

Biodynamic preparations

Fill your soil with life and your plants with goodness

by Elisabeth Winkler, Biodynamic Land Trust communications manager



A biodynamic smallholding puts into practice organic principles by prioritising prevention, and feeding the soil. Like organic, it uses biological processes such as composting rather than blitzing the land with synthetic fertilisers. Yet it also sufficiently different to attract monikers such as ‘organic-plus’ or the ‘new organic’. So what is the secret behind this approach which has chefs, foodies and wine growers raving about its quality and vitality?

Like organic farming, biodynamic farming emerged in the 1920s to address the harm caused to the soil by industrialisation, monoculture and the advent of chemical fertilisers. This developed into a set of internationally-recognised legal standards, called Demeter. Growers must first achieve organic certification, then an additional Demeter certification, regulated in the UK by BDA Certification, and licensed by Defra.

One practice which differentiates biodynamic from organic is the use of biodynamic preparations, or BD preps as they are colloquially termed. These diluted mineral, plant and manure-based preparations are considered so crucial to the health of soil and



plants that their use is mandatory for achieving Demeter certification.

Biodynamic preparations

Eight herbal-based preparations enhance the bacterial, fungal and mineral processes found in an organic growing system. Horn Manure (BD 500) and Horn Silica (BD 501) prepare the fields, while the remaining six (BD 502 to BD 507) enhance composting process and its humus content. Why the numbers? “It was a conscious decision to make them sound matter-of-fact,” smiles biodynamic farmer, Anne Parsons, of Rush Farm in Worcestershire, a beautiful biodynamic organic farm stewarded by the Biodynamic Land Trust.

Cow Horn Manure (BD 500) for soil life

Fresh manure from pasture-fed cows is collected in the autumn, placed in a cow’s horn, and buried for six months. When dug-up after about six months, the cow pat has mysteriously transformed, “from green and smelly porridge to a brown-black crumble with a nice peaty smell,” says Anne.

The main changes to the cow dung, according to the Journal of Biodynamics Vol 214, are a significant drop in pH, an increase in aerobic status and production of nitrate. The billions of microscopic bacteria, fungi and other micro-organisms present are stirred for an hour in water in minuscule quantities: for every acre, 1 unit of 20 ml is placed in 10-15 litres of water. This “medicine for the soil” activates soil microbial life, helping strengthen the soil web which feeds the plant’s roots.

Horn Silica preparation (BD 501) for plant health

Made from finely-ground quartz (a common stone or sand) mixed to a paste, Horn Silica is similarly buried in a cow’s horn, but in spring and dug-up in the autumn. Stored in a glass jar



on a sunny window sill, it is diluted in tiny quantities (1 unit per acre is 1ml placed in 10-15 litres of water), stirred for an hour, and sprayed on plants in the morning.

Biodynamic farmer, and co-director of the Apricot Centre, which tenants 34-acre Huxhams Cross Farm in south Devon, Marina O'Connell,



describes how Horn Silica is used. "It is sprayed as a fine mist on plants as they are starting to become what they'll become, such as when a lettuce hearts up, or apples start to form in the summer months. This preparation regulates the metabolism of the plant, aids ripening, reduces fungal diseases, and increases the produce's keeping-quality," she says.

Compost preparations

The remaining preparations are used to enrich the compost heap, created in layers, ideally alternating strawy manure with green waste, and possibly lime or some clay according to the soil's needs. You add a pinch of the six different plant preparations in tiny holes in the compost to balance the nutrients and rotting process, and to imbue vitality. Finally, spray the heap with diluted juice from pressed valerian flowers which acts like a kind



of overcoat to hold in the warmth, and forces you are hoping to create.

BD 502 - BD 507

Yarrow flowers - packed in a stag's bladder (BD 502)
Camomile flowers - packed in a cow's intestine (BD 503)
Stinging nettles - buried in the soil (BD 504)
Oak bark - packed in a sheep's or cow's skull (BD 505)
Dandelion flowers - wrapped in a cow's mesentery, the membrane covering the intestines (BD 506)

Valerian flowers pressed/juiced - put in a glass jar in the sunshine (BD 507).

Vegan biodynamic

Although the founder of biodynamics, Austrian philosopher Rudolf Steiner (1861 - 1925), was a vegetarian, animals are valued both in terms of high animal welfare standards, and as producers (especially cows) of highly-fertilising dung. However, research is ongoing to exchange animal 'sheathes' for vegan ones, such as tree bark. Please note that animals are not killed to obtain these parts.

No belief necessary

"Just as 1g of rich soil has a billion micro-organisms, so will a biodynamic spray have microscopic amounts of bacteria and fungi. On one hand it is quantitative, and, on the other, it is energetic – that is, a quality beyond the physical body," says Kai Lange, diploma coordinator of the Biodynamic Agricultural College. "But you do not need to believe for biodynamic methods to work," he adds.

Indeed. The biodynamic preparations used in the longest-running trial comparing organic and conventional





farming were applied by regular farm workers. The studies in the world-famous DOK (D = Demeter, O = Organic, K = Konventionell) trial show biodynamic soils surpass conventional and organic soils for microbial activity, drought resistance and carbon capture.

"It is of note the speed at which biodynamic soils recover from chemical farming," says Gabriel Kaye, Biodynamic Land Trust director. "In the DOK trial, biodynamic was only parcel of soil that actually increased biodiversity. Even experienced organic farmers are amazed at how quickly depleted soils recover when put in conversion to biodynamic farming with regular use of the biodynamic preparations."

<http://www.fibl.org/en/switzerland/research/soil-sciences/bw-projekte/dok-trial.html>

Stirrings at Huxhams Cross Farm

The preparation is stirred for an hour by creating a vortex and counter-vortex to oxygenate and disperse the activating ingredients. It is then sprinkled or sprayed over the soil or

plants. Biodynamic farmer, Marina O'Connell, has been teaching biodynamic methods for over 30 years, says: "I have found that when people take part in a stirring, it feels a normal and natural thing to do. Our stirrings at Huxhams Cross Farm are a community event with food attracting about 40 volunteers. It brings a sociable aspect to farm work which can be solitary for much of time, and gives a farmer pause at pivotal times of the year."

Biodynamic Land Trust

A charitable community benefit society, the Biodynamic Land Trust preserves land for growing healthy food while building soil fertility, sequestering carbon, protecting

wildlife and fostering community activity for education, employment and well-being. It invites the public to invest in withdrawable, not-for-profit shares for biodynamic organic farms that will be ecological for generations to come. Please see page 25 for details on how to join and/or visit biodynamiclandtrust.org.uk

Biodynamic preparations

www.biodynamic.org.uk/product-category/preparations/

Next Smallholding issue: The UK's only micro-dairy Community shared agriculture scheme, Stroud Micro Dairy, and - why do biodynamic cows have horns?

