BIODYNAMIC AGRICULTURE

A phenomena coming of age!

By Michelle Bell-Turner

Left = conventional, Middle = control and Right = Biodynamic

Ideas introduced in the 20th Century by Rudolf Steiner are now emerging as some of the most original and timely contributions to the modern world. In addition to Biodynamic Agriculture, examples of Steiner's living legacy include the Waldorf/Steiner school movement; Anthroposophical medicine; the Camphill movement for living and working with developmentally disabled individuals; a new freedom of design in architecture; and original contributions to fields as vastly distinct as the arts and economics.

Over the next four issues we will investigate Biodynamic Agriculture – a long practised but little publicised method of organic agriculture, that is growing in its recognition and use due to its ability to produce exceptional quality produce with minimal inputs!

Biodynamics – What is it!

Biodynamics is gaining increased attention for its ability to restore soil fertility and produce high quality food.

Once a little known method of organic agriculture, it is now practised in over 30 countries, bringing the farmers that choose to use it good returns both on the land and in the local and world markets.

According to Hugh Lovel, author of "A Biodynamic Farm" and a Biodynamic Farmer of 25 years, who recently toured Australia, "Biodynamics is known for its excellence. One grower gets good crops of high protein while another grows the most fragrant, delicious, fruits or herbs. Another's flowers amaze with their vibrant colours and the durability of their blossoms.

Biodynamics can make the labour side of farming seem creative and fun, and instead of the worries of health risks and environmental degradation there is the joy of working and learning with nature!"

So what is at the essence of Biodynamics?

It is an organic farming method suited to all types of farm production that is geared towards improving and regenerating the soil and overall farm integrity through the use of a unique range of Biodynamic preparations which stimulate soil micro-life activity and atmospheric balance. These special potentised preparations are used in small quantities over a large area and consistently achieve dramatic results in a relatively short period.

Experience both in Australia and internationally has shown that the use of these preparations make natural bacterial and mineral processes found in an organic system work much faster. Previously marginal farming land has been turned into highly productive fertile ground in as little as two years.

One of the hardest things to grasp with Biodynamics is the small amount of inputs that are used to achieve results! However, this is in keeping with the principle of fluid dynamics that a microscopic change at a point can effect large scale changes in the medium. These special preparations are one of the main features that distinguishes biodynamic farming from organics.

In the process of learning to farm biodynamically, one of the most important skills the farmer develops is a greater awareness of nature and the utmost respect for both the visible and invisible forces that shape life.

A Brief History

Biodynamics was first described in 1924 by Austrian philosopher Rudolf Steiner, after requests from farmers, who were experiencing an increasing degeneration in seed strains, cultivated plants and animal health.

During a series of 8 lectures, Steiner gave the farmers recipes for nine special "preparations" (500-508), which are the foundation of Biodynamic Practice. (In the next issue we will explain these in more detail.) These lectures are now compiled in the book known as "The Agriculture Course" by Rudolf Steiner.

Some 80 years on, there are thousands of Biodynamic Farms worldwide, producing everything from flowers, herbs, wool, olives, grapes, fruit, vegetables, grains, beef, poultry and even cosmetics.

Internationally, Demeter is the most common certification symbol of Biodynamics, however in Australia we are fortunate to have two other certifiers who accredit to National Biodynamic standards, BFA (The Biological Farmers of Australia) and NASAA (National Association for Sustainable Agriculture).

The increasing interest in Biodynamics is part of a general move to organic and environmentally sustainable agriculture. Biodynamics is gaining stronger recognition each year for its contributions to better soils, quality food, healthy plants, healthy and contented animals, and enthusiastic farmers and consumers.

Both farmers and consumers enjoy the fact that Biodynamics gives that extra edge of putting something back into our overstressed and tired soils whilst giving a superior quality product.

We are fortunate in Australia to now

Award winning BD Paris Creek Dairy Farm, SA.

have many farmers with experience in Biodynamic practices that can walk their talk, and assist those making the move and transition into more sustainable farming practices.

Some well-known Australian producers using Biodynamic techniques are Jalna Yoghurt, Cassegrain Wines, Timboon Cheese, BD Paris Creek Dairy Farm, Weleda, Jurlique & Dr Hauschka Cosmetics, Rosnay Organics and Lloyds Vineyards. Lloyds, at Nyah in Victoria have been producing their award winning Biodynamic grape juice for over 25 years.

The consistent use of Biodynamic Practices has enabled many farmers to gain recognition for their work through strong marketplace demand and prize winning product. During the past year, six Biodynamic vineyards have won prizes for their wines and in 2001, Biodynamic farmers won 70% of the Organic Federation of Australia awards, with the next awards to be announced at the bi-annual Organic Conference in Adelaide in October.

