

HARVESTS

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Front Cover Photo

Two children tending to the garden at
The Gaya Tree (see story on page 18).
Photo credit: Gabrielle Crowe

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**Biodynamics
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Biodynamics New Zealand members
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See page 44.

Editorial

This issue of *Harvests* has a special focus: education. It's a theme that stretches across generations. In this issue, Steiner school teachers describe leading children in biodynamic gardening activities; a high school student shares her passion for seeding gardening enthusiasm amongst her peers; and adults learn biodynamic practices in community workshops and discussions.

There are some themes that hold true across age ranges. First, from the articles collected here, it seems that humans of all ages enjoy putting their hands in cow manure! More broadly – humans of all ages learn by doing. And community enthusiasm is contagious, whether it's high school students getting excited about gardening once their peers have proven that it's cool, or whether it's a group of adults coming together for biodynamic discussion groups. Learning together is powerful.

Of course, there are some ways in which certain generations have an advantage in the learning process. I'm talking here about the children. Young children tend to have direct access to their sense of wonder. In these pages, teachers describe how kids get excited about watching steam rise from a compost heap, or witnessing preparation 500's transformation from manure into a greatly changed substance. For kids, wonder is natural. For adults, wonder is something we may need to cultivate, or remember. For this reason, children make excellent teachers.

Kids also tend to have a strong sense of right and wrong. In a previous career, I worked with children in natural settings. One of my jobs was to guide groups of school kids through redwood forests in northern California. I loved observing the kids' sense of morality around nature. Like most old growth redwood forests, the area where I worked had seen a lot of logging. When we talked to the kids about logging, it was intuitive to most of them that these big trees should not be cut down. Kids see a big tree and know it is a special creature deserving of protection; they typically don't need much convincing on this point. Working with children caused me to sense that humans are inherently made to love and care for nature.

That's not to say that all children currently embody an affinity for the natural world; many of them haven't had the opportunity to do so. Sometimes I worked with city kids who barely knew what mud was, and it took many of them a little while to get comfortable in the wilderness. But invariably, they would soften pretty quickly in the face of

the magic around them. *Look at that slug! Stomp in that mud!*

Adults, however, seem more able to override instincts of care for the natural world – to the point that we are knowingly undermining our own life-support system. Is this a natural consequence of growing up? Or is our society somehow artificially conditioning us away from experiencing our in-born connection to the rest of nature?

Our society highly values the rational mind. Of course, this poses a difficulty for biodynamic educators. Biodynamics is one of those areas where if you need a mechanistic, purely materialistic explanation for the way everything works, you may come up short. Yes, some benefits of biodynamic farming can be explained in the language of materialist science – but there are also essences that escape such explanations.

People talk a lot about what's needed in order to tackle various environmental problems – political willpower, technical solutions. To that list I want to add a sense of wonder, of awe. Young people often get told that they need to 'grow up'. But maybe it's equally time for the rest of us to 'grow down'.



- Rebecca Reider





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A FARM SCHOOL *Blooms*

Biodynamics and the Motueka Steiner School

By Lindsey Ellison

My family moved to this region for the school around five years ago. I was very excited about the prospect of a Steiner farm school. I have been working with the students, delivering a farm-to-table programme, for around four years now. The students are growing food to harvest, prepare and share as meals with their classmates. They also do lots of activities out in nature. The programme for me is really about connecting the students to where their food comes from and getting them excited and in love with nature. They are gaining a deep respect for the land and all living beings.

The vision

Motueka Steiner School and Farm purchased a 13.6 hectare property six years ago with a vision of a working biodynamic farm school. The impulse arose from a dedicated group of pioneering parents who were feeling the threat that the lease on the school's building in town might not be renewed. This was the kickstart to a vision of one day owning some land and having a working biodynamic farm and school. Last month the school finally moved onto the property full-time.

We are lucky to have guardianship of 13.6 hectares in the top of the South Island. The views of Tu Ae Wharepapa are stunning on a clear day, which is quite often, as we have one of the highest sunshine hour levels in the country. Currently, 5.5 hectares of the land forms the integrated school campus; here we have recently built six beautiful school classrooms. The students have access to a huge campus, including a young but productive heritage orchard, school gardens, an outdoor kitchen, a sports field, a large part-planted conservation gully and an outdoor classroom currently under construction.

That leaves eight hectares of farmland, which has a long history of sheep grazing and fruit production, resulting in low biodiversity and low fertility. Through biodynamic practices and a regenerative approach, we are restoring biodiversity and fertility. We do not use pesticides, herbicides or petrochemical fertilisers, and our management practices increase soil fertility and biodiversity. Part of the vision of the trust (MRSST) that holds the land is one of education, so everything that happens here will have education at the heart of it.

We are working on a curriculum that will include farm practices as much as possible. Already the students are working in the garden, managing chickens, planting native trees, releasing and caring for new trees and wetlands, observing the land and having fun discovering their new



Photos: Lindsey Ellison

Blooming sunflowers.

home. As the farm develops, so will the curriculum, including more and more land-based activities appropriate to the developmental stage of each class. The classes will soon be working in the shade house, growing native trees for the farm and surrounding area, and using the new tunnel house to grow all their food from seed.

As far as the farm is concerned, we are at a really exciting stage with many possibilities ahead. There are many projects on the table right now. Our evolving vision for the school farm is to be a regional hub where we are well-equipped to 'train the trainers' in biodynamics. We want to hold ongoing workshops for school families, teachers, community volunteers and neighbouring farmers; this would be an incredible collaboration.

We are also looking at developing a CSA (Community Supported Agriculture) garden to provide food within the school community and eventually for the wider community. This comes on the back of a small pilot scheme we ran last year. This garden has become instrumental in the farm-to-table programme we run with the students. There is a huge opportunity to become a model for regenerative farming using biodynamic practices, and because education will be at the heart of everything we do, we will be sharing the knowledge and gains wherever we can.

Children and biodynamics

For the last four years, the students have been visiting the property weekly to develop gardens, create an outdoor kitchen and complete other land-based projects. They have also been involved in the spreading of preparation 500 on a number of occasions.

A group of dedicated supporters have also been spreading biodynamic preps on the farm; we are lucky to have at hand some great biodynamic-experienced supporters of our school. We have been fortunate to have a valued advisor in Dieter Proebst, long-term biodynamic practitioner and Demeter inspector, ever since the concept of a Steiner School farm using biodynamics was suggested. Peter Bacchus has also visited the property on a couple of occasions now to complete cow pat pits, do evening talk presentations and help with preparation 500 stir setup.

The older students are interested in the link between what is happening with the moon and planets and the effect on the planting cycle and land quality. The younger students like it when we talk about the 'magic' we bring to the garden with our energy and the energy of the planets. They are very interested in the cow poo in particular!

We have been a little limited so far around being able to plant at the right times according to the biodynamic calendar, as we were going to the site once a week. Now that the students are on site daily, we intend to concentrate more on the biodynamic aspect in the school garden and orchard. We will be able to observe the correct planting times much more and develop the lessons around that understanding. The students and wider school community will have the opportunity to be involved in prep 500 spreading and any other workshops that we bring to the farm. We were lucky to have Peter and Gill Bacchus visit last month to work with the students. The students created a compost pile with Peter and had a wonderful garden session with Gill. We will continue to use the compost knowledge the students received each time we make more piles for the student garden.



Children preparing biodynamically grown veges



Children participate in a 500 stir.

Autumn 500 stir

We held a 500 stir in autumn. Three big barrels, halfway full of water, were prepared; long wooden poles, one for each barrel, hung from the ceiling to be used for stirring. Verena gave a little presentation on the condition of the manure after its winter rest in the earth. It had dried up and turned into earth itself. No smell anymore! Not a slimy affair at all, but rather a crumbly dark brown substance, two or three tablespoons of which were dropped into each barrel of water.

In the meantime, 11 stirrers had arrived, ready to stir the horn manure into the water for a whole hour, ideally without talking! We took turns stirring, watching the water spin into circles and deep craters down to the bottom of the barrel, then turning the direction again, so that gradually the horn manure dissolved into the water.

The group then distributed the big bucket of preparation 500 into small buckets, with a brush for each. The task for each person was to go over their own section and swoosh out the liquid prep 500 onto the land – one swoosh to the right and one to the left – lemniscate form! Slowly walking across the meadow, spreading the preparation over the whole area – a truly homeopathic venture – was special in a way because we were each able and allowed to connect with the land, to notice the condition of the earth and to observe which plants were growing there already. Thoughts came up as to what might be needed as next steps to improve the soil. For our farm school, which is only in the beginning stages as a farm, we felt we had made a small contribution on the path towards a healthy farm organism.

Opportunities to support the farm school

We are always fundraising. Our next big event will be the spring fair in September, which is always a big hit in the region. We have regulars who travel to Motueka just for the fair. Outside of that, we have a great team of fundraising parents who are constantly coming up with little events through the year for particular funds we may need for a project. A recent initiative saw a partnership with a local juicing operation to market our hail-damaged pears from the orchard. All of the classes were involved in picking for this



Harvesting the abundant pear crop from the school's orchard.



Younger students like it when we talk about the 'magic' we bring to the garden with our energy. They are very interested in the cow poo!

project, and you can currently buy the juice in Countdown supermarkets, branded Chia Sisters.

Our website is currently being updated to reflect the new integrated status of the school. We are hopeful that in the very near future, this will be a great place to keep track of the happenings of the Motueka Steiner School and farm. If you would like to support the school and/or farm financially, we welcome deposits to the account of our Proprietors Trust (MRSST): 03-1354-0547032-01. Please let us know what you would like the donation to be used for. I can be contacted at lindsey@motueka.steiner.school.co.nz.



Mature preparation 500, ready for stirring.



Garlic grown on the Motueka Steiner School farm.

Growing Gardeners

BIODYNAMICS IN ACTION AT TE RĀ WALDORF SCHOOL

By Mark Howell

Mark was the gardening teacher at Te Rā Waldorf School from 2002 through the beginning of 2021. He worked with organic principles and biodynamics to support the life in the soil, the students, staff, wildlife, insects, trees and plants. In this article Mark reflects on his time at Te Rā and how he worked in relationship with the land and wider community.

I came to biodynamics in 1985, in the desert of New Mexico, through the fledgling Santa Fe Waldorf School, with a group of pioneering, eager people – students of biodynamics and anthroposophy from around the area. We looked into Rudolf Steiner's Agriculture lectures, and thought that stuffing and burying cow horns with cow manure was odd, but managed to get over the questioning doubt. Hearing of Maria Thun's barrel compost for transplants and then seeing the lack of stress on a plant was eye-opening. I knew that there was something there to look into more deeply.

When our family moved to Aotearoa, in 2001, the doors were open. Future colleagues met, and new friendships and connections were made. We eventually landed on a lifestyle block on the Kapiti coast, keeping busy with livestock and gardens, and started working at Te Rā and Te Rāwhiti Kindergarten, thanks to the welcome of Doris Zuur, the board and staff. As much as we loved the farm life, the workload and commuting overwhelmed us. By taking a trip to Northland, talking with friends, and reading *In Search of Simplicity: A True Story that Changes Lives* by John Haines, we found objectivity and clarity, and decided to make a change. We then chose to focus on school life and moved to Raumati, giving up the farm. It was sad to close the chapter with animals. I am grateful, on the other hand, for gaining community, friendships and learning through teaching children, caring for the gardens and working with biodynamics in a warm circle of colleagues, which was good for all. I am glad for the guidance, help and blessings on the journey, and very grateful for the willingness and trust of the family to move.

I feel especially grateful and appreciative to have learnt from Peter Proctor and Rachel Pomeroy during their visits to Te Rā. I also appreciated the insightful conversations with visiting gardening teachers from the other Steiner schools from Aotearoa, Europe and the USA, and interactions at conferences with the lecturers, inspectors and experienced conference-

goers. The helpful suggestions, advice and guidance were greatly appreciated. The energetic help of the many enthusiastic European volunteers from the international group Freunde der Erziehungskunst (Friends of Waldorf Education) was so timely and a godsend over the years. Thank you to all those people who willingly shared their energy, spirit, knowledge, wisdom, guidance and love. Especially, thank you to Rudolf Steiner for his perceptions, direction, guidance and help to renew the Earth and humanity.

In the pioneering phase of Te Rā School, there was much enthusiasm, with various input from teachers, staff, other local gardeners and biodynamic experts. We created gardens for students to learn in and for the beautification and diversity of the school grounds. Taking stock of what the whenua offered, the existing grounds had some mature trees, a large



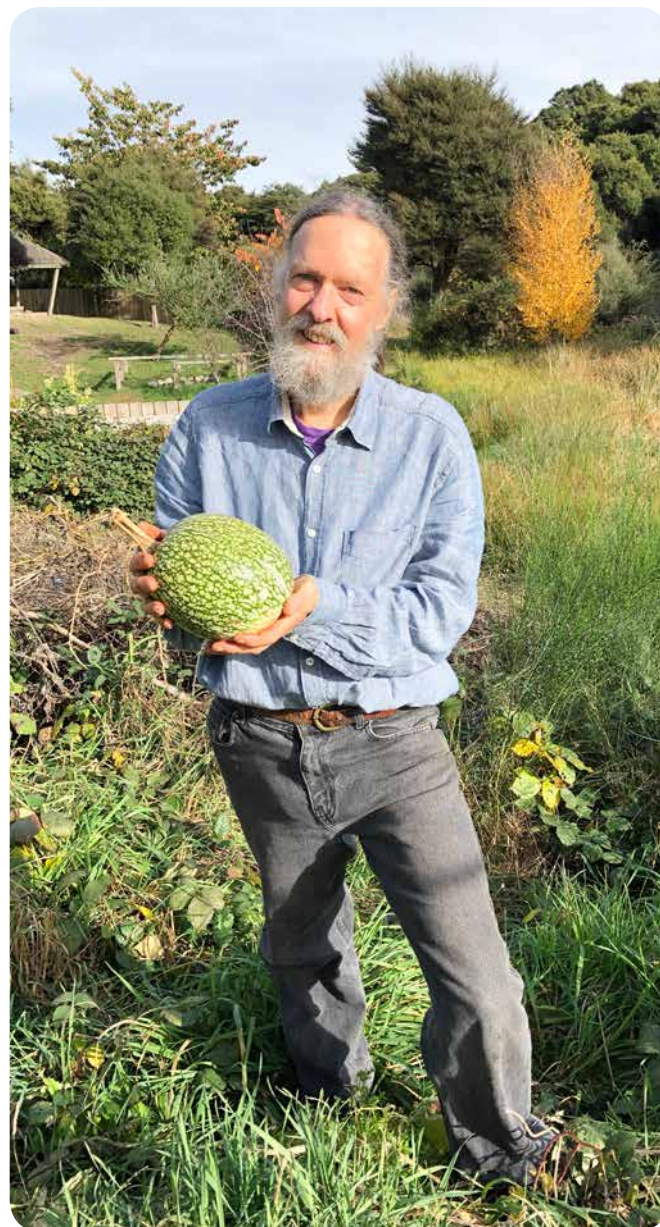
Photo: Amanda Bradley

Cow horns arranged in one of the school's CPP pits

pine forest, some fruit trees, assorted exotic trees, established flowers and a coastal native forest, primarily mānuka. These helped to bring a sense of establishment and grounding, as well as shade, protection, beauty, fruit, firewood, material for woodworking, projects and climbing opportunities.

