Making compost with the late Lynette West at Duchy Home Farm in 2008

Making Compost and the use of the Biodynamic Compost Preparations

By Tom Petherick

One of the reasons that the biodynamic method is so effective is that it acts as an excellent support to the basic practice of organic gardening in the absence of bulky organic matter. By their regular application the two biodynamic field sprays BD500 and BD501 provide a medium for the growth and maintenance of soil fertility. As gardeners we need to maximize their effect through the use of compost, in particular compost that has been enhanced with the biodynamic preparations.

For the average home gardener, whatever quantity of material is available for making compost, there is almost always a shortage of the finished product. Often this can deter gardeners from making compost at all, but I would say that even the smallest quantity is priceless, so don't let quantity be a deterrent. Once an amount of compost has been treated with the biodynamic preparations it becomes an even more valuable resource.

If it is hard to make reasonable amounts of compost in a small garden why indeed do we bother? Could we not, for example, simply leave the weeds on the surface to rot down on a sunny day and tuck the hedge prunings in at the bottom of the hedge? Well, we could, but that would mean that the soil would have to undergo a digestive process to turn those weeds back into soil and that means work for it.

In the case of composting we are going to set up a separate system to do this. The aim is to build a compost heap, add the biodynamic compost preparations and allow them to permeate the heap so that the resulting composted material is primed for its duty in the garden.

THE ART OF MAKING COMPOST

Before we come to the preparations let us discuss what is involved in making compost. Throughout the gardening year a garden will produce a quantity of organic matter that needs dealing with. Weeds that have been pulled up, dead or dying plants that have been removed, mown grass and so forth.

All this herbage is very precious, for if treated properly it can be recycled into compost. Add to this kitchen waste, particularly in the form of fruit and vegetable peelings, wood ash from fires and even a quantity of paper (preferably unbleached or dyed) and before you know it you have the makings of a compost heap.

What matters now is how and where all this material is assembled in order to facilitate its breakdown and fermentation before its return to the garden as compost.

COLLECTING THE MATERIAL AND BUILDING THE HEAP

The compost heap always fascinated me as a child. This was a heap that was never managed or treated in any way other than as a repository for organic waste. Everything from the garden and the kitchen got piled on it in the safe knowledge that over time it would break down and become compost.

And that was indeed what happened. From time to time the heap was opened up to reveal the rich black gold that lay in its furthest recesses. And whilst this example is an extreme case it is also the way that many people work with compost. We collect everything in a pile somewhere in a dark corner of the garden and after a period of time investigate it to see whether there is any compost at the bottom. If so it is brought into use and the whole process starts over again with the un-composted, usually woody, material that is left behind used to form the base of a new heap.

Traditional biodynamic wisdom requires that you create a heap in a different way. Rather than randomly throwing everything on to a heap and then putting the preparations in, the heap has to be built consciously with as many of the different materials that will make up the heap separated out and only brought together when the heap is built. This way makes sure of the correct carbon: nitrogen ratio in the heap.

THE CARBON: NITROGEN RATIO

Put simply – if you have too much woody material (high carbon) in the heap it will not break down. Similarly if you have too much nitrogen-rich material the heap will become a sludgy mess.

Most gardens produce a good quantity of nitrogenous material in the form of weeds and grass cuttings. All of this can be merrily collected in a pile somewhere until it is time to build the heap When that moment comes you need to make sure that there is enough carboniferous material in the form of leaves, shredded twigs, tough roots on hand to balance the heap. This can be collected in a separate heap.

Then, as you build you can layer the heap with the relevant material as you go, using water to keep it damp. Once it is built the compost preparations need to be inserted and a cover put in place. If you don't have a means of covering the heap don't worry as a compost heap, just like the earth or an animal or human, has the ability to form its own skin.

In an ideal world the heap should have some manure added to it, preferably cow manure, but this is not always possible and certainly not essential. Steiner was firm about the importance of the role of the cow in biodynamics but when he spoke he was addressing farmers who had access to such things. This is not possible for most of us today and we need not make it a cause for concern.