Tom Hacket, Biodynamic Farm Inspector & Adviser and award winning farmer shows off his soils at his farm at Bonville, NSW.

Farmer & Community Benefits

The most immediate benefit farmers' talk about is a dramatic improvement in soil structure, animal and plant health. Farmers also notice that the water holding capacity of their soil greatly increases. Other positives include the money saved in no longer requiring costly inputs of chemical fertilisers, herbicides, pesticides, fungicides and antibiotics. Plus, the benefit of a higher return due to consumers recognising and being willing to pay for the superior quality, flavour and shelf life of Biodynamic produce.

The most common way people get started in Biodynamics is seeing or observing a Biodynamic Farm in action and then eventually meeting the enthusiastic practitioner.

The Porter's, a broad-acre grazing family from Armidale, observed that a neighbouring farm would always outlast all the other farms in the district during drought conditions. After years of driving past and noticing this eventually decided to investigate and since May last year they have been applying Biodynamics preparations on their farm. Observations in the first six months, are that their stock are utilising the available pasture much more efficiently and the level of supplementation required, even with drought conditions, has greatly reduced.

When their shearers arrived, they commented that the condition of their sheep was among the top they had seen for the season and the quality of the wool clip was one of their best.

Internationally, Biodynamic Vineyards have fast been gaining a name as producers of exquisite wine and this is just as true in Australia. Rosemount Wines buy all of Botolabar's biodynamic grapes at top price as they appreciate the flavour that the biodynamic methods bring and for the last three years in a row Biodynamic growers Julian & Carolann Castagna of Beechworth, Victoria, have won Gold & Silver medals in Australia's Top 100 wines. The Castagna's also won the prestigious "Le Concours des vins due Victoria", in the French Chamber of Commerce, Shiraz section.

Biodynamic advisor, Cheryl Kemp, says that many professional people that enter farming later in life find Biodynamics in their quest for developing farming skills and with no pre-conceived ideas they get great results in just a few years.

In the next issue we will look at how the Biodynamic Preparations work and how to use them.■

Soil Change after 2 years of BD Preps.

Biodynamic AgriCulture Australia is one of a number of Biodynamic Associations in Australia dedicated to helping farmers develop and share the skills. The Association makes biodynamic preparations for distribution to members across Australia as well as teaching growers how to make their own preps on farm.

Throughout the year, the association runs introductory workshops for farmers in regional areas across Australia as well as providing a phone advisory service to its members. Further details on biodynamics can be obtained from www.biodynamics.net.au or contacting Biodynamic AgriCulture Australia on 02 6655 0566 or email cheryl@biodynamics.net.au.

BIODYNAMICS
the beginning at "St Elmo"

by Mark Porter, St Elmo, Armidale, New England Tableland, NSW

The quest - To find an alternative to conventional farming.

It all began in the 80's when my father, Don, discovered a product called sea minerals to replace the conventional chemical fertilizers that were in use. This was used for several years with great success until supply problems were encountered and use of this product was stopped. Since then several alternatives had been looked into, but with little success.

I guess this taught me that we don't have to accept the norm. Too many farmers have become totally dependent on the chemical companies and we have been looking for an alternative to this method of farming.

Some properties in the New England are having massive problems with chemical resistance to all known drenches, the only solution being to destock. Results being seen from the application of chemical fertilizers, namely superphosphate, have also been decreasing while the cost of application has only been increasing. These issues were prompting us to continue to look for alternatives.

During shearing on our family property last October, we were introduced to Paul Willoughby, who is a biodynamic farmer. His enthusiasm towards BD farming was obvious and started my interest in finding a better way of farming for our property.

The beginning of BD

I found, what was then, the BDFGAA. Contact was made with Cheryl Kemp regarding our curiosity towards Biodynamics. Cheryl's enthusiasm was remarkable, as was her willingness to get us involved.

Armed with the resource manual and a copy of Peter Proctor's "Grasp the Nettle", I set off to convince 'my father' that this had to be a better way to go. I encountered no resistance in wanting to pursue BD further.

In January the decision was made to give biodynamic farming a go, although there were many problems for us to overcome e.g. what equipment to use and how to spread the BD over the required area. Topography and area were limiting factors for ground spreading, so aerial spreading became the preferred option.

Several discussions were held with the local aerial spreading companies, both helicopter and aeroplane. The helicopters could only carry 450 litres per load. We had a choice of two aeroplanes, one that could carry up to 1,000 litres, the other could carry up to 1,850 litres per load. The most cost effective choice was the plane that carries up to 1,000 litres.

Working with David Boundy, Superair Services' pilot/manager, we calculated that the plane could do between 8 and 10 trips per hour from our airstrip. This created the need to be able to mix about 9,000 litres per hour.