Because of the acidic peat soil, we built rectangular raised beds, adding lots of compost, allowing easy access from the sides. These became garden spaces for each of the classes to learn and work in. Building compost piles was an ongoing year-round activity and a crucial component of the garden experience. The children gathered raked leaves, mowed grass clippings, flower petals, seaweed, horse poo, cut stalks, soaked straw and food scraps. Bringing the biodynamic preparations to the pile helped the children to have a hands-on practical experience with biodynamics. Feeling the pile hot to the touch with the steam rising on a cold wintry morning, and seeing the large pile shrink down over the season, surprised some.

A few years later I realised we could connect the small beds into larger beds with fewer paths. Some of the fruit trees were



transplanted out of the central vegetable garden to allow more bed space. As the gardening programme grew, classes three, five, six and seven all had areas to work in around the school.

In keeping with the pioneering impulse, we asked for a variety of ingredients from the greater community, which meant being awake to the gifts as they would appear. Someone asked if we needed any cow horns? We said "yes, thank you!" and they arrived, as if by magic. We found unused wooden barrels on the South Island, a source of crushed basalt rock dust from the Far North, and old rotten hay bales nearby. Finding horse poo in a paddock, within walking distance, meant that we could take wheelbarrows and gather 'gold'. Equisetum, valerian, yarrow and quartz all showed up. Old tools, baskets, windows for solar driers, drip irrigation hose and plant pots all waited to be recycled and utilised as part of the abundance. There was much trust, and we were provided for.

Here are some projects that arose out of the needs and expanding vision:

Above: Mark with the cathedral beehive.

Right: Mark Howell in one of the many gardens at Te Rā Waldorf School, holding a fresh spaghetti squash.

There was a need for a shelter belt to protect the grounds from strong southerly winds, so a mix of plants were transplanted, including akeake, karamū, taupata, harakeke, kōwhai, mānuka, whaupaku (five finger), ngaio, nīkau palm and kahikatea.

We supported increasingly healthy soil life by building small worm farms, using the worm wee for feeding the plants.

Supporting pollination meant adding bees to the school. We created a bee club with appropriate gear for all interested children, including gloves, suits and veils. We started with a top bar hive, then added a Langstroth hive and most recently a cathedral hive, which was generously gifted to the school. These all showed the children different ways to house the bees. Of course the children enjoyed the honey in cooking classes, and the community enjoyed it too. Pollination of the trees and plants were good for all. Willow sprigs grew quickly and gave pollen to the foraging bees. We added a small flower 'meadow' for the bees and shelter to protect them from inclement weather.



Above: Raised garden beds and gardening shed.

Left: View of some of the raised beds in winter.

In the autumn we made preparation 500 and stuffed cow horns with cow poo gathered from a nearby farm in Te Horo. The children had the option to wear gloves, and some had an initial hesitancy, but we were all working together, and because some were very eager, the whole group joined in, many bare-handed. The children learned how to put the horns in the earth and enjoyed covering the horns with aged compost. The questions "when will it be ready?" and "is it done yet?" came with genuine curiosity. When we dug it up, they observed the 500, looked at how it had been transformed in feel, smell and colour, and saw that there was a difference. When class three finally stirred the preparation in small intervals for an hour and whisked all the gardens and grounds of the whole school with buckets and brushes, what goodness and satisfaction that was for all.

We made cow pat pit (CPP) with crushed eggshells and basalt rock dust mixed with cow pat and then put it in the pit, with class five adding the biodynamic preparations. Countless seedlings and transplants were soaked in a bucket with a



Photos: Amanda Bradley

One of the school's many compost piles.

10-minute stir of rainwater and CPP before each transplanting. We also mixed up tree paste to paint on the trunks of many of the fruit trees in the orchard. Some students especially enjoyed painting the slurry on the trunks and lower branches.

Quarterly working bees included many families in the school community contributing to the wellbeing and care of the school. We created large compost piles and soaked straw in a slurry of cow poo and rainwater in an old bathtub, adding many layers of greens, mulch, leaves, clippings, kitchen scraps, manures and the biodynamic preps. With shakes of the flask to mix with swirling vortexes, we whisked valerian on the straw layer. What fun.

We collected rainwater from rooves and sheds into barrels and baths. The water was useful for watering, composting and filling the *ollas*, an ancient irrigation method from the Middle East, Asia and Americas. The students from class seven made *ollas* (sounds like Goya) from locally dug clay, low-firing them in a kiln and then burying them to allow roots of nearby plants to gain moisture and lessen evaporation.

Looking back, I have fond memories of the years we planted on the escarpment up on the Matai Huka with the children, parents, staff and help from Nga Uruora. We brought up wagonloads of native trees and shrubs, soaked them in stirred CPP, dug them in and put protective covers with bamboo stakes around them. The children and families appreciated the reminder that one day they'd enjoy walking through the bush they had planted. On a recent walk, I noticed that many of those seedlings are now trees, having filled out healthily into a diverse bush landscape, which birds, insects, lizards and people, young and old, can all enjoy. Many hands make light work.

With a hands-on approach to the work, the children learnt by doing. They gained valuable experiences, skills and lessons that I hope will see them through the challenges they will face. May the Earth be nourished, respected and renewed. I continue to be grateful for the beauty and blessings of the Earth, and the ever-present help of the spiritual world.



Te Rā's worm farm.

CHILDREN'S ACTIVITY: *Seasonal mandala*

By Christine Moginie

Photos: Amanda Bradley



Gather your flowers, leaves and stones in a basket, then take them to the location where you want to create your mandala.

Finding ways to be creative and have fun in the garden is a great way to get our kids excited about gardening. This activity is highly useful because children of all ages can have a go. If you and your children make some beautiful mandalas/nature art inspired by this article, take a photo and tag us in the post on Instagram @biodynamicsnewzealand for a chance to be featured in our feed and on our website. Go have fun!

Seasonal sand (or soil) mandala plates are a simple, beautiful, fun activity for anyone – child or adult alike. No matter what season, there are always flowers, seeds, nuts, leaves and fruits that can be gathered on a family bush walk, or on a daily adventure into your garden, park or local neighbourhood to forage for nature's treasures.

An endless variety of patterns can be created, placed on nature tables, served up for 'tea parties' in play, or simply enjoyed as a creative or learning activity.



Start from the centre and work your way out. You could use the numbers of the central flower petals to guide the outer geometry or just go with what looks appealing.

Valuable educational opportunities can come from plant names, colours, geometry, patterns, shapes, perfume, healing properties, mathematics, poetry and where, when and how different plants grow.

Gather your flowers, seeds, leaves, etc. and cut stalks off, leaving short stems – or leave some a bit longer if you want them to stand up higher somewhere in your design.

Collect old plates, saucers, bowls – ideally not plastic. Beautiful op shop finds are perfect and can be reused endlessly.

Slightly mound some clean sand (or soil) on your plate, and spray it with water before adding flowers etc. You can either have a design in mind, or simply enjoy adding what attracts you at the time and see what you can create.

If you keep the sand damp with a spray bottle, your sand mandala flowers will stay fresher for longer.

When the flowers die or dry, then you can add them to your compost or fairy garden, and thank them for their beauty before searching for new treasures to create another sand mandala design.

A NEW GENERATION OF *gardeners*

High school student Kaitlyn Lamb channels passion into environmental leadership, gardening... and compost.

Kaitlyn is 17 years old and is an environmental captain at John Paul College in Rotorua. She has a huge passion for growing nutrient-rich food from seed and diverting waste from the landfill by making compost. She has recently become a member of Biodynamics New Zealand and shares with us her passion for gardening, sustainability and visions of what her future holds.

Please introduce yourself, and tell us where you live and what keeps you busy at the moment?

Kia ora everyone. My name is Kaitlyn Lamb. I am a year 13 student at John Paul College in Rotorua. What keeps me busy at the moment is schoolwork preparing for university next year, but what keeps me even busier is gardening, raising awareness and protecting our incredible environment. I am a leader of Forest & Bird Youth Rotorua, a Kaitaki for Eat New Zealand, and a volunteer at Te Puea Orchard, the Whakarewarewa pest control and Forest & Bird Rotorua. I am also a home gardener and spend many hours raising my own seeds, as well as making compost.

Have you grown up around keen gardeners?

I have not grown up around keen gardeners; however, when I was younger, my mum had a small vegetable garden that I may have occasionally helped in. Or maybe I just watched her when I was jumping on the trampoline or riding my bike around the garden. My family has brought me up in our natural environment; I remember our trips to Rainbow Fairy Springs and mountain biking in the redwoods.

What led you to develop an enthusiasm for compost and soil microbiology?

My enthusiasm for compost and soil microbiology began last year during lockdown, when I ran an online waste campaign for Forest & Bird Youth with my twin sister Jessica. We taught people how to grow food from cuttings, such as spring onions. This really interested me and began my gardening journey. During this time I was also having French classes with a French teacher who is a gardener, and so when I saw her garden, I remember sitting outside in our garden wanting to do the same thing. She was the first person to ever give me seeds, which were Chinese Gai Lan broccoli which I grew!

During lockdown I also joined the Kaitaki for Eat New Zealand,

and it really opened my eyes to knowing where my food comes from. Within the Kaitaki we have a topic which we showcase every month in any way that we want to. It began with Feast Matariki, which is how I began to learn about the maramataka. Another month I wrote about the International Day of Food Waste and Food Loss, where I learnt about Champions 12.3 and Kaicycle. This was a really important moment in my journey, as this was how I developed my enthusiasm for compost and soil microbiology. Because an



Photo: Zoë Spence

Me at my first compost workshop, planting plants that I grew from seed.



Photo: Leah Evans

Our first harvest from our school garden, in April 2021. It was given to two families at our school who struggle to put healthy nutritious food on the table

amazing initiative only about six hours from where I live was happening! Where people ride on electric bikes collecting food waste, which they turn into compost which they grow organic food from. This really blew my mind!

How did you come across biodynamics?

I came across biodynamics through Katrina from Blue Borage. Biodynamics interested me as I had no idea what it was, and I was and still am always looking for new methods I can use to improve my garden, especially the health of the soil. Katrina recommended to me to watch *One Man, One Cow, One Planet*, which is an incredible movie!

What is it about biodynamics that interests you?

What interests me about biodynamics is that the garden and every single part of that garden environment are looked at from a holistic viewpoint. This is very important, as nothing in nature is separate. They are all interconnected. Just like we are to Papatūānuku. This is why I love how growers use 'waste' and plants from their land/garden to improve the health of their soil and therefore the health of the food they produce and the health of the ecosystem. I find this truly amazing because nowadays lots of growers depend on external inputs in order to grow food, which isn't sustainable. I believe if we can return to biodynamic methods, then we will be able to further slow down the greenhouse effect and find a stronger connection to our environment.

Do you intend to (if you haven't already) use biodynamic methods in your own practice?

I definitely intend to further use biodynamic methods in my



What interests me about biodynamics is that the garden and every single part of that garden environment are looked at from a holistic viewpoint. This is very important, as nothing in nature is separate.

own practice. I still have a lot to learn about biodynamics and the philosophy behind it, as I still feel a little bit lost in what it all means and how to incorporate it into a backyard garden. However, I do plant and compost according to the maramataka to the best of my ability. I also do companion planting, I use our chicken poo in making compost and I observe the plants and the land in order to figure out what they need. The best way I do this is every morning, as soon as I have woken up, I go to the garden and check how it is going. For example if I notice if the leaves are yellow, then I know they need feeding. From time to time I also check on the garden once it is dark, as the garden looks completely different at night, so you can notice different things. At night, the māra is more magical!

What would you like to learn more about in regards to biodynamics?

What I would really love to learn more about in biodynamics is the whole philosophy behind it. I feel if I understand this, then I will be able to incorporate the methods into my own gardening practices more easily, and will then be able to teach others about this practice. I would also love to learn how



Photo: Jessica Lamb

Me visiting Lux Organics for the first time ever with Sustainable Backyards. I was super excited!

to make the cow poo preparations that other biodynamic growers use, such as Katrina Wolff; I see biodynamics on her Instagram quite often. Another practice that I would like to learn is how to make biodynamic sprays. I haven't learnt a lot about biodynamic gardening, only organic gardening; however it is my plan to go to a biodynamic workshop sometime.

Is there a desire amongst your peers to be involved in regenerative farming and gardening?

Although it may sometimes seem like there is no desire amongst high school students to be involved in regenerative farming and gardening, I actually feel like they do desire to get amongst it. I know of a few other high school students like me who have set up school gardens, compost systems, etc., but since starting my own journey and setting up my Instagram account, I believe I have actually shown my peers at school how awesome gardening is and have inspired a few to begin themselves. A couple of my friends have asked for help with fixing problems with their plants, some wanted to buy some pumpkins that I grew, and even some are wanting me to help them set up their own home garden and compost system!