The correct carbon: nitrogen ratio is somewhere around 25-30:1 in favour of carbon. This may seem odd but green matter is made of carbon, the building block of life, and it is only high in nitrogen when it is very green and lush.

THE SITE

You can only work with what you have but there are a few points that need to be taken into consideration. The first is to site the heap away from where it will come into contact with tree roots. These will be hungry and will drain the heap of valuable nutrients. While a heap is well sited under a tree for purposes of shelter the risk of nutrient leaching is present in this situation.

It is important that the compost heap is sited on soil or grass rather than a concrete, or any other hard surface. Microorganisms in the form of worms, bacteria, fungi and all the other life forms that contribute to the breakdown process enter into the heap from the soil beneath.

It is also handy to have the heap close to where it is needed in the garden in order to minimize the transportation of heavy wheelbarrows full of compost.

Try and find a site that can be designated as a permanent one as this will allow some of the life that helps the process along to stick around for the next instalment of compost making. ▸

SIZE AND CARE OF THE HEAP

Size is determined by the quantity of available material. If possible the heap should be constructed in a square or rectangular shape. The base of the heap should allow air in, and in turn this will take care of any drainage issues.

A good size is two metres by one metre with a height of about one and a half metres. It is important to get some decent height because compost heaps shrink fast in size when the fermentation stage kicks in. However anything higher than a metre and a half makes it difficult to access for inserting the biodynamic preparations that is the next step. Once you have done that a cover may be placed over the heap. If you choose to do this a piece of the material should be breathable and porous without being so thin that the heap will be drenched in heavy rain. Carpet is ideal, preferably one without a rubber underlay attached.

HOW LONG SHOULD THE HEAP BE LEFT?

90 days is the absolute minimum time to leave a heap before considering using the made compost. More usually five to six months is given as a period during which time a medium size heap of 2m x 1m x 1 ½ m will break down satisfactorily.

BOXES AND BINS

For small gardens these are very appropriate and highly efficient. You may need more than one on the go at a time because they fill up quickly. They are cheap and often supplied free by local authorities, in line with environmental and recycling policies.

With these containers the building of the heap requires extra care and attention to ensure the heap can go through the relevant stages of breakdown and fermentation.

We must attend to the carbon: nitrogen ratio and mix up green soft material with hard, woody carbon rich matter. We must also make sure everything is chopped up small. In this way all the matter for composting will come into contact. This is vital because if there are too many air spaces the process will not happen. In a big heap everything will end up touching because of the weight but with a small one in a bin you have to help it achieve this.

By small I mean a large cabbage leaf needs to be cut up, a hedge pruning similar, a carrot top also. The resultant contents of the heap should look like they have been through a shredder. You can go as far as you like with this because the rule is the smaller the better.

The third point is that water should be applied regularly before a new layer. Compost heaps have the tendency to dry out especially if much of the matter being added is of a high carbon nature.

As with the free standing heap compost bins should be stood on the ground rather than hard standing, and also remain in the same area.

SHOULD I TURN THE HEAP?

If you have compiled your heap from a lot of bulky material e.g. grass sods, strawy plant matter from the autumn clear up and so on, then the composting process will take some time. After three months it is a good idea to turn the heap. In this way you will be able to turn the uncomposted material that is found on the top and outside layers of the heap to the inside of the heap so that it too can break down.

Turning is less important if you are using a box or a bin on the basis that the material you have used has been cut up small. In my opinion turning is never essential. It is hard work and time consuming. The real work of the composting process is happening within the heap and the uncooked outsides can be set aside when the heap is opened and form the base for another heap.

SUMMING UP

The golden rule in compost making is to make sure all the materials added to the heap are chopped up small. This will guarantee success like nothing else and I strongly recommend this as a tip for successful compost making.

