants, edible and medicinal herbs, companion plants,



Every summer, Jo and her two daughters camp out in the garden. Before they built the house and were living in a caravan, Jo says she's sure the neighbours wondered who the hippies were who'd moved in next door.

"With unusual plants, the only way to make it financially viable is to get our own seed supply."

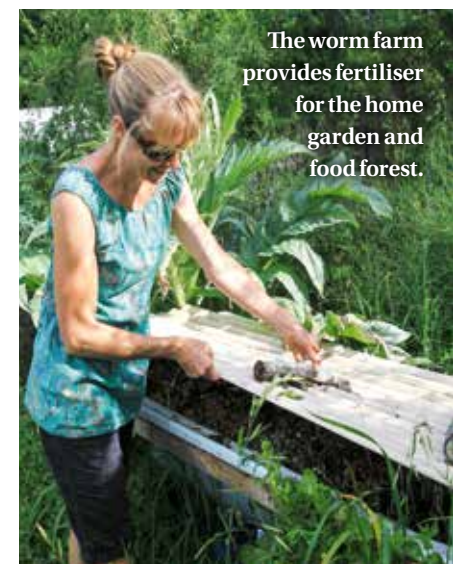
flowers, shrubs and trees. "With unusual plants, the only way to make it financially viable is to grow them ourselves to get our own seed supply."

Aaron, who is unable to carry out any physical work after a back injury put him out of action in 2001 when the youngest of their two daughters was just five months old, does the finances and also helps Jo define more clearly what is a "want" and what is a "need"!

Despite growing such a huge range of plants, Kahikatea Farm doesn't actually sell kahikatea trees, although people assume it does. Jo and Aaron

chose the name because historically the valley was covered in kahikatea and because they were inspired by the symbolism in the waiata *E Tū Kahikatea*, which compares the intertwining roots of a kahikatea tree to the strength that can be found when communities come together with one common purpose.

And when it comes to growing community, Jo says they've had great feedback from the many people attending their tours and workshops, which cover propagation, starting a food forest and grafting. And the workshops aren't just for country



The worm farm provides fertiliser for the home garden and food forest.



Mānuka and French lavender.



Angelica seedhead.



Fennel and *Echium* 'Pride of Madeira'.



Citrus.



Globe artichoke.



Tormentil, a medicinal herb.



White mulberry.



Perennial brassica with calendula.



Crimson clover.



Ivy and a kiwifruit vine cover a composting toilet, giving it the appearance of an old folly.

people with large sections; Jo also shows urban dwellers how to grow more with less land by making use of vertical space, such as growing grapes up veranda posts or espaliering apple trees at the edges of garden beds.

Jo is hopeful that she's opening people's minds to a different way of growing, particularly how they deal with weeds. One of the most challenging weeds at Kahikatea Farm has been couch. However, Jo points out that the soil underneath couch is good, proving that every plant has its benefit, and she's even managing to control it too. "Don't replace couch with other groundcovers because they can't compete. First, plant something larger as an interim solution, such as

big bulky plants with a lot of biomass such as globe artichokes, tree lupins or angelica, which you can then chop and drop on the ground as a mulch."

Other less dominating "weeds" such as native pūhā are left to go to seed, both because Jo likes to eat it but also because she loves watching finches eat the seed. "The garden would look scrappy to a lot of people because it's always in different stages of seeding but that's just part of the cycle. We can't control everything all the time and if you do you haven't got a healthy garden." ❀

Check out Kahikatea Farm's extensive plant range or enrol for a permaculture workshop at kahikateafarm.co.nz.



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