I especially feel that if regenerative farming and gardening was taught at school or offered during lunchtimes in clubs, then we could actually see quite a large number of youth being interested in it. To begin with, I feel like this desire is lacking simply because high school students are unaware of these practices and even more simply, lacking the knowledge of knowing where food actually comes from, let alone knowing that you can grow your own. For some people these days, all

“Gardening isn't seen by most teenagers as a normal thing to do or a fun thing to do. But once their peers or someone they know begins to do it and youth see other youth join in, I believe this is where you see a change inside of individuals.”

they know is that food comes from the supermarket, and they haven't been exposed to this amazing world of growing food basically anywhere you can imagine!

I believe the best way to get high school students involved and learning about this kind of stuff is to actually get them outside and working in the soil and with plants. As for me, I much prefer that to sitting inside four walls learning about it when I could actually be in nature, doing it and making a difference in my community. Furthermore, I believe youth my age are interested in regenerative farming; it may just not be completely evident yet. What I mean by this is that gardening isn't seen by most teenagers as a normal thing to do or a fun thing to do. But once their peers or someone they know begins to do it and youth see other youth join in, I believe this is where you see a change inside of individuals. Because if more people do it then they see it as a socially acceptable thing to do, so more are likely to join in. “Do something wonderful, people may imitate it.” – Albert Schweitzer.



The amazing people who came to my first composting workshop at Te Puea Orchard. There were other activities involved, as this event was a part of Sustainable Backyard with Envirohub.

In regards to composting, and generally taking care of the environment, how could you see your school or local council improve?

'Waste' is a human concept, as nature does not do waste. In nature everything is recycled back into something that can be reused time and time again to help some part of the ecosystem. This is why I believe my school, and in fact all schools and councils, could be doing so much more to take care of our environment. Composting is such a simple solution to tackle the 'waste' scheme of things.

I do not personally believe in mass composting schemes as it means fossil fuels are still heavily incorporated into the system. What I do believe in are local compost initiatives, where schools and reserves have their own compost bins and facilities for people to drop their organic waste off. Or councils could collect materials and drop them off to the corresponding community compost bin. I believe that this is so possible! There are many individuals within a community, and if we all worked together to build compost bins in our local reserves and all dropped our organic waste off while we walked past with our dog or drove past to work, then this would actually have a huge impact! And most reserves have so much wasted grass space, which is essentially a monoculture. Having compost bins will also increase the soil health beneath the compost bin.

I could say way more about what my school and local council could be doing to take care of our environment, but it is all about getting started. I know that I and my sister and others have created a lot of change in our school, and that our council has been making lots of changes, such as the organic waste collection they have planned to implement. And I have to say that making change is so, so hard. But a quote that I take with me each day – I actually find this quote helps me a lot – is: "It always seems impossible until it's done." – Nelson Mandela.

What's next for you?

This year is my last year of high school. However there are still so many more changes I want to make at my school before I leave! The plan for the rest of the year is to run hands-on activities during the month of Plastic-Free July, such as making reusable coffee cups and tote bags, implementing compost bins into every classroom, having a school compost workshop, inspiring as many other students as we can and getting them to also be passionate about caring for our beautiful taonga and natural environment. We also plan to further restore the Utuhina Stream which flows behind our school. Above all this is to create a succession plan so that when I leave – along with my sister Jessica, who I work extremely closely with – the work we are doing can continue so that future students can have the opportunity to learn about our environment and be actively involved in caring for it.

Composting and gardening are a huge part of my life, and I could not live without them. That is why next year, I plan to go to either Otago University, where I plan to major in both French and agricultural innovation, or Canterbury University, where I would study both French and environmental science. Once I have finished my studying, I then plan to do some wwoofing around New Zealand and France for experience in the farming field. I then want to set up a regenerative farm like Piwakawaka Farm, where I can help restore soil health, as well as New Zealand's biodiversity, by regenerating our native forests at the same time. Within this farm I would actively engage with my community and local schools, to teach them and raise awareness about growing organic food and restoring our native biodiversity. I also would love to use biodynamic methods on my farm.

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Kaitlyn shares her gardening adventures and discoveries on Instagram @kaitlyngrowz.

The Gaya Tree

Gabrielle Crowe, teacher and founder of The Gaya Tree in Northland, shares a working model of Steiner-influenced education.

The Gaya Tree Education & Sustainable Life Charitable Trust is based in Mangawhai, Northland and has been hosting children's activities since 2012, including a weekly programme during the school terms for local children, music lessons and workshops, community music making and marimba workshops, whole-foods cooking classes and special events. The idea of extending the classroom beyond the school term and outside the four walls seemed a natural extension of activities for The Gaya Tree.

The Gaya Tree's education programme is influenced by Steiner educational modalities and yoga philosophy, involving the integrated development of the child's intellectual awareness; musical, artistic and imaginative faculties; practical skills; environmental awareness and conscience; art and design; performance; the expression of language; Te Reo; wholefood preparation and nutrition; and community service. Bush classrooms add emphasis on building resilience and the capacity for self-motivation, organic gardening, bush ecology and exploration.

We are always seeking ways to stimulate children's inquisitive natures and capture their imaginations, which is the basis of all learning. The Gaya Tree hosts Little Lights, the local Steiner playgroup, on Mondays, led by Erin Clark. A warm and nurturing environment is created with songs and stories, baking and outdoor play. Local art therapist Christine Moginie teaches the children Steiner-based watercolour painting and drawing classes during the term programme and facilitates the mid-winter solstice spiral walk and St John's Lantern celebration for families and friends. We celebrate the winter solstice as a community event each year, with a spiral walk made using cedar and mānuka branches. Each person walks the spiral to the centre, where they light their own candle to place along the spiral. When everyone has walked the path, the whole spiral is aglow with lights.

Christine also runs biodynamic compost-making workshops and 500 and cow pat pit stirs, which adults and children attend each year.

The Gaya Tree facilitators are a variety of local educators, artists and musicians who come for specific activities throughout the year. The children participate with positivity, enthusiasm and creativity. The children thrive in the outdoor classroom, which provides a grounding natural atmosphere of inquisitive thinking, alertness and an overall peaceful attitude of mindfulness. New friends are made and new perspectives embraced by both children and parents.



Photos: Gabrielle Crowe

Above: Making bliss balls.

Below: Children learn by doing.





Left: Two children tending to the garden.
Below: Harvesting beautiful kawakawa.



Above: A happy healthy childhood.
Right: Nature drawing with pastels.



Seed baths

Graeme Roberts explains how to soak seeds in biodynamic preparations for increased plant health.

Article excerpt reprinted with permission from *Elementals Journal* #135.

Most seed used by conventional (chemical) farmers is usually treated to protect the seed from pests and fungal attack. These coatings are generally toxic to the microorganisms in the soil.

Sattler and Wistinghausen, in their book *Bio-Dynamic Farming Practice*, discuss seed baths in some detail, along with grain selection and germination trials.

They note that Martha Kuenzel and Franz Lippert have done numerous seed bath trials over many years and developed a seed treatment that strengthens the vitality and resistance of plants. Their experiments investigated the benefits to different plants whose seeds were treated by pre-soaking with particular biodynamic preparations.

These long-term trials have shown that each preparation has its own characteristic way of influencing the growth cycle of a plant's development, root system and yield.

When they used seed baths made from the biodynamic preparations, the researchers noted increased root formation and plants that were generally stronger and more resistant to disease.

- Observations have shown quicker germination, more vigorous growth, improved resistance to climatic stress and a healthier plant often with an increase in yield.
- Legumes in particular benefit greatly with better formation of nodes and a stronger and more extensive root system.

Treatment

Generally the seed and plant material is treated with the appropriate bath preparation the day before sowing.

Note: Different-sized seeds and tubers require a different pre-soak process.

SEED BATH TABLE

Preparation	Plants
500	Stir for one hour before using. Suitable for all crops, especially with spinach, beets and potatoes in dry climates.
Yarrow (502)	Use for rye grain, linseed and all grasses.
Chamomile (503)	Use for legumes (peas, beans, clovers), brassicas (radish, turnip, all cabbage varieties, canola and mustard), potatoes, flaxseed and tulips.
Nettle (504)	Use for barley and lettuce.
Oak bark (505)	Use for oats, lettuce, potatoes and dahlias.
Dandelion (506)	Use for carrots, chicory and endives.
Valerian (507)	Stir for 10 minutes before use. Use for wheat, fodder beet, flax, corn, potatoes, tomatoes, peppers, cucumber, leeks, onions, celery, celeriac, dwarf beans, legumes, carrots, chicory, pumpkins and spinach.

Notes on valerian as a seed bath:

- Valerian is beneficial in damp climates and combats the tendency for mildew in potatoes.
- Valerian-soaked seeds have a strengthened resistance to disease, degeneration and mildew.



When they used seed baths made from the biodynamic preparations, the researchers noted increased root formation and plants that were generally stronger and more resistant to disease.

CPP (cow pat pit)

Try using CPP with all seeds and tubers.

For large seeds such as beans, peas and corn:

Mix CPP with a small amount of rainwater to make a paste. Stir in the seeds until well covered and leave for two to three hours. Remove seeds and dry for a short time before planting.

For fine seeds: Mix the seeds into a suitable amount of CPP, but without any water. Leave for an hour, then sow directly into the prepared soil.

For young plants: Dip the young plants into stirred CPP and leave for 30 minutes before planting.

Other points to consider:

- Horn manure (500), chamomile (503) and oak bark (505) generally reinforce the calciferous process, making plants spread horizontally and stay connected to the earth.
- Horn silica (501), dandelion (506) and valerian (507) reinforce the silica process and are related to the cosmos encouraging vertical growth in plants.
- Chamomile (503) and dandelion (506) generally stimulate root formation.

Notes for large amounts of seed, e.g. grains, field peas and beans:

- For 100 kg of seed you will need about three litres of warm rainwater.
- Stir one tablespoon of the preparation vigorously for five minutes and let stand for 24 hours.
- Place the seeds in a heap on a clean floor and spray on the liquid while turning the seeds with a clean shovel.

Cover with sacks and leave for two hours, during which time the moistened preparation will distribute evenly through the heap.

- Spread out the seed to dry until suitable for use in the seed drill machine.

For the home garden

- Use one teaspoon of the preparation most suited to the seed to be sown. (See table.)
- Stir vigorously in one litre of slightly warmed rainwater and leave for 24 hours.
- Put seeds in a muslin bag and suspend in the liquid for 15 minutes, then spread out to dry on a wooden board or paper towel in a shady place before sowing.
- Some larger seeds could be sown straight away. Try some experiments with, say, sowing one-third of the seeds directly after soaking and sowing the remaining two-thirds the next day.
- Seed should be used within two days of soaking.

Seed potatoes

Place your seedling potatoes on your shed floor.

Spray the heap of potatoes three times over one or two weeks before planting, and turn the heap at each spraying.

Plant immediately after third spray.

Carrot seed

Place seed in a cloth, soak for 15 minutes and wring out to dry (try a spin dryer). Sow immediately when the seed is dry.

Final note: All bathed seed and plant material must be sown or planted within two days of mixing.



Observations have shown quicker germination, more vigorous growth, improved resistance to climatic stress and a healthier plant often with an increase in yield.

Into the Soil

A DISCUSSION WITH FILMMAKER MATTIAS OLSSON

Interview by Amanda Bradley

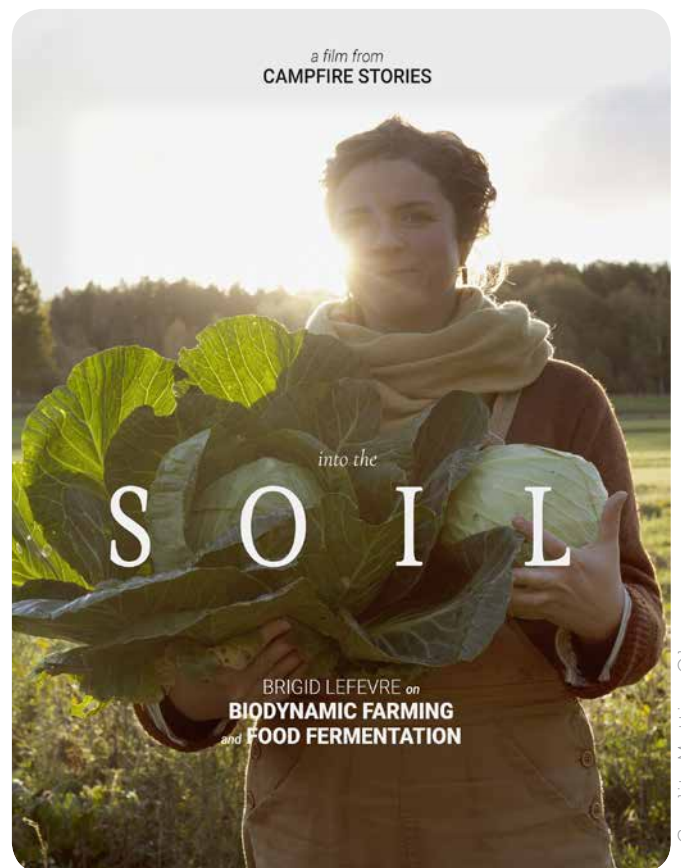
I had the wonderful opportunity to talk to Swedish filmmaker and podcaster Mattias Olsson about his documentary film Into the Soil. In this film he documents the philosophical approach of biodynamic farmer Brigid LeFevre, who grew up in a Camphill community and now runs a small biodynamic farm where she grows produce to make some of the best kimchi in Europe. Mattias is also the creator of a multimedia project called Campfire Stories, where he interviews people in his community who are pursuing sustainable and sometimes alternative lifestyles.

Hi Mattias. Can you please tell us a bit about yourself?

