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Backyard Biodynamics

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We've recently been contacting CSAs in an effort to update the listings on our website, and in so doing have chatted with many present and former members. A request repeated several times was that we include more material for folks who are just beginning to explore biodynamic agriculture. Fortuitously, at about the same time Andrew Lorand sent us the following piece. For readers who find their appetites whetted, we can recommend Wolf Storl's book Culture and Horticulture, available from the BDA at 888-516-7797, as an excellent aid for further exploration. In the meanwhile, we hope readers enjoy the Andrew's piece; as always, we look forward to hearing your views on the usefulness of this and the other journal material.

Worms, ants, bees and butterflies! These are our four *special* helpers, our wild, (or not-so-wild), yet also not-really-domestic "animals" who bridge the wilderness ways of nature and the human culture of the land. In the biodynamic garden, these helpers are of particular significance, especially since most gardens do not have the benefit of larger, domestic animals living within their perimeter. Even if they do, these helpers are indispensable.

All four groups are not only wonderful, practical co-workers, but also indicators of health for soils, moisture, air-flow and warmth, and almost mysteriously, the very carriers of fertility. So much could be said about their efforts. For starters worms help create the soul of the soil, the humus qualities, by leaving behind "castings" of great nutritional value for our plants, by aerating the soil and thereby helping with water, gas and air flows, and by helping to decompose organic matter. The ants not only weave a mysterious bio-chemical web with the formic acid they leave behind, which is very necessary for plant growth, but also live in a magical way with the watery aspect of our gardens. The way in which they build protective rings (low) or towers (high) around their home entrances on the surface of the soil, for example, helps the gardener foretell the coming precipitation (low = no rain or little precipitation; high = likelihood of substantial rain). The bees dance in their unique lemniscate language and carry their pollination efforts through the airy element. And finally, the magical butterflies gently bring us the warmth of the universe in a most intimate and close-to-the-heart, kind manner, pollinating

as they go, and letting us know that the air they are in is healthy, as butterflies especially suffer from pollution of all kinds and will not be happy in polluted environments. Both bees and butterflies also tell us about the temperatures. Neither group will be active during periods of low temperature and this can help us decide whether to plant or transplant, irrigate, etc. These helpers are all substantially involved in the garden and, if we are willing to try, will gladly communicate with us about the garden's needs.

Backyard gardening using biodynamic ideas, methods and inner postures helps the backyard gardener live and work in harmony with the universe. Seeking communicative connection with the many beings at work in the garden leads us deeper into the sense of working *with* nature instead of just *in* nature. After all, the purpose of gardening is to bring together the substances, energies and beings of the entire universe in such a way as to best create healthy foods and care lovingly for our "place." In a way, biodynamics is a language that helps us understand and communicate with nature in a healthy, sensitive and ethical fashion.

Basic concepts

In designing and developing your garden there are a whole host of things to consider, and many gardening books or teachers will list dozens of items: from location to orientation, from wind and weather to soils and chemical tests. No doubt all these ecological elements are significant. However, in biodynamics, although we recognize all these items, we lay emphasis on the integration of the ecological with the energetic and spiritual in a kind of three-part harmony.

The way in which we do this is initially a mental process. We begin to wrap our minds around the idea that nature is not just physical, but that the so-called physical world is really a matrix of energies, a multiple dimension phenomena. Physics teaches us this (all matter is energy in aggregate) and Einstein (among many physicists) claimed that there was no energy in the universe without a being to create it. However, it was Rudolf Steiner's insights and creativity that led to the practical, healing farming and gardening practice that integrates these three dimensions under the current name of biodynamics.

Steiner's ideas centered on seeing the farm (or the garden, as a kind of mini-farm) as if it were a human being. He called this the farm individuality. The farm or garden individuality is a concept that, first-of-all, looks to help us develop a deeper and fuller sense of respect and responsibility. By thinking of our garden as if it were another human, we learn to care for it in an especially sensitive and meaningful fashion. Steiner also meant for us to see each farm or garden as having interconnected organs and organ

systems, viewing the garden ecology as having a sort of humanized physiology. For example, he saw the topsoil layer as a kind of diaphragm, the root-sphere as a kind of head realm, and the plant growth as part of the digestive system. In other words, it is as if the human is upside-down and laid out before us in nature. There is more to this, but suffice to say for now that Steiner's ideas were quite specific and his diagnosis and therapy for imbalances in nature, on the farm, and in the garden are analogous to diagnosis and therapy for humans.