THE BIODYNAMIC COMPOST PREPARATIONS

The composting process is a miracle. It dissembles the nutrients in a green plant and reforms them into a substance that another green plant can take in and benefit from. It is a form of chaos, out of which new life can emerge.

The role of the biodynamic compost preparations is to regulate the breakdown and reform process while enhancing the compost with the ability to become a bridge between the earthly and cosmic. What this means is that the preparations can act as a vehicle for all the information coming from the planets and the cosmos and organize them to affect the contents of the heap as it breaks down and reforms. The spraying of BD500 over the soil has started this.

THE PREPARATIONS

Each of the preparations is a plant with healing properties chosen by Steiner. Four of the six are made by being joined with a specific animal body part before undergoing a process of fermentation. Each of the plants also has a close association to a specific planet.

Numbered BD502 – 507 the effect of them together on a heap is remarkable even to the naked eye.

After years of making compost the experienced gardener is well acquainted with the moment a heap 'activates' or properly begins to ferment. It tends to sink and reduce in size somewhat. Yet the first time I introduced the preparations to a compost heap I could never have prepared myself for what happened. The heap quite simply collapsed to half its size 24 hours after I put the preparations in. It was astonishing.

Once you are under way with biodynamics the 'preps' as they are known in the trade, will become a key part of your practice so here they are listed with their make-up and qualities. The finished preps are usually kept in relatively small quantities in earthenware jars and buried in a box of peat. To treat a compost heap you will only need a pinch of each preparation.

MAKING THE PREPARATIONS

This is a time consuming process but it is at the very heart of biodynamic activity so if it is at all possible for them to be made at home then it is strongly recommended.

If they are made on site their influence will be much stronger because the herbs used will already be imbued with the knowledge of the garden.

Clearly it may not be possible to gather all the ingre-

dients needed such as cow manure. Similarly it is not easy to come by some of the animal organs used, but it is easy to grow chamomile, nettles are abundant as is yarrow, and some scrapings off an oak tree nearby may be possible for some.

The organs are generally available from the Biodynamic Association or possibly local groups. All you need then is a place to bury them and a year to wait. This yearly cycle is important for the preparations need to mature properly. If you cannot make them yourself the finished products are also widely available from the sources mentioned above.

BD 502 Yarrow *(Achillea millefolium)*

Yarrow is a common field and garden plant found all over Europe and North America. It is small and relatively insignificant with tiny white flowers held on a quite distinctive flat top. This is typical of its family (apiaceae, formerly umbelliferae) that gets its name from the flat surface of its flower heads upon which insects, particularly bees, find it easy to alight.

Yarrow is closely connected with the planet Venus. Like comfrey it is high in potassium and sulphur. It has a slightly sulphurous smell that is evident on a sunny day. In turn sulphur is a key element in the production of protein.

The flowers of the yarrow plant should be picked in the early morning and then put into the bladder of a stag. When it is full the bladder is sewn together and hung up in full sunlight for the summer before being buried underground for winter. It will need protection from birds while hanging up so some type of birdcage is ideal.

The stag's bladder is used because of this animal's sensitivity. The stag is flighty and aware with keen eyesight and a strong sense of smell. Storage is in a glazed earthen or terracotta pot. All the preparations are kept this way except BD 501 (silica preparation) that is stored in a glass jar and placed on a sunny windowsill.

The pots themselves are best stored in a box in which they can be covered in moss peat. This needs to be kept moist, cool and frost-free. The garage or garden shed is ideal.

BD 503 Chamomile *(Matricaria recutita or M. chamomilla)*

This preparation is made from the flowers of the German chamomile plant. They are picked when fully open, dried over the course of the summer and packed into the small intestine of a cow in the autumn. They are then buried underground for the winter. They are lifted the following spring and stored in a glazed terracotta pot as for yarrow.

What you are doing here is making a sausage. The cow's intestine is thin and narrow. It needs to be moistened before the flowers can be stuffed in. The best way to do that is via a small rubber pipe that can gradually be withdrawn back up the intestine as it fills. Once filled the end is then tied off.

