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The Hack Family Farm Organism

An Interview with Ulrich Hack by Abigail Porter

The Hack family emigrated from Germany to Canada in 1982 and their farm became Demeter certified in 1986. The “farm organism” or whole farm, closed-loop system provides all the fertility and nutritional needs for the farm. Multiple income streams, including value-added products, have comfortably supported the current twelve members of the Hack families. Most of the family’s food needs are supplied by their gardens, orchards, cattle herd and grain farm. Their collaborative two-family farm is a wonderful model of the resilience, success and profitability of biodynamics.

Ulrich (Uli) Hack and his brother Martin, who now run the farm, moved with their parents and four sisters to the 532-acre conventional corn farm in Kincardine, Ontario more thirty years ago. They immediately began converting it to biodynamics through the use of biodynamic (BD) preparations, obtaining cattle for soil fertility, and planting legumes for green manure and cover crops. The family planted over 20,000 trees to create hedgerows to mitigate wind erosion, provide a buffer around their farm, and to provide habitat and biodiversity. They use all of the biodynamic preparations including barrel compost (BC), the compost preparations (BD #502–#507), horn manure (BD #500), horn silica (BD #501), and plant silica, Equisetum arvense (BD #508).

The family is active in the community and with the Society for Biodynamic Farming and Gardening in Ontario, which sponsored the 2011 Fellowship of Preparation Makers Conference, graciously hosted on the Hack Farm. In addition to making preparations, keeping to a spray schedule, and running the farm, Uli is also the administrator for Demeter in Ontario, requiring a well-organized schedule that is adaptable to ever changing weather and market conditions.

AP: *Immigrating to Canada was a big change. Why did your family decide to move to Canada?*

UH: I say fate. It was an extremely quick decision. We had never talked of going to Canada before and then one morning at the breakfast table, my father [Bernhardt] posed the question, “Should we go to Canada?” and we all said yes. He knew a farmer, Wilhelm Pfenning, who was in the process of going and we visited him the same day. The next morning, we booked a flight and six weeks later we made the offer to purchase the farm. It went extremely fast. My sister was away when the decision was made and when she came home and was told that we were moving to Canada, she said, “Yes I know, I dreamt of it.” Later, when she came to Canada, she said that it was the same kitchen and the same garden that she had dreamt of. So, that is why I say it was fate.

AP: *Had your family known anyone in Canada at that time?*

UH: Not really. We knew the biodynamic farmer, Pfenning. He and his family were in transition to Canada because the Autobahn had taken most of their land away, and a neighbor in our village had moved to Canada a few weeks earlier and came back for a visit, so that might have put the idea into my father’s mind but we had never talked of Canada before.

AP: *What was the farm like in Germany, where you grew up?*

UH: We had a conventional fifty-acre mixed farm with cattle, grains, orchards and a vineyard. When my dad went to his first field day on a biodynamic farm in 1967, he knew that this was what he wanted to do. From then on, he never touched any chemicals or fertilizer again. He converted to biodynamics, started to make his own preparations, and became Demeter certified so he could sell into the Demeter market.

AP: *What was it about the biodynamic farm that convinced your father? There must have been something that really impressed him.*

UH: As a young farmer after World War II, my father

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From the Editor

Dear Friends of JPI,

Spring is upon us. I know for many, especially for our friends to the North and East, the rising energies (and temperatures) bring a welcome change. I hope that the coming season is productive for you and fulfilling in the widest sense.

In this issue, you will find a number of pieces that provide enlivening testimony to the expansion of biodynamics on our continent. I thank Abigail Porter in particular for her informative article about the remarkable, and remarkably productive, Hack family of Ontario, Canada. Of course, we are grateful for the many others who have contributed to this issue as well. Thanks also go to Pat Frazier, JPI Board President, for her impressions of the biodynamic presence at the Eco-Farm conference in Pacific Grove, California in January. Eco-Farm is the leading gathering of sustainable/organic agriculturists and food movement aficionados on the West Coast, held annually at a historic conference center overlooking the ocean near Monterey Bay. I have been taking students to the event for over a decade now, much to their delight. It was heartening indeed to see biodynamics featured so prominently this year – and to see the many workshops that were offered on biodynamics so well attended. It is ironic to me that the very movement that inspired much of ‘the movement’ around us today is only now

