

Biodynamic compost and cows

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Damson, one of the two Shetland cows at Huxhams Cross Farm, Devon. The two cows are used for conservation grazing of Huxhams Cross Farm ancient wet meadows - they help wild orchids and other flowers to proliferate on the 34-acre farm.

Smallholders know the value of fertile soil. Now the government is waking up to its vital role. In March it announced a new bill that would for the first time mandate farmers to improve the health of UK soils.

Concern for soil quality is not new. Biodynamic farming owes its origins to a group of farmers who observed soil degradation resulting from chemical fertilisers. In 1924, they invited Austrian philosopher and scientist Rudolf Steiner to give a series of lectures at a farm estate in Silesia. His ideas to regenerate agriculture gave rise to the world's first label for sustainably produced food in 1928, called Demeter, now a worldwide certification mark. The Demeter label is regulated in the UK by Biodynamic Association Certification, which is licensed by Defra and Demeter International.

Compost is king

Most smallholders understand the role of rich, dark, earthy compost in improving soil. By composting the plot's waste, nutrients are returned in a virtuous cycle to feed the plot. In contrast, quick-fix chemicals suppress the microbial life needed for soil fertility.

Biodynamic farming is focused on supporting a healthy soil life using compost and rotations. Uniquely, it treats the compost heap with medicinal

plant-based preparations to do so.

"The purpose of the compost preparations is to bring about a harmonious decomposition process," says Richard Thornton Smith, chair of Biodynamic Association Certification. "Their effect is to hold the decomposition process in a disciplined way to prevent nitrogen loss. If a compost heap gets too hot, it loses ammonia, a nitrogenous substance. That's like money dropping out of your back pocket. Nitrogen is volatile and has to be fixed. Biodynamic preparations enable the composted matter to stabilise the nitrogen."

This process helps retain moisture, so vital for soil life. "Water enables nitrifying bacteria to convert the volatile ammonia into forms which plants can use in the soil, such as nitrate. Compost is made of living or once-living things that decompose through the medium of other living things," says Richard Thornton Smith.

Compost preparations

Use of the six compost preparations (BD 502 –507) is obligatory for Demeter certification and are made from medicinal plants: yarrow, chamomile, stinging nettle, oak bark, dandelion and valerian. They help make nutrients such as sulphur, potash, nitrogen, calcium, silica and phosphorous available

for healthy plant growth. Apart from valerian which is a slightly diluted juice stirred for 20 minutes, the remaining preparations are inserted equidistant in the heap as small lumps of material to activate ingredients of the heap. These are applied to compost heaps, manure and slurry to encourage microbial life for good fermentation and decomposition.

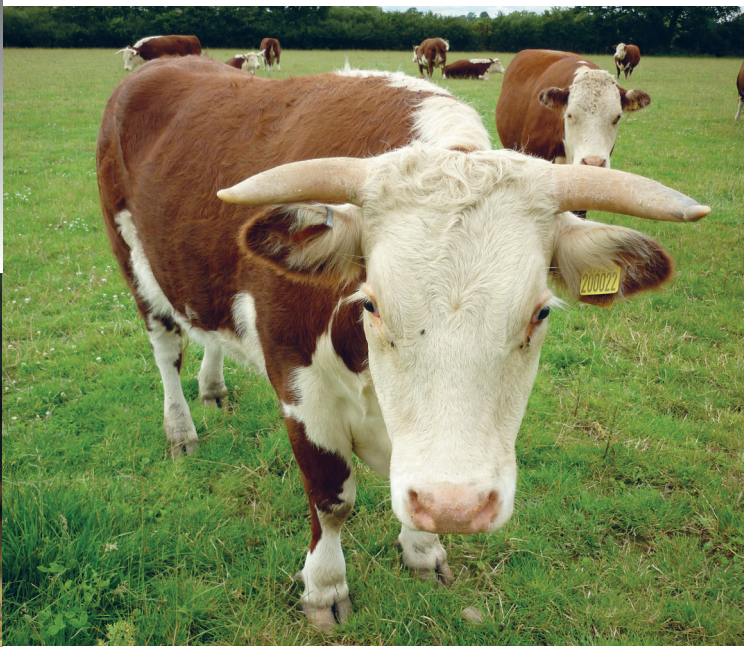
Cow manure

Dung is highly regarded, a crucial element (even as a trace material) and a vital part of the nutrient cycle. "It is helpful to have some in compost heaps, even if only a small amount, to help fermentation and fertility," says Gabriel Kaye, Biodynamic Land Trust director.