I'm a filmmaker; I come from a small town in the south of Sweden. I now live about a 40-minute drive south from the capital of Stockholm. We have a few neighbours, but they are quite a ways away. Our neighbours are a forest in one direction, a field in one direction, the ocean in one direction and more forest in the other direction. I grew up in one of those modern subdivision communities, where all the houses looked the same. As a child, after I had explored the few forests that were there and realised that if you walked for five minutes you get to the end of it, I started longing for other ways of living. I always longed for country-style living and being with the elements. My parents are pretty cool; they are the kind of people who in the '70s would do yoga. Back then it was frowned upon. They were pretty alternative, buying organic food before it was a thing.

I was a still photographer for many years. I went to New York when I was 22 and was a photography assistant, then worked as a photographer until I was 35. Then I came back to film school, because by then I had realised that filmmaking was my passion. I had made my first film, but it was a mess, because I didn't know what I was doing. So I chose to go to film school and take the craft seriously to learn it from scratch.

After that I worked in the 'regular' film business in Sweden, producing documentaries for Swedish national television. Then about three years ago I started *Campfire Stories*, which is my way of being able to express things that are emerging from deep within. Questions I have had around our culture, like the way we are living, the way we are raised. When I was younger I didn't have words for these things, but I came to realise the answer to these questions had to do with the way we treat nature and each other, the way we are living. At least for me, I can see those around me not living



Into The Soil film poster.

intergenerationally. If you're lucky you have the nuclear family bubble, then you see your grandma twice a year. I woke up to a lot of things in my 40s, and I wanted to make films about those kinds of topics in my own way; I didn't want to wait for approval. I wanted to work more with my intuition and explore the kinds of things that I was curious about.



Filmmaker Mattias Olssen with Brigid LeFevre. Mattias was intrigued by Brigid and how she uses biodynamic principles to grow beautiful produce which goes into her homemade kimchi.

I want to remain local as much as I can and explore what happens where I live. It just so happens that I live in a place where there are lots of things going on that inspire me. There are a lot of Steiner schools here, a lot of yoga practitioners, non-GMO farmers. It's just one of those communities that are a bit different from your mainstream town. So I want to explore what is going on here. I try to use a particular way of looking at what's going on; by that I mean, if you travel to Greenland, you would arrive and be amazed by the newness and take it all in. I try to do that with what is here and not be numbed by the mundaneness of where I live. I imagine I am coming from a different part of the world to see what is going on.

What is the premise of Into the Soil, and why did you make a film about Brigid and her work with biodynamics?

I didn't know Brigid, but I knew of her. People around here said she made the best kimchi. I knew that she played the guitar, that she was a musician. She had this mysterious aura to me. I was just drawn to her and wanted to ask her, "What's going on?" As I began the film, I didn't really know what it was going to be about. I just knew I wanted to sit down and have a conversation with her. So I asked her if I could interview her and she said yes.

Sometimes at the beginning of my podcasts or films I have a first question which is sort of a warm-up one. In the film I left



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this one in: "Can you give a little background about where you are from?" It was like a nothing question; I assumed I'd edit it out. But then she started telling me about her upbringing in a Camphill community in Northern Ireland. I was just intrigued. She told me about this self-sufficient community where they had their own weavery, their own store, grew their own food – and she mentioned they didn't use any money. I was like, "This sounds so amazing, so utopian. Why did you ever leave?"

From there on, the conversation went on to what she brought from that upbringing, of being raised where everything is alive and food is something that has nothing to do with the economic markets of the world, and how has that been translated to what she does now.

I don't know anything about biodynamics, so when she stirred



Photos: Brigid LeFevre

Brigid's farm in early summer.

the preparations I asked her what she was doing. So the film is a podcast-like conversation; I follow her around with a camera basically asking her what she is doing.

What was production like? Did you film it over a couple of days?

I started in July and was filming on and off over three months. I would go and be fully immersed in Brigid's day, every few weeks. So in total I spent around seven full days filming her.

Towards the end of editing the film, I thought, wouldn't it be lovely to have a feel for the seasons and a feel of death at the end of it – death as in all the beauty we see in the garden when it's all snowy and going icy. She only lives a few kilometres away, so I could load up my bicycle with gear, take my dog and film extra stuff. I also wanted the fact that she's a musician to be part of the film. So at the end of the film, she played a song.

The composer of the film did a wonderful job with the song Brigid plays at the end. He came in to give it a full composition.

It's funny because Brigid just does things her own way, including how she tunes the guitar. So she had it tuned a particular way, so when Arvid (the composer) went to compose something, he had to retune all his instruments to make them match her tuning. I think he did a wonderful job.

To leave the interview, and go into a different feeling which is maybe a little bit magical, leaving the hands-on 'here I am pickling cucumbers' and going into a different realm, is nice.

What is the state of agriculture in Sweden? Are organics and permaculture valued in general? Is biodynamics well known?

There is stuff happening, but it's not part of the mainstream at all. Many don't think too much of these issues. So that makes it all the more important for people like me, who have an education in media, to find these people who are working for the coming generations' ability to grow food, to have access to clean water and air, and to uplift these stories.

I happen to be living in an area where non-GMO, organic and locally produced things are valued. Like you can go and buy milk from the farm next door. But I think for Sweden as a

whole, it's the big farms and industrial approach to farming that is in the majority. Sweden grows lots of rapeseed, oats, wheat, rye, potatoes.

From my perspective, it seems there is not a future for the industrialised, monoculture model of farming. To just look at the land in terms of what it will yield. If you don't bring a holistic approach, where you look at the environment and what biodiversity is there, I would say there is no future for that. So is there a future for biodynamic farming on a large scale? As someone who is not an expert, from what I have heard it seems that in some countries biodynamic farms are scaled up enormously, like in India and Germany, so there could be a bright future there.

I just know any approach to farming where you are focusing on how to make the soil well, not just so you can get more food out of it... can be more, multiplied. Can there be more earthworms here next year? Can there be more birds? Biodynamics and permaculture are two important players in this, because they are established; there are also a myriad of other players. And maybe the future will involve something depending on where you are. Maybe it's not just one method.

I see you have made another film about biodynamics. How have these films been received?

I've been getting a lot of love for *Into the Soil*. The previous film, called *On Biodynamic Farming*, was considered funny, and had a lot more of a light-hearted approach, although it gets more serious towards the end.

In the previous film about biodynamics, I really didn't know anything about it at all. So the premise of that film was that a colleague of mine gave me a warning, said that there is

some craziness going on in the community that I had moved to. That there are 'shamanic rituals' going on in the fields at the full moon and that they are burying animal body parts in various ways, that it's completely unscientific. He was very upset, but I was intrigued. After that conversation I decided I had to find out about these 'shamanic rituals'; to me it sounded wonderful. I wanted to know what it was.

In this first film I set out to find out what was it about biodynamic farming that could upset people so much. That film goes into the magic and practicality of biodynamics, like how the preparations are made.

I didn't feel the need to go into all of that in this recent film with Brigid. It was more a film about the philosophical approach to farming that she has and the results she is hoping for. The previous film I think a lot of people thought was funny; I had a jester narrating the film and playing music. We wove his part into the film. Originally he was just supposed to make the soundtrack, but then we put him in the film. Like, I am driving and he is in the back of the car playing the soundtrack. And that can be accessed on the same website, so you can watch both films as a double feature.

Where can people watch your film and support your work?

<https://campfire-stories.org/into-the-soil/>

All the films are free; there is no paywall but there are ways to support *Campfire Stories*. People can make a one-time donation if they wish, and I'm on Patreon, which you can access through this website. Although the system is designed to be accessible and not make people feel they have to pay. ■

Below: Making kimchi.



FILM REVIEW:

Into the Soil

Katrina Wolff sat down to watch Mattias Olssen's new film *Into the Soil*, featuring biodynamic farmer Brigid LeFevre. She shares some takeaway thoughts from the film.

What would it be like to grow up in an environment where food is free? What sort of career would such a person create for themselves? You have to watch *Into the Soil* to hear Brigid describe this in detail, or listen to the much longer unedited conversation with the filmmaker Mattias Olssen on his podcast.

"That there would be a question of market connected to food... it was never part of my childhood, and it's not part of the Camphill model, and that, I feel, is sound. Like it really works."

– Brigid LeFevre

I started watching *Into the Soil* expecting Brigid LeFevre to be a highly accomplished chef in her 50s, demonstrating the results of many decades of making sauerkraut. It was a delight to see that Brigid is 37.

"You have to see it to be it" is a phrase I hear often in business circles, and this is one of the main reasons I love documentaries as a means of storytelling. I meet lots of young people who hope to make a difference in the world, but are confused about career decisions. They are sceptical of capitalism and feel the need to reverse environmental damage, even if it's just on a small scale. But what's the alternative to university and a sensible job?

Brigid is a fine example of how to make a good living – and a great life.

Is there a business model that values the work of the grower without forcing them to compete with other growers?

The Community Supported Agriculture (CSA) model is often synonymous with subscription vegetable boxes, but at its heart, it's very different. Community Supported Agriculture allows farmers to devote themselves to farming. In Brigid's case it is not just growing food, but also processing it. Her customers get top-quality fermented goods each month, and she has the artistic freedom to use what's growing each day, try new flavour combinations, and live in harmony with the land and her fermenting kitchen.

Förädlad is the word that is sticking in my head, and the way Brigid talks about how untranslatable it is makes me want to have a go at making sauerkraut. *Förädlad* is more than fermenting; it's more than merely processing, or refining, or pickling... it's an art form that's almost like alchemy, with millions of microscopic helpers who do most of the work.

Brigid – a champion of biodynamics and fermented foods.



Photo: Mattias Olssen

"I'm not actually making the sauerkraut; I'm just chopping vegetables and adding salt."

– Brigid LeFevre

The way Brigid describes these helpers in the kitchen, and also the unseen helpers in the garden, reminds me of reading the book *Summer with the Leprechauns: A True Story* by Tanis Helliwell. Irish culture has an inherent respect for elemental beings, and Brigid weaves her description of this concept in relation to the biodynamic approach to growing food in the most delightful way. I wonder if this perspective might be how biodynamics can be made more accessible to young people. Good food, music, lots of laughter and an appreciation of alchemy.

Alongside the themes of making a good living and regenerative farming are the insights Brigid gained from an upbringing in a Camphill community, living and working together with people with special needs. Here in New Zealand, Hohepa is loosely based on the Camphill model, with the famous biodynamic farm in Hawke's Bay making award-winning cheeses.

Brigid seems to have very fond memories of her childhood in the Camphill community, eating produce from the biodynamic farm on the land where the community lived. To get a full sense of how she came to be living at Järna in Sweden, you need to listen to the unedited conversation with Mattias Olssen, which you can find at his website, Campfire Stories: <https://campfire-stories.org/>

My biggest takeaway from the film is the understanding that I'm not making compost – I'm just gathering the materials and assembling them in a way that composting can happen. ■

Nutrition for body and spirit

Amanda Bradley interviews Gill Bacchus about her new book, *Love your veges*

For those who may not be familiar with you, could you please give us a short biography? What led you to biodynamics and nutrition?

I was always a keen gardener and had a degree in agriculture, but I was unaware of organics and biodynamics until, when working for the Ministry of Agriculture in the late 1980s, I was asked to read and make a summary of public submissions on a proposed policy on organic farming. I was so interested and enthused by the ideals and passion in submissions by organic farmers and gardeners that I went wwoofing at weekends to find out more. I was impressed by the integrity of biodynamic properties and found that the spiritual basis of biodynamics resonated with me.

Then health issues made me think about my diet and the quality of the food we eat. I realised the importance of biodynamically grown food for nurturing our souls and spirits as well as physical bodies when I read Rudolf Steiner's words to Ehrenfried Pfeiffer in the preface to the *Agriculture Course*:

“

The quality of food eaten by parents before they have children, and that eaten by young children, has a big effect on their physical, emotional and spiritual health.

“Nutrition as it is to-day does not supply the strength necessary for manifesting the spirit in physical life. A bridge can no longer be built from thinking to will and action. Food plants no longer contain the forces people need for this.”



Photos: Gill Bacchus

You can grow a substantial amount of food in your garden. Don't let a small site stop you.



Photos: Gill Bacchus

A balanced vegetable meal that provides the energies of roots, leaves, flower, fruit and seeds.

How did the idea for this book come about?

Realising how different Steiner's approach to nutrition is from our materialistic view of nutrients and that few people would read his lectures, I resolved to write a book explaining Steiner's teaching in simpler language. I wanted to write particularly for young people, as research by Weston A. Price and recent epigenetic research have shown how the quality of food eaten by parents before they have children, and that eaten by young children, has a big effect on their physical, emotional and spiritual health.

How did you find the book writing process? Has this been a long time in the making or did it unfold rather quickly?

Writing started a long journey, as I realised I still didn't really

understand Steiner's teaching myself, but after several rewrites I finally had a book, *Food Full of Life*, published by Floris Books in 2012. Unfortunately this was not so easy to read, with many scientific references, and was not widely distributed, so then I decided to write a simpler book aimed at young mothers. This took several years in between other commitments.

What is the book about? Can you describe the kinds of information, the purpose and who this book is for?

The book is for anyone looking to increase their health benefits and enjoyment from eating vegetables, although much of it applies to other types of food also. It is aimed particularly at parents seeking to encourage their children to eat a wide range of vegetables. I think many children are put off by the poor taste of many vegetables available in our shops, so I advocate growing your own or seeking a good organic source.

I point out that we are all unique, needing the right food for our particular body, lifestyle and health conditions, and also for our mood, thinking and ability to achieve. I discuss the large differences in taste, nutrient content and effects on our bodies from different vegetables, different parts of vegetables and vegetables grown in different systems. There are also practical chapters on growing your own, preparing and cooking vegetables.

I encourage readers to think of vegetables in a holistic, dynamic way rather than as bundles of nutrients. I explain the importance of eating food containing strong formative forces, and particularly strong light forces, for people's thinking, mood, spiritual development and ability to cope with life's stresses and achieve their goals. Although there is not a lot specifically about biodynamics, I point out the value of growing biodynamically and using the biodynamic preparations.