being recognized by a wider public. There are historic reasons for this, of course, not the least of which is that biodynamics accords frank recognition to spiritual impulses in a time of heightened materialism. Perhaps this is a springtime for biodynamics as well, a time when long established roots will yield flower and fruit yet undreamed of. In any case, it was indeed inspiring to witness the level of collaboration among leading biodynamic organizations that Pat alludes to in her article. The greatest yield in biodynamics’ bearing fruit in the Americas will depend on even greater such collaboration in the future.

I have always found springtime’s image of resurrection, the renewal of life, to be a powerful one. As nature is enlivened and new growth reaches for the cosmos, however, I am struck by a passage from Rudolf Steiner, given at Dornach near the end of his life in 1924. In it, he reminds us that spring was actually recognized as a time of “descent” in the mysteries of ancient peoples, i.e., of embodiment. “Through the spring mysteries, people were reminded not of how we proceed into the spiritual world at death, but rather how we emerge from it and descend to earth. In other words, precisely when nature was waxing and sprouting, human beings were reminded of their descent into physical life... Easter should actually be a ceremony of involvement with the earth, of burial, one that goads us into working, just as the spring festivals did for ancient peoples. Such festivals gave people the spiritual incentives they needed for work in the summer – an admonishment to prepare for summer’s toil.” (Matthew Barton, ed., *Easter: An Introductory Reader*, p. 34–35)

May your coming work be grounded in purpose – and infused with rich spiritual gifts wrought by winter.

Hunter Francis

Applied Biodynamics

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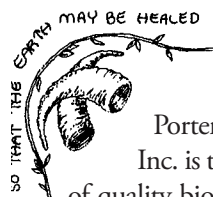
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Mission

The mission of the Josephine Porter Institute for Applied Biodynamics, Inc. is to heal the earth through production of quality biodynamic preparations based on the spiritual scientific discoveries of Rudolf Steiner and to advance education and research in biodynamic agriculture.

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The Hack Family Farm Organism

had embraced chemicals as the new, more efficient way of doing things. He was the first one in the village with a sprayer and he did a lot of DDT spraying in the forests to kill the June bugs. They said, “DDT is harmless, you can even eat it.” By the time he was thirty years old, he had heart-rhythm problems, angina and many other ailments. He had realized that the chemicals had a bad downside, but he did not think that you could reasonably farm without them. His local miller, who had a biodynamic garden, always encouraged him to become biodynamic. My dad figured that for a garden it was OK – you might be able to manage the weeds, but not on a farm. So after a few years of pestering, when the miller told him of a field day on a biodynamic farm, my dad reluctantly decided to go so that he would have arguments for the future as to why it would not work on a farm-scale. While on the farm tour, he saw that the weeds were under very good control and the crops were healthy with no weed and no pest problems. He was so impressed that he figured if they could do it, then he could do it. Now, he had to convince my mother, who was also afraid of all the extra work. So he found another farm-tour and took my mom along. With five small kids in tow, and not being too eager for such a big conversion, they arrived at the tail end of the tour. But what they saw was enough and my mother also gave it the go-ahead. They have never touched any chemicals or fertilizer since. He became close friends with his mentor farmer and became active in the German Biodynamic Society.