As there was no spraying gear used in the Armidale area, spreading from the plane became a job of trial and error. To control the flow a 'fire door', originally used for fighting grass fire, was attached to the bottom of the plane. (The fire door is quite unique as it saves us from filtering the liquid before spreading.) On our first trial flight with the fire door, a swath of approximately 100m was observed.

Our next problem was loading the plane. We had to get 900 litres into the aeroplane in the shortest amount of time possible. Pumping was disregarded mainly due to the cost of setting up a pump big enough to do the job.

The plane couldn't fly all afternoon without fuel, so the loader used for loading superphosphate into the plane had to come out to the job as well, because it also carries the fuel for the plane. We decided to utilise the hydraulic power of the loader and had a tank manufactured to be lifted above the plane.

The tank holds 1,000 litres and, through a purpose built valve in the bottom, can be unloaded into the plane in approximately 35 seconds.

Discussions with Hubertus Bobbert, a long time successful practitioner of BD, about our proposed method of mixing and spreading met with his approval. We then organised Phil Sedgman

from Living Water Flowforms to make two sets of Vortex flowforms. Each set can stir 3,000 litres per hour. Having two mixes complete when the plane arrives and continuing to mix, allowed us to keep up with the plane (remembering that he has to stop to refuel).

Our first application of BD was made on the 30th and 31st of May 2002, and consisted of 500 and a seaweed fertilizer that we made in accordance to Peter Proctor's instructions in the BD Resource Manual, including the compost preps.

On the 30th we started mixing at midday, as the plane was due to start work at 1:30pm. Each mix contained 9kg of 500, 800 litres of the seaweed fertiliser and 2,200 litres of water to make a total of 3,000 litres.

Over the course of two afternoons we applied 30,000 litres to 4,500 acres (6.5 litres per acre).

All the mixing took place near our main shed where we have an abundant supply of rainwater for mixing and electricity available to run the pumps for the flowforms. We used three vehicles all mounted with 1,000 litre tanks to move each mix the 1.5 km to the airstrip. This enabled us to shift the entire mix at once, so we could start mixing another batch which, start to finish, takes one hour.

The mixing was staggered so that both batches did not finish at the same time.

On reaching the top of the airstrip each vehicle drove up a purpose built ramp and unloaded into the storage tanks. This ramp enabled the mix to flow out by gravity. From the storage tanks the mix is transferred into the loading tank and picked up by the loader and placed above the plane and again unloaded by gravity.

The only problem encountered with this system so far is having to put a man on the wing of the aircraft to open and close the valve in the loading tank. This was the simplest system for us, and so far it has worked without a hitch.

The first day of applying the BD was a very exciting day for us, with months of preparation finally coming together. The spreading day is very labour intensive - it took seven people (all members of the extended family) to accomplish all the tasks for the afternoon. There was a tremendous interaction between all involved and was certainly a great afternoon for all involved. Our pilot now looks forward to our job because of the interaction between everyone.

Trying to convince the pilot that we didn't want him to fly in a traditional grid pattern, but more in circles and spirals met with some strange looks, especially the final load for each afternoon when we wanted him to do a large descending spiral over the entire property. This has become somewhat of a talking point as it was employed on another job that was done since ours without the owner knowing it was going to happen. Quite spectacular to watch! We have had several comments from the neighbours wanting to know what the pilot was up too.

Our second application took place on the 11th October (Moon opposition Saturn). This was done slightly different from the first time. We still used the 500 but this time added the BD fish emulsion and some molasses to the mix. This time we flew the plane further apart and increased the amount applied, to achieve 21,000 litres in one afternoon.

The Results

The results from the application of the BD have been surprising. The stock seem to be utilising the available pasture much more efficiently and grazing species of plants they would usually ignore. The cattle are grazing in areas of paddocks usually left untouched and are also spending more time camping during the day and less time eating.

This year with the drought, we had to supplementary-feed our breeding cows. However, the level of supplementation needed by the cattle during this time was considerably lower than in previous times. Dung beetle activity has noticeably increased, especially around our breeding cattle.

The comments from the shearers this year were also very surprising. The condition of our sheep was said to be among the best they had seen this season. The quality of the wool clip was noticeably one of the best we had seen.

The change into BD farming has been a major alteration for us, from every angle of our lives. We are improving our property and the stock that are there, to improving our own lives. We have discovered organic foods and a way of life that can only be better than what we were doing.

Our goal is to produce an organic clip of wool, and to produce organic beef. These goals are some way off at this stage, but with the help we have had so far we are confident that this can be achieved.

From here, the future is going to be very interesting and exciting for us and we are looking forward to seeing what other challenges lay ahead. There are so many different fields that we want to explore and so many things to continue learning. BD has certainly changed so many things. ■