Chamomile is well known for its healing and calming properties. It was used to freshen meat in the days before refrigeration and to prevent stomach upsets. We use it today mainly as a tea to settle the stomach and ourselves. The chamomile plant has a similar effect in the compost heap.

Sometimes it is complex to interpret Steiner's words in the Agriculture Course and it can pay to accept the wisdom of other learned biodynamic experts. Peter Proctor, a New Zealander who has done much for biodynamics in both his own country and on the Indian subcontinent, puts it like this: 'Chamomile stabilizes the nitrogen by controlling the putrefaction of the proteins and stimulating life force in the decomposing manure. This is a typical Mercurial activity'. Chamomile has this mercurial quality of movement.

A further requirement when we are burying the preparations underground is that we protect them from being dug up by unwanted, foraging animals. The soil life is welcomed but digging animals such as badgers, foxes and dogs need to be deterred.

In the case of the chamomile sausages it helps to wrap them up in thin chicken wire so that the animal will be unable to extricate the sausage even if it is dug up.

BD 504 Stinging Nettle *(Urtica dioica)*

There is no animal organ used to prepare the stinging nettle preparation. The plants, only the flowers, leaves and stems, no roots, are picked at flowering time and packed tightly in an onion sack, or similar breathable bag. They are then buried underground for twelve months. The best way is to make a permanent site for this. The sides and top of the hole should be lined with either timber or bricks with the floor given a covering of moss peat so that the nettles do not come into contact with the bare earth. The hole is then backfilled with soil.

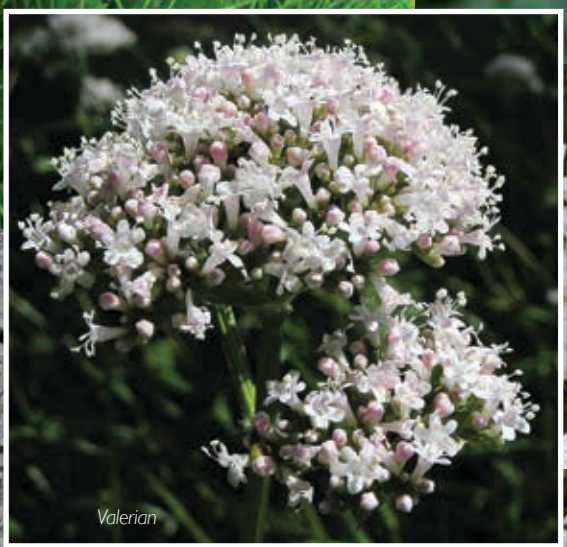
Steiner is very complimentary about the stinging nettle; you can feel the warmth in his words when he says that this plant should grow around man's heart. It has the ability to radiate through the compost heap and is closely linked with sulphur, which, for Steiner, was the element that carries the Spiritual and incorporates it everywhere. It also carries, potassium, calcium and iron, which, for most of us mere gardeners are crucial elements on the formation of healthy plants. The nettle gets pride of place in the middle of the compost heap when placing the preparations.

It is small wonder to me that this plant is one of the chosen five. Without any prior biodynamic knowledge it is plain to see that this plant has very strong qualities. The most striking for me is what it does to soil in terms of conditioning it. This can be seen in abandoned areas of gardens. When you dig up a patch of nettles in a forgotten corner you can see that the soil is often a rich, dark colour with a strong lustre and a feeling of quality about it, to the touch and the nose. The same is true when the preparation is dug up after twelve months, it is a dark crumbly compost. Proctor identifies the nettle as a Mars plant on account of its link to iron, perhaps that is something to do with the redness connected with the planet and the element.