While all manure is helpful, none is more balanced than cow manure. Richard Thornton Smith, who edited *Agriculture: An Introductory Reader to Steiner's farm lectures*, explains: "Think back to the ancient Hindu worship of the cow as the goddess of fertility. The cow has to produce new life as well as maintain her own, and her manure appears to produce longer period of sustained plant growth."

Cow Pat Pit for smallholders

You don't need a cow to get the benefits of cow manure. Instead the biodynamic preparation, Cow Pat Pit or barrel preparation, can be added to the



Traditional English Hereford cattle at Rush Farm in Worcestershire, The farm is biodynamic Demeter and organic Soil Association certified.



Reared the biodynamic way, the herd of Traditional English Hereford cattle at Rush Farm, Worcestershire keep their horns.

compost heap as a starter, as well as being sprayed on the farm. Containing cow manure and compost preparations, it is recommended for those converting to organic and biodynamic agriculture. Add a pinch to a bucket of water, stir for about 20 minutes, then spray round the smallholding preferably in the autumn.

Have you ever wondered why cows have horns?

Rudolf Steiner posed this question in 1924. The Austrian scientist insisted his ideas be tested by experimentation. Practical evaluation by biodynamic farmers indicate horns play a vital function. There is a highly-developed strong flow of blood to and from the horns, particularly in the cow compared to the bull, and this seems to be linked to improved digestion and metabolism, and less methane production. This in turn leads to high-quality manure, so crucial to improving soil quality.

Two cows on Huxhams Cross Farm

Biodynamic farmer, Marina O'Connell, tenants Huxhams Cross Farm on farmland secured by the Biodynamic Land Trust. "We have two Shetland cows, a tough breed that can stay outside all year. Their manure is left on the fields to support insect and then bird populations. We put the cows on one of our arable fields in the wet winter months to add fertility for the wheat crop that follows, then put our chickens in after the cows to spread the cow manure around, clear up any insects and add their own fertility."

Marina O'Connell has observed how the cows bring an extra quality the farm. "In biodynamic terms, they give the



Fresh manure from pasture-fed cows is collected in the autumn, placed in a cow's horn, and buried for six months.

farm a 'soul quality'. Those of us who regularly spend time with cows probably understand this on an intuitive level. We have found them to have great healing power with the children we work with, who like to feed Damson and Daffodil and spend time with them."

Stroud Micro Dairy

Stroud Micro Dairy farmer and owner Kees Frederiks is healing the land the biodynamic way, on land secured by the Biodynamic Land Trust in 2015. This April, Kees, along with fellow tenant Stroud Community Agriculture and volunteers, applied horn manure to 41-acre Oakbrook Farm. Made with cow manure stuffed into cow's horns, it is buried over winter and dug up in the spring smelling sweet and fermented. After being diluted and stirred, it is sprayed over the fields. Horn manure is used at least once every year to encourage soil life.



Biodynamic Land Trust

Biodynamic Land Trust secures farmland in trust to be biodynamic for generations to come. Its vision is to create community-owned farms nationwide which enliven the countryside by enriching the soil, reviving wildlife, producing quality food and encouraging human enterprise. **SH**

Biodynamic Land Trust

<https://biodynamiclandtrust.org.uk/>
Cows and horns <http://spiraledge.wpengine.com/wp-content/uploads/Guide-Cow-horns.pdf>

Local biodynamic groups

One of the best ways to learn about growing the biodynamic way is to join a local group. <https://www.biodynamic.org.uk/connect/>
Buy Cow Pat Pit or barrel preparation <https://www.biodynamic.org.uk/product-category/preparations/>