In diagnosing health and illness in the garden, we can see in the biodynamic methods a kind of unspoken focus on enhancing the immune system of the garden through a series of activities that strengthen the natural health and responsiveness of the soil, plants and animals. In other words, our emphasis is on a coordinated, preventative medicine, although we also have plenty of "potions" to use when things are not well. Appropriate production (what should grow well here?), biodiversity (the only real law in nature!), soil fertility (the beginning and end of all gardening), crop nutrition, integration of animals, pest-disease-weed management, and a more holistic landscape care – are all approached with this focus on health in mind. Importantly, we use first and foremost, sensitive, homeopathic and anthroposophical remedies instead of the harsher allopathic methods, let alone synthetic chemicals.

To summarize the foregoing, we see nature as very alive and thoroughly willing and able to communicate with us, such as through the action of the worms, ants, bees and butterflies. We find ourselves in a living nature, on a living earth, in a living universe. We see nature as being a matrix of ecological, energetic and spiritual forces and beings that we can learn to understand and work with. We also see the garden itself as a living being, much like a human, whose natural health can and sometimes must be vigorously supported through preventive and holistic measures. Ecological principles (appropriate production, biodiversity, etc.) are highlighted, but we use sensitive, homeopathic and anthroposophical remedies and methods. This includes a careful look at the timing of garden activities, given our perspective that the various positions of the sun, moon, planets and stars all affect and enhance (or not) the health, growth, and productivity of our soil, plant and animals. We view biodynamic gardeners as healers and responsible guides for their gardens.

Practical considerations

The first thing to know about gardening is that every gardening question can and should be answered: "It depends!" Each and every garden is unique, and local conditions are the most essential element to consider in understanding in-

dividual situations. Having said this, what kinds of common approaches does biodynamics offer beyond the mental tenderizing I offered above?

Above all else, build up your garden's immune system! Start by feeding it a healthy diet. Plant lots of diverse crops. Build your soils by enhancing the humus development (add compost, mulch, irrigate carefully, companion plant, plant cover crops, and step lightly). Compost properly (layer your compost, and use the biodynamic compost preparations). Enhance worm, ant, bee and butterfly habitats. Make good compost tea (handfuls of well-made biodynamic compost in warm water is all you need) and apply other soil sprays and foliar for your crops. Begin to look at the moon phases. See if you can take on activities in your garden before the full moon that have to do with reproduction and growth (planting, composting and soil amending, spraying nutritional foliar, spraying preparation 500) and see if you can take on activities before the new moon that have to do with maturing and ripening (pruning, thinning, weeding, pest and disease management, and spraying preparation 501). This would be a good start. Additionally, have lots of stinging nettle tea and horsetail tea available (applied respectively before and after the full moon) to support all the other activities. Think of your garden as a child needing loving, tender care, and education and support; a child with whom you have decided to use only gentle, holistic methods. These are the beginnings.

Developing an atmosphere of gratitude and sensitivity toward the soil, plants, animals, and the energies and beings that help to make all this possible, can and perhaps should be the basis for your practical work. Being humble yet joyful seems to be the gardener's magic soul recipe. The really good gardeners all seem to be happy, jovial people who possess a great deal of humility about their work, about nature and about the spiritual dimensions of all this.

Furthermore, in developing an eye for health, use your sense of beauty too. What is beautiful is almost always also healthful. Find the time to see the beauty in simple things. Finally, the most important practical truth in all things is that in the end the magic is in the details. Here are some details, to get you started.

Recipe for garden compost

My recipe for composting has always been in the middle ground between "hot" composting, in which one throws together plants, soil, debris, animals manures, etc., add water, and turn as often as one can, getting everything "hot" and aiming for a quick decomposition – and "cold" composting, in which one basically composts by neglect, leaving a pile of organic matter for a year or more, in the

Chart of Physical, Etheric, Astral and Ego In the Garden

Material world	"Physical" forces
Plant world	"Etheric" forces
Animal world	"Astral" forces
Human world	"Ego" forces

end finding, at its core, some well-digested compost (if one is lucky). "Warm" composting takes the middle ground in terms of heat, water, and air management. Instead of turning often (and adding water and air, and causing things to heat up very quickly) you layer the various to-be-composted materials very carefully, add copious amounts of water as you build, and then simply cover with grass or straw and let cook, slowly. Hot composting takes up to eight weeks and produces well-decomposed matter, but not always humus. Warm composting, by contrast, takes three to four months on average and does a great job of carefully allowing all the decomposers to do their job without the interference of constant changes in temperature, moisture, etc. Warm compost piles will usually (if built right) produce a lovely, rich, moist, spongy humus. Technically, I look to build composts with one part "green" (nitrogenous materials like green grass and fresh manures) to three parts "brown" (carbon rich materials, like dry leaves, dry roots and shoots, and straw) layered so that you have maybe three inches of green to nine inches of brown (by volume, by sight). These layers settle out to be about equal in thickness over time. Add lots of water as you build and possibly sprinkle in a bit of lime (but not tons of it as some advise). Add the compost preparations after the first peak in temperatures (usually after the pile gets to 140 degrees Fahrenheit and then drops down again to say, 95–100 degrees. That to me is then the ideal temperature. Finally, make sure to build your compost in touch with the ground, not on concrete or in plastic. The ground connection should be obvious: indigenous microorganisms will bring the best out in your materials. On occasion I add some rock phosphate to my compost – but rarely – perhaps once every three years. Don't fret the small stuff, but keep your compost warm and covered. If it overheats just open the "roof" and let off some steam!