The Farm

AP: *Tell us a little about your farm in Ontario, then and now, and your path to Demeter certification.*

Biodynamic Preparations Legend

BD #500 – Horn Manure

BD #501 – Horn Silica

BD #502 – Yarrow

BD #503 – Chamomile

BD #504 – Stinging Nettle

BD #505 – Oak Bark

BD #506 – Dandelion

BD #507 – Valerian

Compost
Preparations

BD #508 – Horsetail (*Equisetum arvense*)

UH: The farm was originally 532 acres and had been farmed continuously in corn. We are five miles east of Lake Huron so there is a strong lake effect in the local area. We have a long and very wet winter, so we can't get into the fields until May. The lake effect also keeps away the rain in summer. Fifty percent of the farm has drought-prone sandy soils and rocky soils, subject to wind erosion and fertility challenges. In the first year, we planted 8,000 trees to create hedgerows as windbreaks and a buffer around the farm. The next year, we planted another 5,000 and for several years after, we planted 1,000-3,000 trees a year. My dad brought a large amount of preparations along from Germany so we started converting the farm to biodynamics right away and he started the process of making preparations immediately. Everyone helped out on the farm to varying degrees when they were not in school and before they got outside jobs. My dad had bees but since he is gone, we passed the bees on to a local beekeeper, who keeps about forty to fifty hives on our land in two locations.

AP: *What did you start growing on the farm?*

UH: I apprenticed on a neighboring organic farm in 1981 and seeded winter grain in the fall before the rest of the family arrived the following April. We planted our first crops in the spring of 1982. We had a beef and cow-calf herd of forty and we were growing grains with some vegetables on the side, and we started bread baking. The first couple years were conversion years, so grains and animals were sold into the conventional wholesale market except for the bread, which was sold locally. Demeter certification was not yet available in this country, but in 1984, after the conversion was complete, we were allowed to sell oats into the Demeter market because they knew my dad's farm in Germany and trusted him. We became Demeter certified as soon as certification became available in 1986. I think it was also the first year that organic certification was available Canada. We have to be organic certified for export and are certified by Ecocert.

AP: *What year did you and your brother take over operation of the farm?*

UH: This was very gradual and not formalized. After my mother died in 1984, my brother Martin did the books, dealings with insurance, and purchases. After the Iron Curtain fell, my dad began going to Russia in 1992 as a biodynamic advisor. We asked him if he would sign over the property to us, so the farm would be more secure in case anything happened. He signed it over to us for one dollar. He trusted that we would look after his needs.

AP: *Do you and your brother each focus or specialize on different tasks?*

UH: We do not divide up our work, but it happens

naturally. I do preparations, Demeter certification, crop planning, managing the beef herd and a lot of tractor work. He does the books, purchases, repairs and maintenance, the combining, most of the seeding and the dairy nurse cows. We all help each other out wherever needed. Martin's wife, Elke, is the bread maker with one of us assisting her. Mainly, the wives take care of the orchards, berries and gardens. Everyone takes part when we are picking stones from the fields. With all of the fruit trees, we give away a lot. We also make cider and the cider gets distributed in the neighborhood.

AP: *Your family is doing a lot of different things. Do you have any employees?*

UH: We have no employees. We have one neighbor who loves to help us. He often helps with the tractor work. And in the summer, we have one or two apprentices. We are busy and we have to be organized to get things done.

AP: *Over the years, the farm has grown to over 1,000 acres. What does it look like now?*

UH: In 2000, we started renting some extra land and in 2004, we bought 370 acres with 250 tillable acres. We have since rented a few more pieces of land too. The farm used to have 410 acres of tillable land and now our farm has over 800 acres under cultivation, including the pastured

and get two cuttings, we have surplus. Sometimes we sell it to our organic neighbor and we get some manure in exchange and sometimes we sell it into the export market. Straw is usually sold only in a manure exchange. Some straw we chop with the combine and leave in the field. We try to save all of our seed except in the hayfields, where we use ten different varieties. We buy seed when we switch varieties, or start a new crop. A few years ago, our flax seed was tested as having 0.01% of GMO Flax (Triffid) contamination, so we had to change the seed, and we are moving away from alfalfa, partly because of the GMO concern. We will replace it with red and sweet clover, which we can grow ourselves for seed. The price of seed is usually 50% to 100% more per pound than seed crop we can sell. So, it is attractive from the financial point of view to save the seed instead of purchasing it, and it is better adapted to our specific area. All of our seeds for certified export crops have to be tested for GMO contamination.

