

MAKING YOUR OWN TREE PASTE

By Sarah Smuts-Kennedy

Artist and biodynamic gardener Sarah Smuts-Kennedy lives with her husband Hamish Coney at Maunga Kereru, 40 minutes north of Auckland. Their home is also a living sculptural research project, where they work with the land, plants, animals and other biology, testing out as many systems of land care as they can, to see for themselves what works.

Over the past few years we have developed a small orchard of figs, peaches, nectarines, persimmon, various citrus, assorted guavas, feijoas, pears and plums.

We mulch our trees several times a year to feed the soil in which they stand. We apply liquid fertiliser to their leaves with various brews we make, including seaweed, diluted worm juice and comfrey (often combined with biodynamic compost preparations). We also put the biodynamic preparations 500 and 501 on our garden and orchard twice a year if we can.

So why would we use a tree paste as well?

Our trees do it tough, and they take time to establish – our orchard is on the side of a compacted, man-made clay driveway. Several seasons ago, the trees suffered serious cicada damage. These factors led us to begin experimenting with various tree pastes. We use biodynamic and Homa Organic Farming recipes to support our trees through their branches and trunk.

In his Agriculture Course, Rudolf Steiner encourages us to regard the trunks of the trees as if they were “mounded-up soil ... in a more living condition than the

Photo at left: Sarah applied the homa tree paste to the kauri at McCahon House with her hands, as high as she could reach up the trunk. Each of the seven trees had paste applied about 2-3mm thick. Two weeks of twice-daily fires were required to generate enough ash for each paste. Sarah says the ghee texture changes with the temperature, but it never drips off, and she expects the paste will remain in place for six to 12 months. The site is badly infected with kauri dieback disease; some trees had already been chopped out.

soil in which our herbaceous plants are growing.” In his view, the actual ‘plants’ of the tree are the leaves and fruit, which are “rooted in the twigs and branches of the tree just as other plants are rooted in the earth.” He also compared the cambium – the active thin growing layer of tissue that lies between the bark and the wood of the stem – to the roots that support annual plants.

When we apply tree pastes to the trunks of trees, we nourish and strengthen their ‘bark/soil’ and the cambium of the tree. We also cover over crevices where pests might try to overwinter, and seal any wounds caused by pruning or attacks from insects like cicadas.

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We have really taken to tree pastes. So much so that last year I used them as material to create an artwork as part of a residency I did at the McCahon House Museum in Titirangi, Auckland. Here I combined Agnihotra ash (a residue from performing a Vedic fire procedure) with ghee and clay to produce a tree paste that I painted onto the trunks of seven kauri trees on site suffering from kauri dieback disease.

Each time we prepare to do a tree paste, we get out our books and read once again the various guides on what materials we could combine. Amongst our favourites are Peter Proctor and Gillian Cole’s *Grasp the Nettle* and Hugh Lovel’s *Quantum Agriculture: Biodynamics and Beyond*.

There are general recommendations that you should follow in making any tree paste. These are then open to amendments based on what you sense your trees require, soil test results and the materials you have at



Above: It’s hard to believe this area was smothered in kikuyu grass a year ago. Sarah laid cardboard and bark chip to smother it, then applied seaweed and continued to compost. Calendula, chicory and borage create living biomass, while tansy (right) is interspersed with rosemary. Their strong scents deter wax moths from Sarah’s beehives. The edges of the terraces are made of brought-in basalt rock, valued for its paramagnetic qualities.



At centre is a prized young Black Boy peach. Sarah and Hamish bought a "paddock with no access" at a commuting distance from Auckland. Creating the driveway produced compacted clay in the areas later designated for orchards. Over seven years, they have built up soil through composting and created raised growing areas.



This tropical guava proved Sarah's neighbour wrong; the experienced gardener in his 80s told her, "You'll never get anything off those." The young tree produced more than a dozen fruit last year. The guavas are planted "in the worst ground you can imagine," says Sarah, but being sited near the worm farm has helped – they've received lots of worm juice.

hand. Each year we build on our knowledge, gaining a little more confidence as we begin to see the results literally blossoming on our trees in the following seasons.

Here in Auckland, we all seem to be plagued by issues such as peach leaf curl. But now we find that it disappears early in each season; the trees seem strong and healthy and are bearing fruit.

Tree pastes are usually applied in late autumn and winter after pruning and before bud burst, before the sap rises again in the spring. This way the trees are able to benefit from the nutrients applied to them in that very spring following the application. Waiting until after the sap rises means you may not see results for up to 12 months.



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Pruning is best done in the descending part of the moon cycle, when the sap of the plant is concentrated and drawn downwards towards the earth. Choosing this timing will reduce sap bleeding, which can happen if pruning is done in the ascending part of the moon cycle, when sap is drawn upwards towards the upper regions of the plant and cosmos.

Here at Maunga Kereru, we prune and paste at the same time. Our cuts are followed in quick succession with a nourishing, healing and sealing remedy.

It's good to make sure you coat the part of the tree which touches the ground really well, as this where the greatest weaknesses are likely to occur. Clear away old lichen and loose bark before you paint.

We started out making quite thin mixes for our tree paste, but we have come to prefer a thicker consistency (Hugh Lovel describes it as being like a latex paint), which adheres to the tree over the season. It can be built upon over time in a way that resembles building soil with compost.