Recipe for stinging nettle tea

Stinging nettle (*Urtica dioica*) is a native of many parts of the world. It likes to grow near people and can often be found behind barns and sheds. It is a medium tall, almost

all-green plant with medium-broad, serrated leaves and prickly little stigmata that leave those who are vulnerable with a temporary “stinging” rash. High in iron, nitrogen and carbon, nettle is often considered the most versatile and capable plant among biodynamic gardeners. The tea is nutritious for soils, plants, animals and humans, and also has anti-fungal and immuno-stimulatory effects. I make it with roughly two heaping handfuls of dry leaves in five gallons of water. Bring to a gentle boil for three to four minutes, allow to cool, strain, and spray. I have used nettle since I began farming and gardening biodynamically back in 1974 and can tell you it is visibly potent and leaves the plant (when used as a foliar spray) greatly strengthened and well-fed. As a soil spray it encourages root growth and humus development. As an anti-fungal it assists in keeping the fungus where it belongs, namely in the ground and not on the plants! I spray liberally in large droplets, roughly three to five gallons per acre depending on crop and time of season. In small gardens, I use more per acre. I almost always spray it in the time before the full moon for its growth-supporting effects.

Recipe for horsetail tea

Horsetail (*equisetum arvense*) is an odd, almost prehistoric-looking light-green plant that grows along creek beds and beside lakes. It looks more like a bottle brush (either a manmade bottle brush or the plant of the same name) than a horse’s tail, but then again, I did not get to name it. Full of silica (ninety percent or more) it is a very light plant, with tightly woven, extra-thin leaves that look like pine needles. Bring one stalk per gallon (fresh or dried) to a rolling boil for twenty-five minutes (it takes this long to loosen it up), allow to cool, and strain. Spray in an extra-fine mist on leaves, aiming for careful coverage. The tea has incredible anti-fungal properties, but also assists in photosynthesis, cleansing of pores, and encouraging maturation, ripening and fruiting. I spray this tea in the five to ten gallons per acre range depending on crop, always in the week before the new moon to take advantage of and enhance the tightening, maturing, cleansing effect of the new moon. In small gardens, I use more per acre.

Timing and application rates for preparations 500 and 501¹

Preparation 500 is also known as “horn manure” due to its being made in a cow’s horn. Fresh manure is stuffed into a cow’s horn, buried for a time (during the winter) and left to decompose and concentrate under the influence of the seasons and the stars. This concentrated potion is then (in small dosages) vigorously stirred into warm water for an hour and sprayed in large droplets on the soil. It is a strong

growth enhancer, as it stimulates the calcium processes in the soil and encourages humus development. I spray 500 before the full moon for the same reasons as mentioned above for nettle: namely, this is the time when most of the forces in nature are turned toward reproduction and growth, which this preparation is meant to enhance. After all, why send mixed messages? I use approximately a pea-size portion of 500 per acre and often not more than three to four gallons per acre. In some, intensive cropping situations, I might make it more concentrated, but with 500, less is often more.

Preparation 501 is the “horn silica” preparation, named for similar reasons as 500, only it is buried in the ground during the summer. Pulverized and finely ground quartz is used in making this preparation, and local material is preferred. This concentrated potion is then used to enhance photosynthesis, suppress fungus and most of all to encourage maturation, fruiting, seed formation and nutritive qualities. Stirring as with preparation 500, I spray it out before the new moon in dosages of five to ten gallons per acre, using again about a pea-sized dosage per acre. In other words, stir five to ten gallons with one pea-sized portion of 501 for an acre’s worth.

For both of these sprays, not much else is needed. However, regularity of usage matters. I spray 500 during the first three or four months of the season and 501 during the last three or four months. I never spray in full sun, preferring late afternoon for the 500 and early morning for the 501, but I recognize life is busy and everyone does simply the best they can. The timing with regard to the moon phases is pretty crucial, but you have a week or even ten to twelve days before the full or new moon to do this work. Know, however, that Lili Kolisko, whose research Rudolf Steiner supported, found that the two days before full or new moon showed greatest promise and are the most potent days to do the spraying work.

Notes

- 1) For complete information on the preparations, contact the Josephine Porter Institute for Applied Biodynamics, PO Box 133, Woolwine VA 24185; (276)930-2463; <info@jpibiodynamics.org>.

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