AP: *What kind of premium above conventional crop prices do you estimate you are getting by selling your grains into the Demeter market? And do you get a premium above organic prices?*

UH: That can vary a lot, and some of our crops like spelt are non-existent in the conventional market – maybe 50%

“A thoroughly healthy farm should be able to produce within itself all that it needs.”
Rudolf Steiner, Agriculture Course, p. 29 (Adams translation)

lands that are part of the rotation. We have 100 acres of permanent pasture and substantial amount of woodland. In addition to all the hedgerows that we planted, there are 165 acres in woodland and a river. We have a beef herd of seventy now and with the dairy and young stock there are 160 head in the barn this winter. With the beef herd, we leave the calves on the cows for nine months. The dairy-type cows get nurse calves. We hand-milk a little milk away from the calves whenever we need it for the family.

AP: *That's really convenient! You don't have the time and expense of milking twice a day. What crops are you growing on the farm now?*

Crops

UH: Our farm specializes in grains with over 600 acres in production with a variety of grains. Our main crops are spelt, millet, soybeans, hay and pasture. Minor crops are oats, barley, flax, peas and clover for seed. Depending on the weather, we export about 500 tons of Demeter certified spelt, rye, soybeans, millet and flax annually. We have 150 or more acres in hay rotation and if we have enough rain

more on average, ranging from 30% to 100%. With the organic market, there are fluctuations too as we sell into the wholesale market. The price is usually between 0% and 20% above organic. In the last few years, the Demeter market was good to us.

AP: *Do you sell the beef into the biodynamic market as well?*

UH: We sell a little beef privately. Mostly, we sell yearlings to other organic farmers who finish them to sell into the organic market. Others are sold into the conventional market when they are over a year old.

AP: *Most of what you produce you sell wholesale. Do you sell the bread or any grain retail?*

UH: We bake 100 to 200 loaves of bread every two weeks that we sell locally to individual customers with a little going into a store. We sell a little flour and grain locally.

Supplying Fertility and Nutrition

AP: *With the help of the sun, earth, air and cosmos, your farm is a wonderful example of a closed-loop system supplying all the fertility and nutritional needs for the farm. How do you do that?*

UH: It is through crop rotation, green manure and cover



On left, Uli and Martha Hack, and their three children. To right, Marten and Elke and their five children

crops, compost and biodynamic preparations. We make about 1,000 tons of compost annually, which can cover about 150 to 200 acres (three or four 50-acre fields) at a rate of five to seven tons per acre. So, in the crop rotation of about 800 acres, compost is applied on average every four to five years. We use green manure and cover crops to restore fertility. For green manure, we use rye, oats, peas, tillage radish, buckwheat and a couple types of clover. We under seed all of our grains with legumes for green manure, pasture or hay for the following year. Lately, we have not received much summer rain, so the clovers did not do well. We worked up and planted some of the land to peas as a green manure; they can still grow with the fall moisture and less summer heat. The cows supply some fertility while they are grazing. With crop rotation, weeds and insect damage are not a problem.

AP: *How do you supply the nutritional needs for your herd?*

UH: In the winter, the herd gets six to eight round 4' x 4' bales of mixed grasses and clover hay daily. The hay is a mix of about five grasses and five legumes. In summer, they are either on permanent pasture or one of the pastures that are in rotation. We also turn the herd out into fields after grain has been harvested so they can graze on the legumes and

grasses that have been under seeded. The cattle are rotated through the fields using a moveable electric fence. We don't feed extra grain to our cattle but the young stock do get the screenings from cleaning the grain. The dairy cows and piglets get a little too.

AP: *You are saving a substantial amount by not buying any outside inputs for feed, fertility and pest control. What do you estimate conventional farms in Ontario are paying for these inputs?*

UH: This is hard to quantify, but I think many conventional neighbors might use fertilizer and sprays in the range of \$50 to \$200 per acre. With feed for our cattle, the savings may not be much because the hay could be sold as a cash crop, but we save the transportation costs and we keep the fertility on the farm. Part of our success is thanks to the tough early years, with interest at 24% and not much income. We learned to turn around every dollar twice before spending it. We have to be careful in our area. With the lack of summer rains, yields are reduced. We do not invest much in new equipment, but are well supplied with well working older equipment. The average age of our tractors is about thirty years. This works well with using our own seed, as this way the annual investment is not so great, making us more resilient in difficult years.