We apply our paste with a thick, natural-bristled paint brush. Larger applications on bigger orchards can be done by thinning the material and straining it before spraying it out, to make sure the material doesn't clog the sprayer.

Note: Citrus trees do not like to have their leaves sprayed with tree paste, so it is recommended to treat only their trunks with tree paste.

TREE PASTE APPLICATION

recommendations and recipes

Here are a few recipes for you to ponder, try out and research for yourself.

Use what you have rather than not doing it at all – don't feel overwhelmed by the options. This way, you can get started and allow yourself to improve your paste brews and techniques over time. Your trees will reward you if you do. We are still learning, but we try not to let not knowing everything stop us from contributing to the biology we are learning to live with.

PETER PROCTOR'S BIODYNAMIC TREE PASTE

- 1 part cow manure
- 1 part silica sand or diatomaceous earth
- 1 part potting clay of bentonite
- 2 kg cowpat pit (CPP) per acre of trees

Mix the above ingredients together with stirred preparation 500 – sufficient to make your paste.

Peter doesn't say how long to mix your 500 into the tree paste. Hugh Lovel suggests 15 minutes of mixing the whole paste mixture, in the normal biodynamic vortex/counter-vortex style. This involves stirring the mix in one direction until a spiralling well forms in the centre of the mixing liquid, at which point you change direction until the well in the centre is formed again... and so on.

Paint this paste onto the trees as high as you can reach with a large brush.

Source: *Grasp the Nettle: Making Biodynamic Farming & Gardening Work* by Peter Proctor and Gillian Cole (Random House, 1997).

HUGH LOVEL'S BIODYNAMIC TREE PASTE

This recipe makes large amounts for a commercial-scale operation. For more precise information, Hugh's book *Quantum Agriculture* details quantities.

The basic formula is made up of soil refined into a fine clay, mixed with a horsetail decoction as the base. These two materials are combined and mixed to arrive at the paint consistency that Hugh wants.

Then he adds:

- 500, 501, cowpat pit (CPP) and horn clay
- Any insect peppers at rates appropriate for the acreage
- Liquid fulvic acid at 1 part to 1000, which he says can be substituted with worm juice from your worm farm
- A pinch of trace minerals if they are needed
- Powdered lime or diatomaceous earth
- Fresh cow manure
- Gypsum or rock phosphate, if sulphur or phosphorous are deemed deficient in a soil test
- Raw linseed oil so that the mixture sticks to the bark in heavy rain.

All of this is stirred for 15 minutes in the vortex/ reverse vortex method; or by using an electric drill with a paint stirring tool.

Source: *Quantum Agriculture: Biodynamics and Beyond* by Hugh Lovel (Rudolph Steiner Press, 2014).

HOMA ORGANIC FARMING TREE PASTE

- Agnihotra ash, generated from the Vedic Fire Procedure (This is full of trace elements in bioavailable form)
- Organic ghee (clarified butter)
- Clay

The mixture I made for my artwork at McCahon House only included the above three materials, but if you wish, it is possible to add other materials such as 500, 501, CPP, powdered lime, diatomaceous earth or rock dust.

I used a dry clay which I combined with the ash by rubbing both materials together between my hands until they formed a fine powder.

I then warmed the ghee until it was in liquid form.

I mixed the three materials together and allowed them to cool until the mixture was a consistency that was easy to apply.

The ghee makes the paint adhere to the tree and is waterproof.

LAST AUTUMN'S PASTE HERE AT MAUNGA KERERU CONSISTED OF:

- Clay (from our property) rubbed into a fine dust with Agnihotra ash
- CPP made onsite
- Cow manure (from our cows)
- Agrissentials Roksolid (certified organic ground basalt rock, with many trace elements)
- Diatomaceous earth
- Preparation 500

We used water to make our paint the consistency we wanted. Now after using ghee in our artwork, we might look at using this instead, as well as adding some raw linseed oil as recommended by Hugh Lovel to help it adhere to the bark over the entire season.

VITAL FIRE:

Homa Organic Farming

Homa Organic Farming has origins in the ancient Vedic texts of India and was reinvigorated by Shree Vasant Paranjpe in the late 20th century. Homa farming's main distinction from general organic farming is that it maintains that the atmosphere provides up to 75 percent of the nutrition needed by a plant and soils. A fire (homa) called agnihotra is performed each day at the precise moment of sunrise and sunset at a given location. The residual ash from this sunrise/sunset homa is used in Homa Farming, including in tree pastes. The ash itself is considered to be full of *prana*, as well as containing a complex range of minerals in bioavailable form. It is postulated that crops grown in homa atmosphere develop cylindrical veins of vascular tissue with an above-average diameter, permitting water and nutrients to move faster, supporting better growth and productivity.

I was interested to learn about Homa Farming's use in rejuvenating banana plantations wiped out by Sigatoka fungi in Peru in the late 1980s. I began practicing Agnihotra two years ago, and have found it to be a very beneficial addition to my biodynamic gardening practice. I was interested to note that Kay Baxter refers to homa in her *Koanga Garden Guide* in 2007; it seems it has been used here in New Zealand as a support to organic farming for some time.

LINKS

To find out more about Homa Organic Farming:
www.agnihotra.org/2015/04/08/what-is-homa-organic-farming
www.homa1.com

To learn more about Sarah's tree paste project at McCahon House, visit:
www.mccahonhouse.org.nz/Residency/SarahSmutsKennedyPage.aspx
www.sarahsmutskennedy.com