Gill Bacchus, author of *Love your veges*.

How would you describe the difference between biodynamically grown food, and organic? Are there nutritional differences?

I think it's important to recognise there are many variations in organic and biodynamic systems according to soil and climate type, and what practices an individual uses, so it is hard to generalise. Some organically grown food may contain more, better balanced nutrients than some biodynamically grown food, if it has been grown in better soil with more love and care.

If the biodynamic grower recognises and fosters the spiritual connections of our plants to the sun, moon, planets and stars and the beings who work with the cosmic and earthly forces, regularly applies the biodynamic preparations and understands how to use them to strengthen cosmic forces and balance them with earthly forces, then their food products will contain strong formative forces which nurture our souls and spirits as well as physical bodies.

As a biodynamic grower also fosters the individuality of their unique property and makes it as self-sufficient as possible (rather than bringing in organic inputs), the food will have unique flavours that reflect the 'terroir' of their property. (I find it interesting that the value of biodynamic growing is better recognised for wine rather than food production. Developing a unique 'terroir' taste in wine, reflecting the individual conditions of each vineyard, is an important part of winemaking.)

Assuming the biodynamic food has been grown using good organic practices, including plenty of good compost and rotations in fertile, biologically active, minerally balanced soil, and that all of the biodynamic preparations, including preparation 501, have been applied at suitable times several times a year, it should have a good, complex flavour, and be satisfying to eat. It is also likely to contain more complex sugars, more well-balanced true protein, and more phytonutrients (such as antioxidants, and the sulphur-containing nutrients in brassicas).

Could you tell us about the scientific trials you have carried out with biodynamic produce? What were your findings?

I grew lettuces, some with no compost, some with organic compost, some with biodynamic compost, some with soluble fertilisers. Half of each group was sprayed with biodynamic preparations 500 and 501, the others with water.

There were some differences in mineral content. The lettuces grown with soluble fertiliser contained slightly more calcium, magnesium, iron, zinc and copper, and those grown with compost had more potassium. The most interesting differences were between those sprayed or not sprayed with 500 and 501. Initially the 501 reduced growth of the lettuces during dry weather, but those grown with added compost recovered and produced the biggest plants, with higher phosphorus content.

I did further trials to find out more about the effects of the 501

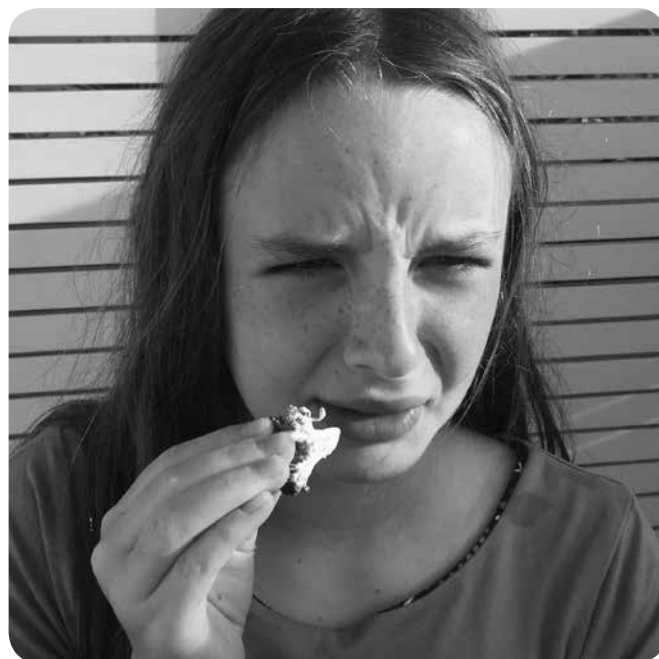
spray on plants. These were mainly inconclusive because the differences in results were not large enough to be statistically significant. Plants sprayed with 501 had greater transpiration rates, and the spray appeared to affect light absorption at different wavelengths in the spectrum. I hope others will do more research to better understand how preparation 501 works in enhancing light uptake by plants.

Can you tell us how you learned how to 'do' biodynamics? Did you attend workshops, read books, have a mentor? What ways do you think the biodynamic community could continue to expand and bring these methods to the wider public?

I first learned how to do practical biodynamics through practical workshops run enthusiastically by Peter Proctor. I wwoofed on several biodynamic properties, and then I attended the biodynamic course at Taruna. I also learned a lot by helping Peter write his book, *Grasp the Nettle*. I read quite extensively, but I found the main learning was by doing biodynamics myself on my own property and with local groups. I think regional group hands-on meetings and working for experienced biodynamic growers are the best way for people to learn.

Can you tell readers how they can purchase a copy of your book, and do you have any upcoming events you would like people to be aware of?

You can purchase a copy through the Biodynamic Association or by emailing me at gillbacchus@gmail.com and I will post it to you. I am aiming to also get it stocked by several organic shops and bookshops, and I will give talks to parent groups. If you would like me to talk to a local group, please contact me.



Children need lots of exposure to bitter flavours; here is an experience of bitter broccoli.

BOOK REVIEW: *Love your veges*

Book by Gill Bacchus

Reviewed by Amanda Bradley

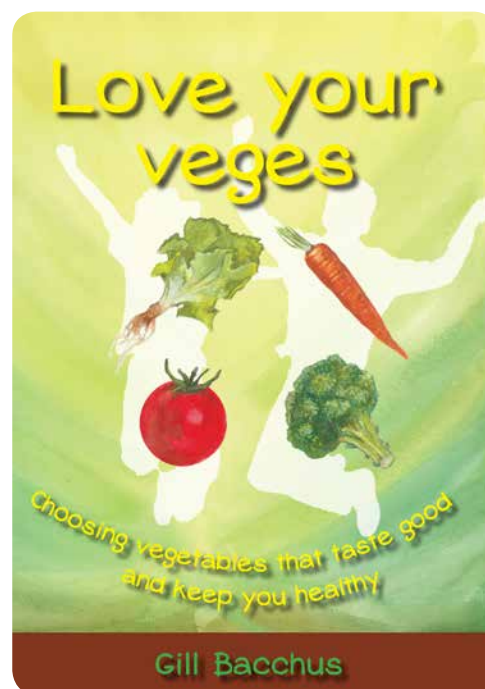
Gill Bacchus is known by many in the biodynamic community and is back with a new, parent-friendly book called *Love your veges*. Not only is the book packed with information on the theoretical aspects of biodynamic/organically grown food, but she includes practical tips for those of us wanting our children to love their veges. Included are suggestions for getting the kids involved by starting their own garden, and tips on how to apply certain biodynamic methods in your own backyard.

This is a wonderfully illustrated and easy to read guide for those of us wanting to learn more about the holistic nutrition associated with a good diet and why fresh produce is the best. For those with children, who may struggle to get a wide variety of vegetables into the children every day, Gill has a range of activities and snack ideas that could convert even the fussiest eaters to vegetables.

For those wanting more in-depth knowledge about the energetic and nutritional properties of their food, Gill provides ample information in a way that is clear and easy to read. I found the section "Are You Eating Sufficient Light Energy?" particularly illuminating. Did you know that this refers not only to the amount of actual sunlight that shines on the plant, but also that the absorption of light is affected by the type of soil the plant is grown in? The biodynamic silica spray contributes to light absorption and therefore enhances the light energy in vegetables. Facts such as these are backed up by scientific evidence, and Gill's experience as a soil scientist is evident, as she weaves empirical research throughout the book. There is a substantial reference list at the back for those who wish to broaden their knowledge of the topics included.

For those new to biodynamics, this book is an easy and essential read. For those more knowledgeable amongst the biodynamic community, the reference list and nutritional information about produce will be of great interest.

No matter how healthy we are, it never hurts to learn more about the nutritional aspects of our food and find new ways to enhance our food's life-giving properties. ■



Credit: Gill Bacchus

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A GUIDE TO *activating your community*

Su Hoskin, Education Coordinator for Biodynamics New Zealand, shares her experience in creating a local biodynamic group – and offers her tips on setting up your own.

In her role as Education Coordinator for Biodynamics New Zealand, Su hosts and coordinates many biodynamic workshops and events. Here she writes about her personal experience with regional hubs and gives advice on how to set up your own regional hub. You don't need to have an official role within Biodynamics NZ to run wonderful workshops and share these practices with your neighbours and wider community.

Where to start can be a block for many when it comes to hosting your own workshop or community stir in your backyard. This is the first of a series of articles we will be publishing with tips and tricks that will hopefully inspire you to share biodynamics with your neighbours and friends.

It can be daunting to run a workshop if you haven't done it before. Often people are put off by thinking they don't have the skills to manage a gathering – but with some guidelines and suggestions I've stumbled upon on my own journey into the unknown, I hope you will consider giving it a go.

I recall the first time I ran a series of introductory workshops over a period of four weekends during autumn and winter, around 2011, at Glendhu Station, where I was living and working at the time. John Ridout initiated the idea and was incredibly encouraging and supportive.

I still find great strength from this mantra:

"Vulnerability feels like my greatest strength. It's the most human quality that allows the beauty and horror of the world to impress itself on our souls." – Frank Ostaseski

I was surprised and delighted to have attendees from near and far arrive for what became long-lasting relationships with like-minded farmers and gardeners.

I gained experience and confidence from facilitating the Taruna College biodynamics course in Central Otago. Local students suggested that I develop a regional group to keep the biodynamic spirit alive once the course ended. They even seeded a bank account with donations to get the first event off the ground.

And so, in 2012, the Biodynamic Community Otago (BCO) was born!

I began by compiling an email list of all of the organic and biodynamic farmers, gardeners and existing groups affiliated with holistic agriculture in the area. The first newsletter was



At a Biodynamics New Zealand workshop in Marlborough, the group listens to Dieter Proebst's teachings.



Photo: Su Hoskin

A breakout session at the 2018 Biodynamic Conference, organised by members of the local biodynamic group in Central Otago. You may be surprised how many people in your region are keen to create a regional hub.

an introduction and an invitation for regular meetings. I set a date, hired a venue and provided tea, coffee and cake. It was a very casual affair, but people were enthusiastic to share their stories and bring their questions.

After running a few meetings and workshops, I found the workload of planning, hosting, managing newsletters and recording and sending out minutes a bit overwhelming. One of the members, Loran Verpillot, kindly offered her assistance. With her great organisational skills, together we applied to become a charitable trust, allowing us to apply for funding for bigger functions.

The supportive group attended monthly meetings at the local yacht club and jointly agreed to study Rudolf Steiner's Agriculture Course, reading each lecture as homework, and then discussing our findings the following month.

In hindsight, this wasn't a great exercise. Whilst we managed to get through all eight lectures, members were at varying levels of biodynamic experience and found the readings too difficult or not relevant to where they were in their journey. It was also quite off-putting for new guests joining or for those unable to commit to attend every session, which resulted in individuals losing track or interest.

From then on, we had guest speakers at our meetings – members who offered to share experience and local enthusiasts, including Ray Annan, who made compost tea on a commercial scale; he brought his microscopes for us to see the biology present in biodynamic preps and compost. Isla Burgess, a local herbalist, took us through a plant immersion exercise, and a local geologist came to discuss the qualities and impurities of local quartz.

Field days and garden visits were inspirational and energising, often accompanied by nourishing potluck meals, wine tasting and home baking. Practical workshops such as horn filling,

cow pat pit making and field spray stirs were always a lively social experience.

In 2014 I set up a Facebook page under the group's name and invited members to join and use the platform to continue conversations, connect, communicate and collaborate. In response to outside interest, I changed the name from Otago to Aotearoa. The page now has almost 700 members worldwide.

With the help of funding from the Kete Ora Trust and regional council grants, the BCO delivered more formal presentations and workshops with Marinus La Rooij, Steve Erickson and Peter and Gill Bacchus, to name a few. These took a bit more organising with travel, accommodation and catering requirements, but these events were very well attended.

The process for applying for financial assistance was a little daunting to start with, but creating a budget was a valuable exercise, and focusing on the grant criteria helped shape the projects.

In 2018, members of the group joined forces to present the national biodynamic conference across a combination of sites in Wanaka, Cromwell and Clyde over a three-day time frame. It was a hugely successful weekend. Although it was a tremendous amount of work, the vibrancy and bonding of the organising team, presenters and hosts, plus the level of commitment from those involved, left long-lasting impressions.

Lifestyle changes resulted in focusing my time and energy into different projects after that. So it was wonderful to reconnect with the Otago group in November last year when Biodynamics New Zealand presented a workshop with Hans Mulder at Quartz Reef Vineyard, followed by other programmes in various locations. I'm now in the planning stages for future projects and sowing the seed in other regions nationwide.

GUIDE TO CREATING A REGIONAL HUB

Su Hoskin's top tips

A regional hub focuses on community engagement, networking, education, knowledge sharing, research and possibly consultation. Regional group meetings involve inspirational conversations, nourishing food and interesting people. It is an opportunity for like-minded land stewards to join together to create networks of growers, producers and nature devotees across a spectrum of environmentally friendly practices.

What do you need to hold a biodynamic regional group meeting or hub?

People who want to discuss holistic agriculture, horticulture, the wellbeing of our planet and all that coexists with it.

How do you host a discussion group?

Although you may not have any prior experience or consider yourself to be a leader, the role of host tends to be enlightening and well appreciated. Taking on such a role can be a step in investing in your personal growth.

The main quality required is enthusiasm.

It helps to have good organisational skills, the ability to build relationships, good networks and patience. You don't have to own all of these! Remember to delegate to a small team of volunteers.

The main activities of a host are:

- Recruiting and coordinating the other members of the group
- Arranging a venue and refreshments
- Informing your group and advertising events
- Holding regional meetings
- Writing up minutes/debrief/evaluation.

A facilitator and a host can be the same individual, but the facilitator generally only performs their role during the session.