In horticulture the nettle is known as an indicator plant. By this I mean a plant that gives clear signs of what is going on in the vicinity where it is growing. On the farm nettles often colonize areas where animals, particularly cattle, gather. The soil will be compacted, poorly drained and rich in nitrogen from manure. The nettle indicates the presence of nitrogen. ▸

Dandelion

Stinging Nettle



Valerian

Chamomile

Oakbark

Yarrow

BD 505 Oak Bark *(Quercus robur)*

Fairly clear cases can be made for the first three compost preparations but oak bark is definitely a move away from the herbal. There is a point when Steiner is discussing the chamomile preparation in the Agriculture Course when he says 'I know perfectly well all this may seem utterly mad'. Certainly, and on discovering that the oak bark that is filed off an oak tree as almost dust, is placed in the skull of a cow, I have to admit that I was drawn ever deeper into this extraordinary journey. What could have he been thinking?

Here we return to calcium. This is the element that dominates many of our soils. It is chalk, it is lime and it has often been described and used as a soil sweetener and the element to raise low pH in the soil. Old gardeners would always spread a dusting of lime over the garden soil in the spring to sweeten the soil and keep that most cursed of fungal diseases, club root, away from the brassicas. And it is in the context of plant health that Steiner brings oak bark into play. 77% of the bark is made up of calcium he says, but in order for it to be of any use to combat diseases the calcium has to remain in the living realm i.e. in compost.

BD 506 Dandelion *(Taraxacum officinale)*

The flowers of the dandelion are wrapped in the mesentery (coal fat) of a cow and buried underground for autumn and winter. The dandelion plant is one of the most remarkable plants we have in our gardens. It is perennial with a very deep taproot. If you chop off the smallest section of root it will produce another plant. It is one of the hardest roots to shift from the garden because of this.

The flowers open in the day and close at night. They also move around with the sun during the day like sunflowers. Finally there is the 'clock' seed head, the most perfectly ordered orb of seeds that are rich in silica and which blow away on the wind to produce yet more dandelion plants. The mesentery holds the stomach organs of the cow in the spiral shape that we see in the organisation of the planets in space. The combination of silica-rich dandelion and the cosmic influences of the mesentery are thought to bring balance to the strong earthly forces of the compost.

BD 507 Valerian *(Valeriana officinalis)*

This is made by soaking the flowers in water and squeezing the juice from the flowers. It is kept in a bottle and is used to sprinkle on the compost heap once the other five preparations have been inserted. Then the heap may be covered physically if so desired. A few drops are added to a watering can and the mixture sprinkled over the compost heap once the preparations are put into the heap. It is the last act in the making of a compost heap.

The purpose of the preparation is to keep the warmth in the compost heap and prevent the vitality from leaking away. Valerian also has a strong relationship with phosphorous, the third element, after nitrogen and potash, that is essential for plant growth.

TREATING THE HEAP WITH THE BIODYNAMIC COMPOST PREPARATIONS

Once your heap is built the moment has arrived to assemble the preps so that they can be inserted into the heap.

Firstly we need to drive five holes into the heart of the heap, evenly spaced apart, in the shape of a five dice. This is best achieved by the use of an iron bar or a broom handle. Into these holes we will push a ball of soil containing a portion of a preparation.

The best way to do this is to make a small patty of moistened soil that can lie in the palm of your hand (see picture opposite). Into this put a pinch of one preparation. This can then be closed over and rolled in the hands until it has become a ball.

Once this is done and the holes back filled with material from the heap then it is time to water on the valerian mix from a watering can. After this the heap can be covered.

SUMMING UP

The thing that grabs me about all of the above is that never before or since has anyone appeared to weave in what is happening in the heavens with what is happening on the earth in terms of plant growth and soil life in such a precise way.

That Steiner saw these compost plants having a direct influence on the chemical or elemental activity in both soil and plant is of major importance. What he is talking about is creating a balanced system for us to work with. Nature knows this, which is why if left alone the landscape of most parts of the world would revert to one of tree cover. The reason for this is that the forest is the most sustainable environment found anywhere on the planet, one of balance and harmony. However, when we work in a controlled environment such as a farm, garden, or greenhouse, by our influence we have changed the natural order of things. Steiner's aim was to help us find that natural order in the confinement of our domestic set up. ■

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