In general, a facilitator's role consists of:

- Welcoming guests
- Recording contact details and writing name badges
- Taking subscriptions or koha to cover venue hire and refreshments
- Introducing the session
- Bringing people into the discussion
- Moving the conversation if it gets stuck
- Time keeping
- Closing the session and asking for evaluations.

Venues

Depending on the size of a group or expected numbers, this might be someone's home, a hall or even an outdoor area such as a barn. Schools, churches and clubs offer inexpensive or free rooms. Check availability and book in advance.

A pleasant environment helps create good conversation. Supporting a local bar or café can be great at quiet times because they can provide the refreshments; however, background noise can be disruptive, plus it works out to be more expensive for individuals to purchase drinks and food.

If possible, confirm your meeting date a minimum of one month before the meeting to allow time to let people know.

Experience shows that once you decide on a venue and set the time and date, everything tends to fall into place.

Make a mind map of what you envisage before you begin; this brings direction to what can be achieved in early stages of setup.

- What is your aim?
- Who is your target market?
- Who will be involved?
- When and where will it work?
- How many people do you need to make it manageable or feasible?

As soon as you have all the details, email the group, maybe print a poster or fliers, place an ad in the local paper, post on community notice boards. Notify Biodynamics New Zealand in order to be included in the FiveHundredFootnote newsletter and on the events page of our website and social media platforms. This will allow others who are not on your mailing list, or who are visitors to the area, to attend the meeting or make contact for future events.

The average time for a meeting is around two hours. It is feasible to have longer but also possible to have a meaningful chat in an hour. Remember that people often arrive late and take time to settle. The meeting doesn't have to include specific topics, set questions or guest speakers. If a speaker is invited, allow extra time.

When getting to know your group, it is worth having open conversations around points of interest to gauge the level of experience before setting a theme or topic. A group-directed session offers participants time to reflect on and share what they think is important.

Where possible, divide and structure your meeting time into parts to include a start, middle and end.

Have a biodynamic calendar, *Harvests* magazines and any favourite books on display. Contact the Biodynamics New Zealand office for some brochures which introduce biodynamics and include a membership form.

Have a list of prompts to keep you on track. Example:

- 15 minutes – Welcome, introductions and housekeeping
- 20 minutes – Opening discussion
- 30 minutes – Body/detail
- 25 minutes – Conclusion, outcome
- 15 Minutes – Question and answer session
- 10 minutes – Next meeting date, thank you and farewells.

Starting

Try to start on time. Use a bell or other sound to gain attention.

A circle or semicircle of seating works best to encourage group interaction.

Introduce yourself and the other group organisers.

Brief housekeeping – toilets, fire exit, phones off, etc.

Briefly explain the meeting agenda. Ask if there are any questions before continuing. If your meeting is to be recorded (a big help with minutes), then attendees should be notified beforehand.

Invite the group to offer their names and suggest prompts such as each one telling a little bit about themselves, what they do, why they came, what they'd like to gain from joining. If the group is large, suggest one-breath sentences. It's worth noting that some people find this part really challenging, so offer people the option to just say their name if they prefer.

Begin with a quote, a poem, or even a song. This brings everyone's focus together to begin.

Middle

People volunteer some amazing things. This part of the meeting can take some time. After introductions, a facilitator might ask if anyone has specific questions. If you intend to hold a more structured session on a topic, the facilitator can open a conversation or pass out handouts.

Try not to cram too much information into one session. Often differing levels of biodynamic knowledge can bamboozle newcomers.

End

After the allotted time, or if it feels like you've finished, bring the meeting to a close. It's good to give people between five and 20 minutes notice that the end of the session is coming, so that they have a chance to share anything they want before the end.

Thank everybody for attending and ask them to evaluate the session either in a round of one-word descriptions, on a pre-printed form, or by email.



A hub opens a multi-dimensional space which develops its own character through the interaction of different participants.

Always end on a high note, finishing with a quote or a poem to close the session.

Suggest a date for the next meeting. Scheduling regular gatherings helps to create a rhythm. Decide how often meetings should be to suit group dynamics – i.e. fortnightly, monthly, six-weekly. Consider a set date – e.g. every first Thursday of the month – and a suitable time. Take into account seasonal fluctuations due to workloads and daylight savings. If members have some distance to travel, suggest carpooling or consider alternating venues in different districts.

Remember to record and add new members to your email list and encourage them to share information with their networks.

It's good to stay around after the session has ended to talk to anyone who wants to talk. It's also good to debrief with the other hosts sometime soon after the event.

Once a core team evolves, you may think about creating the following:

- A vision plan as a foundation to guide future action
- A vision statement which represents the collective view to incorporate common values
- A set of goals and strategic action plans for future get-togethers
- Readers of *Harvests* magazine love to hear what other members are doing, so invite members to write articles on the group activities.
- In time, you might like to collaborate with other regional groups, either online in Zoom meetings or in person for field visits.

A hub opens a multidimensional space which develops its own character through the interaction of different participants. The group becomes not only an organisation, but a unique organism that enables fruitful encounters, aspirations and new perspectives.

So, what are you waiting for?

Go forth and multiply!

.....
Su Hoskin can be contacted on education@biodynamic.org.nz to discuss educational opportunities in your area.

A BIODYNAMIC WORKSHOP *for beginners*

By Tony Hudson

Photo: Tony Hudson



Participants get stuck in, cleaning the manure for the cow pat pit.

Tony Hudson is the founder of Earthly Greens, which produces nutrient-dense vegetables grown using biodynamic preparations such as CPP, 500 and compost preps in liquid teas; he treats rust in garlic with equisetum, preparation 508. Tony is organising a series of biodynamic workshops this year in East Takaka, Golden Bay. This is his report on the first workshop, held this past autumn.

We embarked on an Introduction to Biodynamics and prep-making course in Golden Bay on the 16th of April this year. Fourteen lovely souls from the area joined myself and Gita Krenek for a fun-packed day that Friday. We were blessed with warm sunshine, the stunning backdrop of nearby Harwood's Hole and pristine land. We held the workshop on the same property where the inspiring Living Wood Fair would follow

the next day. This piece of land, with its wide range of diverse native and non-tree plantings, abundance of fruit trees and avocado trees which stand 20 feet high, sits on a sandy loam of small riverbed stones washed down over time from the gorge of the Takaka Hill range. Cultivation using only discs and harrow is all that's required to expose the light soils to the skies and warmth that live above. A magical location for the day event.

The morning introduction by Gita consisted of drawing diagrams and sharing her wonderful explanation of biodynamics, which filled the excited audience with magical wonder and a thirst for more. Then we switched to a hands-on approach, and the start of our cow pat pit (CPP) and horn manure preparations took place.

The day before, I had collected fresh cow manure from Rose Williams of Ellis Creek Farm in nearby Clifton. I had met the happy cows (short-leg Angus) and their calves the week before. The basalt came from Banks Peninsula; I crushed the rock to a fine grain but not powder. The eggshells were collected from the best hens over a short period. These three items were the main ingredients for making CPP in a bathtub.

We dumped cow poo out onto a table to be cleaned by hand, which the group enjoyed getting stuck into.

Whilst one group stirred the CPP mix, Gita had the other group packing a handful of cow horns. We then switched groups. After an hour, we put the CPP into a brick-lined pit and added the compost preps. Whilst we talked about the compost preps, a bottle with valerian and rainwater was shaken and passed about the group – each person adding their own energy to this prep-making.

After filling the cow horns, we pasted soft clay from the property over the end of each horn. I've used this clay method for a number of years as during winter, rainfall increases; the clay prevents the disaster of the manure being washed out of the horns.

The 500 stir started around 2.30 pm using a copper barrel, metal bucket and rainwater heated on the outside fire. The group really focused well to keep the vortex constant and focused to create the goal of chaos. Biodynamics New Zealand kindly donated the 500 as Su Hoskin was sadly unable to make the workshop. We added CPP to the water 20 minutes before the end of our one-hour stir.

All 16 of us then applied 500 to three acres of land. It was a wonderful effort after a great day and a new experience for most. We closed with a circle and gave thanks to the land.

We shall meet again for this new group of workshop enthusiasts to lift the horns after the spring equinox.



66 All 16 of us then applied 500 to three acres of land. It was a wonderful effort after a great day and a new experience for most.

Left: Gita's diagram for the morning talk, introducing the different preparations.

Bottom: Mixing cow pat pit.



Photos: Tony Hudson

BIODYNAMICS & PERMACULTURE at Ipuwai Farm

By Rachael Ewing

Rachael was born in the northeast of the United States, under Mount Chocorua and beside the Swift River. She grew up in a rambling 250 year-old farmhouse deep in the forest with her two younger brothers, mother and father. Her family relocated to New Zealand about six years ago. She now lives in Northland with her partner Niko and their three children, Mirabai, Silas and Maizey. Rachael is an avid gardener and spends most of her days in the garden with the children and with the animals on the farm.

Ipuwai Farm is nestled in the bush at the foot of the Mungamuka mountains, just south of Kaitaia, in a small farming town called Takahue. Ipuwai is a Māori word for a vessel of water, or drinking gourd. We chose the name for the abundance of water on this land. Ipuwai has pure water running out of the hills that surround it. This land is made up of a little valley with hills covered in bush, and we are at the headwaters, meaning we are the last settlement before you enter the Mungamuka mountain range. Ipuwai is a small diversified family farm. We have been here for six years, and there are six adults and five children residing on the land. This changes seasonally, with wwoofers and family members coming and going.

We steward a 93-hectare paradise. Most of the land is bush, with about 25 hectares in pasture, horticulture and living space. We have multiple gardens which serve different



Rachael and her flowering tithonia.

purposes. My most recent project has been to grow flowers amongst our veges and orchards in the summer. I go to the Kaitaia farmers market to sell my flower bouquets, dried flower baths, teas and balms, along with any extra produce we may have. It has been exciting and enlightening to get to know the farmers market community here in Kaitaia, and I am grateful to be a part of that experience off the farm.

All of our buildings are off the grid, with solar and hydroelectric power. The animals on the land include a small herd of cows, Arapawa sheep and chooks. We have beehives in two areas: up top in the bush and down below by the drive. We are working with a local apiarist who is teaching us how to care for the bees and harvest their honey. Our family

“

Permaculture
and biodynamics
are like sisters;
they go hand in
hand elegantly.

View of the farm.



Photos: Rachael Ewing



Photos: Rachael Ewing

Summer Solstice play overlooking Ipuwai Farm.



We are using ramial wood chips in order to promote a fungal-dominant soil and to nourish the soil foodweb from the bottom up.

is experimenting to see which animals work best with this land. We also share the space with the wild animals and birds. They in turn allow space for us humans; it is a mutualistic relationship, in harmony with nature.

Living biodynamics

I strive to use biodynamic and permaculture techniques in the gardening and care for animals here. We source all of our preparations from Biodynamics New Zealand. Some day we will grow and create our preparations and sprays here at Ipuwai. In the garden and orchards we follow the biodynamic calendar (and our deep intuition) for planting, transplanting, applications of preparations and remedies, pruning and harvesting. We also follow the rhythms of the moon very closely when it comes to our seeding and harvesting. I continue to remain humble, with a child's outlook on this journey to bridge the heavens with the Earth through farming.

My personal biodynamic journey began when I was a small child in the mountains of northeastern America. My mother and father would make teas for the garden; that is when I first began to feel the pull of the preparations. My parents were unaware that they were building on Steiner's intentions, although they were completely grounded in his philosophies on an intuitive level. Later on, as I finished my teacher training

at Taruna College, I had the great fortune to work with the legendary Peter Proctor. He taught me how to make the preps and when to bury the horns. I fell in love and felt a piece of my soul kindle with remembrance. It was as if I was tapping into a cellular memory, locked down deep in my ancestry. From that moment on, I was hooked. Biodynamics speaks to who I am deep in my soul.

I continue to come back for more with biodynamics because it holds the vision of the farm as a whole organism. Biodynamics cultivates biodiversity and brings plants and animals together in a holistic way. These farming practices also support integrity and biodiversity in seeds and breeds. But the 'golden egg' of biodynamics for me is the way it encourages us humans to work in rhythm with the Earth and cosmos. We are the bridge between the heavens and the Earth. In relation to that, I am inspired by how the preps directly enhance soil vitality. This ancient method of farming really works! These principles speak to my family's philosophy around caring for the soil, plants, animals and ourselves.

Permaculture perspectives

We also practice permaculture here at Ipuwai, simply because it makes good sense. Permaculture and biodynamics are like sisters; they go hand in hand elegantly. Bill Mollison, David

Holmgren and Geoff Lawton are amazing wells of knowledge and support for me on the permaculture path. I have taught permaculture with my dear friend back Stateside, and in the future we would like to hold workshops here at Ipuwai. We have extensive food forests in early establishment on the property. Our family continues to build out the guilds around trees in hopes of one day covering the land with an edible landscape. This will promote abundance and food security and allow us to give back to Papatūānuku.

My advice for the beginner is to remain curious, keep your beautiful childlike nature about you and be observant, taking your time. If you are wondering about biodynamics or any other farming method, start small and do little experiments in your garden. Borrow a pinch of preparation 500 or 501 off a friend and have some fun dynamising it in a bucket of rainwater, delve deep while you stir, meditate and feel your connection to the practice.

Horsetail tea is wonderful to experiment with. This tea, when applied early on in the seedling's life, can help prevent fungal diseases and balances the watery element in plant and soil.



Top: Flowers picked and ready for market.

Bottom: Artichokes grown on Ipuwai Farm.

You can see results rapidly if this tea is used at the right time with the correct application. This is a great tea to start with.

Permaculture offers useful ways to think about your systems, whether you are beginning on your gardening/farming journey or you are a seasoned veteran. I highly recommend looking into the 12 principles of permaculture. You can start there and be inspired by the abundant amount of knowledge permaculture has to offer. Permaculture can offer a wealth of guidance around building systems on your farm or garden that allow for extreme efficiency and productivity. The beginning is always special; I believe there are infinite possibilities in a starting place.

Currently on the farm we are planning for more sustainable buildings for housing and food storage, selective felling of trees for timber, native planting, extensive food forest planting, terracing and earthworks, swales and keyline ploughing to allow proper water movement, subtropical orchards and alley crop plantings with berries and nuts. We are also looking to build a permanent home for our chooks using a deep litter mulch system.

Wood chipping for soil life

Recently we have been getting excited about compost tea, ramial wood chipping and encouraging the mycorrhizal fungi in our soil. A key component to the health of most plants is the symbiotic relationship between mycorrhizal fungi and plant roots. Ramial chips help the mycorrhizal fungi thrive. We use our deciduous trees' autumn prunings with 1-3 inch diameters, with or without leaves, to make the wood chips. A fairly high percentage of their mass is thin young bark, young wood and sometimes leaves. We are using ramial wood chips in order to promote a fungal-dominant soil and to nourish the soil foodweb from the bottom up. With these chips we can imitate the forest edge ecology to encourage fertility and build carbon and fungal soils in our garden and orchards!

One of our greatest challenges at the moment is to only utilise what's available on this land for carbon and plant nutrients. We are ultimately working towards a self-sufficient lifestyle with a positive impact on the world around us. We also struggle with time available to work on the farm, with so many young children to care for and adults working away from the farm. These challenges are always morphing, and as Bill Mollison says, "The problem is the solution." Our dream is to supply healthy, nutrient-dense foods and products to the greater community near and far.

To bring it full circle, I am incredibly grateful for the water. We are fortunate to be on this land where water is abundant. Water is vitality, and we are in a space full of this life force. It allows us to grow beautiful produce, keep our animals alive and healthy and nourish our own bodies. The vegetables we feed with this water in turn provide our bodies with nutrient-dense food. Water is everything at Ipuwai, and it's a big part of why we are here in this moment in time.

Instagram: [@ipuwai.farm](https://www.instagram.com/ipuwai.farm).

BIODYNAMICS IN THE *Blood*

Tucker Mattern is Assistant Winemaker and Viticulturist at Quartz Reef Wines; however, his biodynamic experience extends back to his upbringing in California.

Photos: Tucker Mattern



Rudi, Clara, Tucker and Océane stirring 500 at Quartz Reef, spring 2020.

Can you tell us about your family farm and what your childhood was like?

I grew up in Ukiah, California, a small town in Mendocino County, two hours north of San Francisco, on a vineyard which my father had farmed for his dad. Previously my great grandfather farmed hops and ran a full homestead farm in the same area. I attended Waldorf (a Steiner school) for five years, from preschool through the third grade, and moved on to public school when my parents couldn't afford to send us to Waldorf anymore but would have continued if they could.

My father didn't farm biodynamically when he first took over from his father; it took some convincing in the early days. We finally became Demeter-certified around 2008. My aunt and uncle at the time had also converted to biodynamics, and I think this was a major influence for him, and ultimately for my grandfather, to gain some trust in the matter. My dad was always looking at ways of learning and improving. The Frey

family was also one of the major influencers in our region for organics and biodynamic viticulture, and I believe they produced some of the first organic wines in California.

Are there any biodynamic practices that you remember from your childhood?

Not specifically, for biodynamics. Since a lot of the changes towards biodynamics were when I was in my teens, I feel I have been on a learning journey with my parents and their farming since the early 2000s. Probably the most prominent memories were when my dad was teaching us that conventional farming with herbicides and pesticides was killing the life in the soil, and that there were ways in which we could work with nature and the forces of the universe rather than against them. Probably a prominent memory because we could see the changes happening in our backyard. Dead dirt turning into lively soil, compared to our neighbours who were all still conventional at the time.



Making preparation 500, autumn 2021.

What brought you to Aotearoa New Zealand?

School and opportunity. I came to achieve higher education in my field, with the eventual desire to have a crack at growing and making world class Pinot Noir in Central Otago. On a slightly larger level I feel there is a real opportunity for an industry such as wine to step up to the plate in this climate crisis. If such a luxury industry can demonstrate that truly sustainable farming practices are not only possible but economical and can drive business, than I hope that helps to influence others around us. (And I'm not talking about that grossly overused word 'sustainable', I am talking about truly self-sustaining farming activities.) I think Aotearoa has a strong place in the world to make these kinds of impacts if we stick to it. That is why I am here.

What is it about biodynamics that keeps you working with it?

The connection to the land, life and people involved. I tremendously respect biodynamics and its ability to heal the land and everything in and on it. That is a powerful thing we need a whole lot more of right now.

Have you noticed an interest in biodynamics from younger people, who may not have grown up in that world?

I do; I see interest and I also see scepticism. It is much more rare to see devotion to biodynamics from younger people like you might see in the older generations, but it's there.

Are there ways that the biodynamic movement could better communicate with millenials and Generation Z?

Yes! But it will take some different ways of thinking. These generations are looking for answers to problems that previous generations have largely caused. When doing so they have been told to solve them with science and math. Some of Steiner's concepts are easily explained by science and others not so much. Steiner was a genius in his time no doubt, but a lot has changed since then, and a lot has been discovered and explained, and more of our world will continue to be

discovered and explained. Equally, though, much will not be explained and those concepts still take a leap of faith. I think adapting some of Steiner's teachings to match up with current scientific understanding could be very helpful. For example, explaining soil health from a biodynamic perspective can be supported by the current scientific understanding of soil microbiology and the soil microbiome. On the other side of that, I think highlighting what we as humanity still don't understand can be a great way to incorporate the teachings of the cosmos as a powerful farming tool.

Do you see value in Demeter certification? If so what would that be?

Yes! This certification is important to keep honesty, transparency and continuity. However I think real attention should be paid to the direction of some of the newer organic certifications coming online. Again, I think changing with the times should be a large consideration for Demeter, to stay relevant with our mission as humans to heal the planet. ■



The Quartz Reef crew laying down 500 in autumn 2021: Joshua, Benoit, Paulina and Tucker.

★ MEET A DEMETER GROWER ★

João Corbett of Seresin Estate

By João Corbett

Farm name: Raupo Creek Vineyard

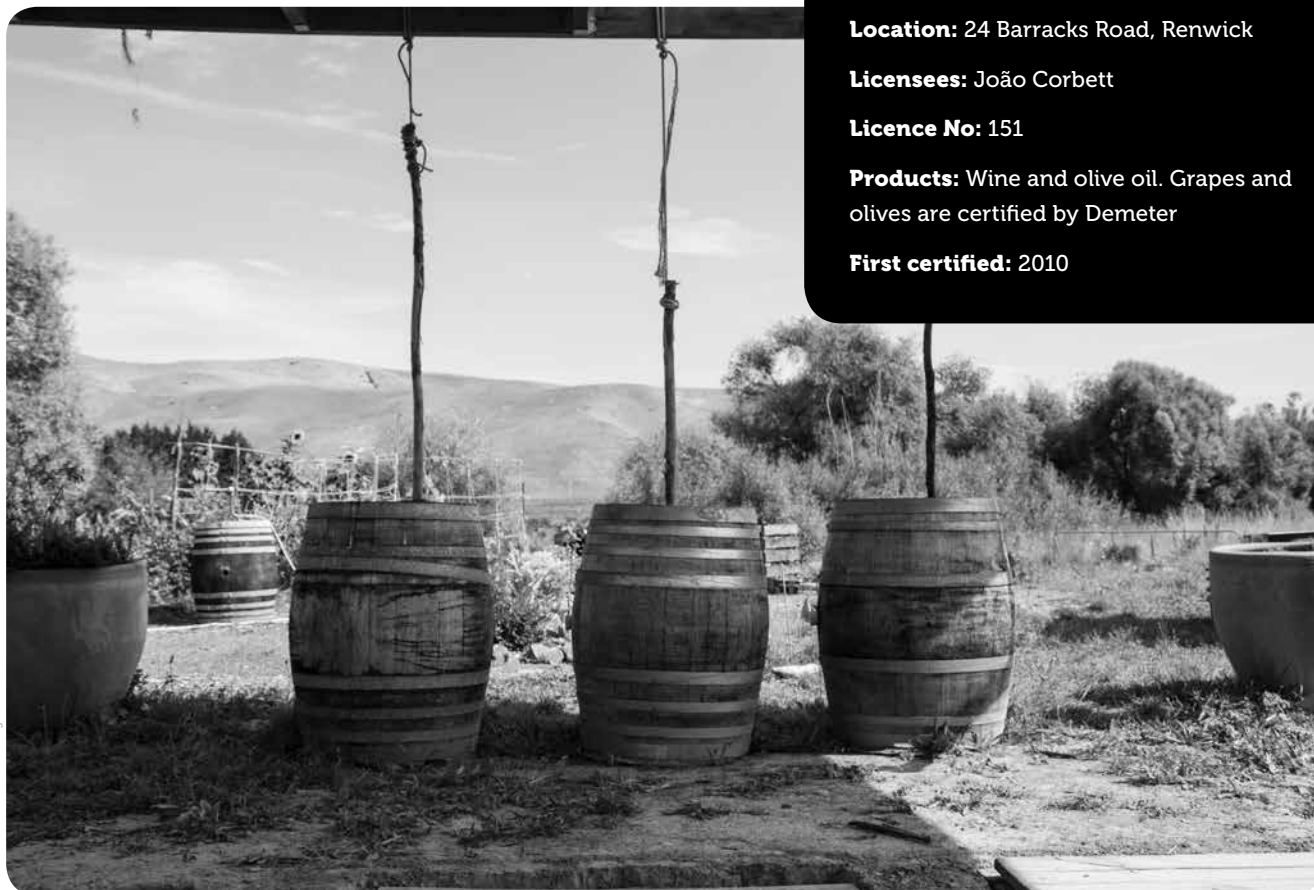
Location: 24 Barracks Road, Renwick

Licensees: João Corbett

Licence No: 151

Products: Wine and olive oil. Grapes and olives are certified by Demeter

First certified: 2010



Photos: Justyna Hrabka

Old wine barrels are used for stirring the biodynamic preparations

Where are you based and what do you produce?

Seresin Estate's Raupo Creek vineyard is located in Renwick, in the Southern Valleys, Marlborough. The vineyard produces mostly wine grapes, including Sauvignon Blanc, Pinot Noir, Chardonnay, Riesling, Pinot Gris, Semillon, Syrah and Viognier. We also produce olive oil from our Demeter-certified olives. The farm produces small amounts of pine nuts, honey and vegetables as well.

How and why did you get into biodynamics?

Back in 2008, I started working with wine grapes and had the opportunity to be part of the Marlborough biodynamic community that would get together to make preparations and discuss all aspects of biodynamics. I had limited knowledge on biodynamics from university but started practicing it here in New Zealand at that time.

The more I practiced and studied it, the more biodynamics made sense to me. My background in agricultural engineering had taught me about the complex and incredible world of the microorganisms and their interactions with plants, animals and human beings. Understanding and learning that there are different ways to enhance those interactions made the whole difference in how I visualise it nowadays. There is still so much to learn.

Why did Seresin Estate choose to become certified with Demeter?

Seresin Estate has been Demeter-certified since 2010 as a matter of principle and ethos. Michael Seresin always wanted the farm to follow organic and biodynamic principles. As he would say: "If we can do it, why not?" To be certified brings it to a different level of commitment and challenge, but along

with this, it means high quality products and worldwide recognition. I suppose it is better to be certified, although embracing the principles of biodynamics is paramount.

Do you have any buyers that seek you out specifically because you're biodynamic?

More and more, the awareness around biodynamic wines is increasing. We are seeing more people not only seeking our wines and olive oil, but people wanting to be part of our small team and work with us. I guess the sense of purpose – the desire to be part of something that is respectful toward people and environment and focused on high quality products – is the main reason for that.

There is a long way still to go with consumers becoming more aware of this farming method and its benefits.

Would you encourage people to become certified?

I certainly would. The certification process helps increase one's understanding and fine-tune the biodynamic practices. It's a matter of being organised and planning things beforehand, then responding to how the season is unfolding to get the most out of it.

Again, the most important thing is to embrace the principles. This certification ensures you are doing more than just the basics; there are no shortcuts. You get in contact with very knowledgeable people who bring great input on how to fine-tune the whole operation. Demeter certification takes practicing biodynamics to a different level.



Demeter certification takes practicing biodynamics to a different level.

What is the value of Demeter certification for you, from a business perspective?

We never actually thought about this. That's not the reason why we joined it. I do believe though that Demeter brings legitimacy to how we farm and makes clear that we are committed to farming biodynamically, rather than just using a label to attract customers.

What's your perspective on farm individuality?

I believe that every farm has its individuality, starting with the region, soil type, microclimate, etc. Then there's the way the farmer interacts with the land, the way we identify areas that require different approaches, and how we fine-tune things with the use of the preparations, compost, compost teas, cover crops, animals and using the biodynamic calendar. As well as these interactions, we add our hard work. That all



João Corbett packing the CPP into a pit.

goes into a bottle of wine or olive oil, which becomes the end product of the overall relationship.

How do you treat your farm as an integrated organism?

First and foremost, we treat it all equally, without segregating areas. Observation is the most important part of it, in my opinion, so that we can identify where there's lack or surplus of vigour or diversity. Then we respond to our observations to bring balance.

Diversity is very important, and working with the different plants (vines, olives, pinoli trees, cover crops and natives), domesticated animals and native wildlife. We facilitate and allow for natural relationships among all these beings so that natural cycles and nutrients maintain balance.

What is one of your favorite biodynamic practices that you do for your land?

My favorite practice is having new people on board to stir some CPP, 500 or 501. Or simply building a compost pile or making a compost tea with the use of the preparations and introducing them to this fantastic, complex and ancient way of farming. It encourages me to spread the word of a more hands-on and holistic approach to how we treat our planet and ourselves.

Farming biodynamically is very complex and labour-intensive. There are not just one or two preparations that make this method so powerful. It's the combination of all of these tools and practices, and our interaction with the land that we are responsible for, that makes biodynamics so worthwhile. ■



KETE ORA TRUST

For 23 years, the Kete Ora Trust has funded biodynamic and organic education and research in Aotearoa. Like the national education programme now underway for Biodynamics NZ. We help grow knowledge baskets and promote wellbeing for truly sustainable land use and fantastic food and fibre.

We welcome new applications, but we also need your support in the form of donations or bequests. The next funding round closes Thursday 30 September with approved funding made available mid-October.

To apply or donate, please connect with the Secretary of Kete Ora:
info@keteora.nz or call **027 779 2252**



MEMBERSHIP

Post: PO Box 356, Martinborough 5741 Ph: 06 306 8582
Email: info@biodynamic.org.nz Web: biodynamic.org.nz

Becoming a member of Biodynamics New Zealand is more than just a subscription to Harvests magazine...

You become part of a special community where biodynamic ideas are shared and biodynamic ideals are nurtured. You have the opportunity to participate in relevant discussions that affect your food, your animals and your environment. You have access to a myriad of different resources and, most importantly, the knowledge and spiritual companionship of the membership.

Since 1939, the Bio Dynamic Farming and Gardening Association in New Zealand has campaigned for healthier and more sustainable living through the practice and implementation of the biodynamic ethos.

Membership of Biodynamics New Zealand (including *Harvests* subscription)

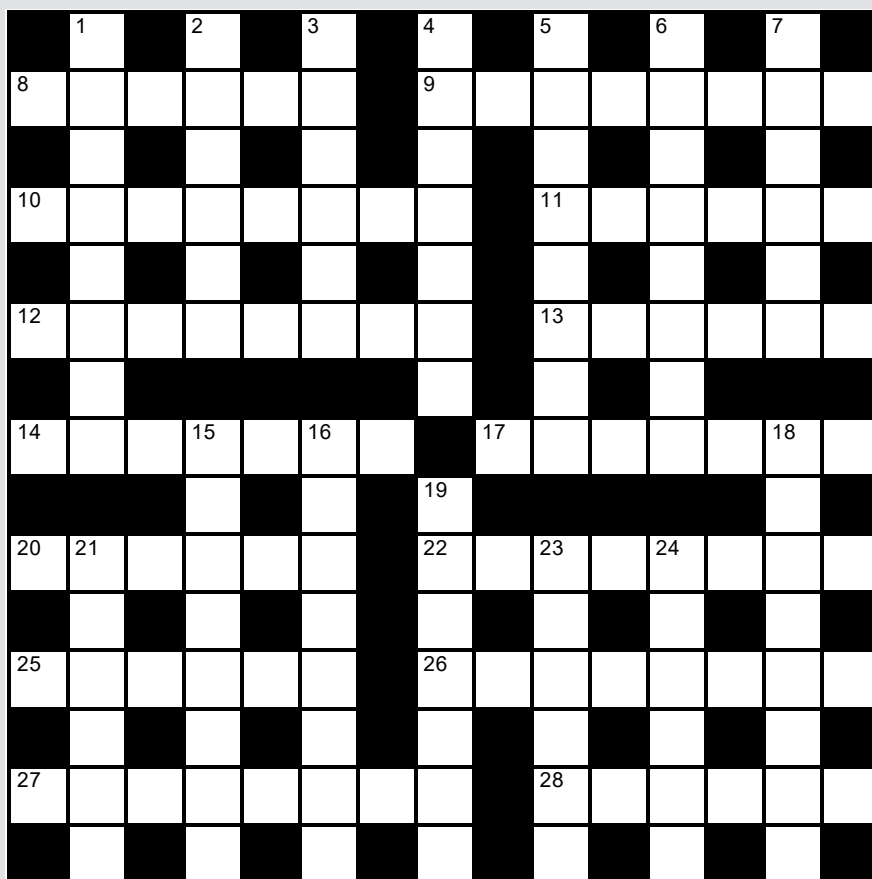
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| <input type="checkbox"/> Digital membership (\$53 per year) | <input type="checkbox"/> Business Partner (\$750 per year) |
| <input type="checkbox"/> Full membership (\$115 per year) | <input type="checkbox"/> Supporter membership (\$3450 for 10 yrs) |
| <input type="checkbox"/> Corporate membership (\$297 per year) | |

For more information on membership please phone the office on 06 306 8582 or visit <https://biodynamic.org.nz/biodynamic-association/joining-the-association>

BIODYNAMIC CROSSWORD

By David Wright

As always, a question mark denotes a cryptic clue. For solution see page 46.



ACROSS

8. College for biodynamic and other Steiner studies (6)
9. Point on Earth's orbit roughly coincides with southern winter (8)
10. In the kitchen it may become a 'sweetbread' (8)
11. Vertebrate animal suckles its young (6)
12. One who has the right to apply the Demeter trademark (8)
13. Sign of zodiac, sea creature or malignancy (6)
14. Farmyard impossibility is a family name (3,4)
17. In plums and peaches, generally precedes the leaves; in apples and pears follows them (7)
20. Gender non-specific marital partner (6)
22. Every farmer and gardener is, even if not knowing it (8)
25. Original mouthwash (6)
26. Taxonomic group between a genus and a species (8)
27. Element sometimes lacking in soils formed from granites and rhyolites (8)
28. Planets do it and pilots say it (6)

DOWN

1. Unwanted organism living at the expense of another (8)
2. White _____, a deficiency disease in sheep and cattle (6)
3. Names, colours or nut trees (6)
4. You might buy some at Scarborough Fair (7)
5. Organic growing prefers a biological approach to this (8)
6. The weather, the periodic table or the four of Empedocles (8)
7. Leftover from fruit juicing (6)
15. Cabbage family member (8)
16. _____*vitalba*, Old Man's Beard (8)
18. Egg tubes (8)
19. Japanese variety of plums or mandarins (7)
21. Cycle of the moon is often described as four (6)
23. Potatoes, yams, taro, Jerusalem artichokes, etc. (6)
24. Guard for a knife or blade (6)

FROM BIODYNAMICS NZ

Biodynamic Preparations

See next page

Books (prices include postage)

Biodynamics New Zealand Calendar

(Calendar year ends 31 May 2022)

<i>Non Members (add \$4.85 postage)</i>	\$30.00
<i>Members (extra copy - add \$4.85 postage)</i>	\$19.00
Grasp the Nettle - P Proctor	\$36.10
<i>A guide to the how-to-do-it of biodynamics</i>	

Biodynamic Perspectives - Ed: G Henderson	\$16.50
<i>Wide range of articles on useful practical topics</i>	

The Sustainable Dream - J Pearce	\$13.90
<i>Choosing and using your land</i>	

Review of Organic Land Management Research	
<i>Association R&D Group survey of world scientific literature</i>	\$30.80

Biodynamics in Home Garden - P Proctor	\$26.70
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One Man, One Cow, One Planet (DVD)	\$25.90
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NZ Organic Production Standards for Biodynamic Agriculture (Demeter Standards)	\$29.10
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Biodynamic Pasture Management - P Bacchus	\$27.00
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Food Full of Life - G Bacchus	\$35.00
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Books are supplied as orders are received.

Resource Guides

Reports by experienced NZ farmers and growers on the conversion of enterprises to organics and biodynamics, and their ongoing management. (Add postage \$4.85)

Organic Pastoral Guide	\$30.00
Organic Avocado Resource Guide	\$20.00
Organic Citrus Resource Guide	\$25.00
Organic Summerfruit Resource Guide	\$25.00

Members order by post, email, or phone to the office or 24-hour message recorder. (Orders received by email are acknowledged.) Non members email for invoice with bank transfer details, or purchase via the website shop.

HARVESTS MARKETS

Buying Biodynamic Products Direct from Growers

Beef. All cuts of organic beef and German style sausages from full Demeter livestock. Couriered frozen (with chilled courier) to your doorstep. From 10 kg. Ask for price list and order form: Ursula & Erwin Eisenmann, Waima Hill, RD 3, Kaikohe
Ph/fax: 09 405 3833
waimahill@organicbeef.co.nz
www.organicbeef.co.nz

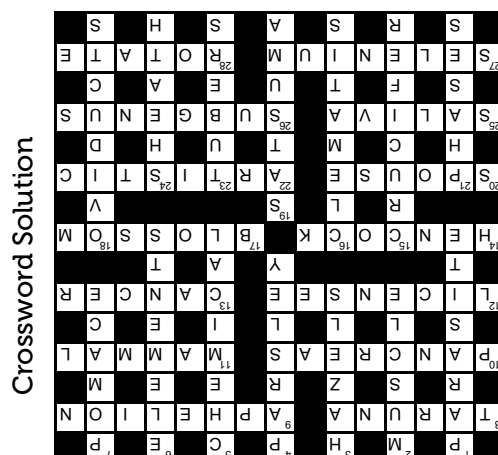
Olive Oil. Demeter certified.
Contact: Green Ridge Estate, PO Box 27, Blenheim
sales@greenridgeestate.co.nz
www.greenridgeestate.co.nz

Grain and grain products available as flour, kibbled, flakes and semolina. Demeter certified.
Henderson Family
Ph: 027 314 3712
Milmore Downs, Amberley RD 3
www.milmoredowns.co.nz

The "apple meadow". Orchard fresh apples, small amounts of pears, plums and other fruit from Jan to June.
Ph: 04 235 6275 or 06 364 3451
hgw@extra.co.nz

Woodhouse Farm Organics. Demeter certified raspberries, boysenberries and black currants, plus small quantities of other seasonal fruit and vegetables. Contact us at
info@woodhousefarmorganics.co.nz

Harvests offers Biodynamics New Zealand members who direct supply products that carry an appropriate certification a free listing in this section.



BIODYNAMICS NEW ZEALAND INFO AND SERVICES

Contact Details

Biodynamics New Zealand
PO Box 356, Martinborough 5741
Ph 06 306 8582
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Subscriptions - Membership

Digital \$53
Full \$115
Corporate \$297
Business Partner \$750
Supporter (valid for 10 years) \$3,450
Institution libraries \$45 (magazine only)
See page 44.

Biodynamic Preparations

We dispatch by standard NZ Post parcel post, or with a courier upgrade if requested, to members of Biodynamics NZ.

All orders go through the Biodynamics New Zealand office, and if received by midday Monday will be dispatched that week. To be sure of them reaching you by a particular time allow another week, i.e. order on Monday morning at the latest to ensure delivery by the end of the following week. Please specify in orders the amount needed, membership name, delivery address and phone number. Send orders by post or email, or phone to the office (24-hour message recorder). Only emailed orders are acknowledged.

Checking your preparations

Please check your preparations as soon as you receive them, and transfer them to storage suitable for the length of time you need to keep them. (See instructions in *Using the Biodynamic Preparations*). If you have any queries about them, please contact the office within two working days.

Preparation charges

Preparation 500 \$10 per portion (25g)
Preparation 501 \$6 per portion (1g)
Compost preparations 502-507 \$16.80 per set of six
Cowpat pit \$15 per portion (100g)
Preparation 508 \$16 per portion (100g)
GST, postage or courier and handling charges extra.
Please pay on invoice - do not send cash with order.

Rates for preparation use

See the booklet *Using the Biodynamic Preparations*. Members who do not have a copy can request one from the Biodynamics New Zealand office.

Council

The Bio Dynamic Farming and Gardening Association, founded in 1939 and an incorporated society since 1945 and a registered charity, is governed by an elected council of up to six members.

Current councillors / contacts:

Christine Moginie (Chair) Mangawhai christine@biodynamic.org.nz	Andrew Criglington Wellington andrewc@biodynamic.org.nz
Joanne Turner (Treasurer) Palmerston North joanne@biodynamic.org.nz Ph 06 329 0943	Monique Macfarlane Queenstown monique@biodynamic.org.nz
Cathy Jamieson (Secretary) Martinborough secretary@biodynamic.org.nz	Katrina Wolff Titirangi katrina@biodynamic.org.nz
João Corbett Renwick / Marlborough joao@biodynamic.org.nz	

Demeter

Demeter inspections \$460 for new applicants, \$420 for renewals. Extra time \$60/hr + GST.

Demeter Assessment Group:

Ian Henderson (Convenor) Amberley ian@biodynamic.org.nz	Marinus La Rooij Christchurch marinus@biodynamic.org.nz Ph 03 331 7677
Peter Clarke Tauranga peter@biodynamic.org.nz Ph 021 554 345	Joanne Turner (Secretary) Palmerston North Ph 06 306 8582 demeter@biodynamic.org.nz
David Wright Wellington david@biodynamic.org.nz	

The Kete Ora Trust

The Kete Ora Trust is a charitable fund supporting biodynamic education and research in Aotearoa New Zealand. Founded in 1997 by the Bio Dynamic Farming and Gardening Association in New Zealand (Inc), the Trust accepts funding applications quarterly and welcomes donations and bequests to support its work. Please contact the Kete Ora Trust on info@keteora.nz.



1921

A BOLD VISION

Founded by pioneers who wanted to work with nature and not against it, we have been developing certified natural cosmetics and anthroposophic medicine this way for 100 years.



1955

WELEDA NZ OPENS

Located in Havelock North, in the beautiful Hawke's Bay, where we still grow and manufacture a full range of natural remedies.



2009

NATRUE CERTIFICATION

Created by the International Natural and Organic Cosmetics Association, the **NATRUE** label guarantees the highest standards of natural and organic ingredients and processes.



2021

VISIT OUR OPEN GARDEN

Discover fascinating stories and valuable advice from Weleda experts which you can apply in your own garden, on your balcony or in your living room. Begin exploring by scanning the QR code below.



1926

SKIN FOOD: A CULT CLASSIC

Loved by models, actresses and makeup artists around the globe. Then as now, the Skin Food formula is rich in active plant ingredients with highly effective extracts of pansy, rosemary, chamomile and calendula.



1969

NZ MADE PRODUCTS

Our Baby Teething and Colic Powders along with our Arnica Cream are manufactured based on New Zealand formulations and remain popular sellers today.



2011

UEBT CERTIFICATION

We have been a **UEBT** member since 2011 and were one of the first companies worldwide to bear the **UEBT** label 'Sourcing with Respect' in recognition of our ecological and fair partnerships.