Conversion To Biodynamics

AP: *Since you have converted several parcels over time, what are the steps you have taken and what changes did you notice after applying biodynamics?*

UH: I think the choice of crops and the biodynamic preparations work together. Usually, the full benefit of reduced weeds and improved soil structure comes after the field has gone through hay. We have found a method of conversion that works well for us and is fast, so that in the third year we get a great Demeter grain crop. We start with oats under seeded to red clover, as it does okay in a fresh conversion anyway. The oats are harvested for seed, and in the next year we harvest the clover for seed. After the clover, the soil structure is really beautiful, so much so that you can feel the difference with your first step on it compared to a conventional field. We accompanied this conversion with composted manure, Barrel Compost (BC), BD #500, BD #501 and BD #508. After that, we got some really good Demeter crops from these fields, depending a bit on the summer rains.

AP: *In the beginning of the conversions, did you apply any outside inputs on any of the parcels that you converted to BD?*

UH: The only outside inputs we used were when we converted the 250 acres that had not seen any animal manure or green manure for the last twenty years. We felt we needed to import some extra cattle manure from a neighboring organic farm in order to treat all the fields at least once in the three-year conversion. All of manure was composted with the use of the preparations.

AP: *For someone interested in converting to biodynamics, what steps would you recommend?*

UL: I suggest that they start with the preparations right away. I would tell them to get the barrel compost on all of their land first. And then get the BD #500 and BD #501 applied early in the growing season. Start making biodynamic compost and plant green manure and cover crops in rotation.

Using the preparations

AP: *Do you apply the biodynamic preparation sprays to the whole farm? How often?*

UH: We apply barrel compost at least once a year and the horn manure (BD #500) twice a year on most of the farm. The winter grains always get two applications of horn manure. When the grain is under seeded with clover, the grain gets the silica spray and then the clover will get another silica spray after the grain is harvested. I also use the fermented version of the plant silica (BD #508) and usually apply it with the horn silica (BD #501). I really like the fermented version because I can prepare it ahead

of time before the busy time starts and just add it to the stirring machine when I am stirring the horn silica. My feeling is that it doesn't hurt the #508 to be stirred a full hour. By the time I have sprayed the entire farm once, I have done twenty sprays of horn manure and twenty sprays of horn silica. I have to manage my time but most of the fields get two applications of each in a year.

AP: *That's a lot of spraying. How large is your stirring machine? Did you build it?*

UH: We have a 100-gallon stirring machine that my wife's cousin built for us. While I am spraying, another batch is being stirred. Usually, if I have a good evening, I can do three batches and spray 150 acres with the barrel compost or horn manure. Most of the fields are about fifty acres.

Making compost

AP: *How do you make your compost?*

UH: In winter, we clean out the barn once a week with the front-end loader and pile the manure and bedding in rows in the barnyard and apply compost preparations to the pile. Four to five round bales of straw are rolled out in the barn for bedding daily. Approximately every four weeks, weather permitting, we move the pile from the barnyard to windrows at the edge of a field and apply the preparations



Stirring machines

again. Since our area gets a lot of drifting snow, there are only a limited number of places that are reasonably accessible in winter, despite having a snow blower. Usually the ground is not frozen underneath the snow when we remove it to make the windrows. Every couple years, we build the compost windrows in a different field so the ground underneath doesn't become too saturated. In the beginning of June, we turn the rows with the compost turner and apply the preparations for the third time. This time, we also spray the valerian over the windrows. With the freezing weather, it is too difficult to apply the valerian earlier with the other compost preparations. We cover the rows with a thick layer of straw so they are shaded and stay moist in our dry summers. This is mainly the way we do it in the winter. In the summer, some of the cows are on permanent pasture away from the barn and some of the cows are on pasture close to barn and have access to the barn so the barn only needs to be cleaned out occasionally.

Making the preparations

AP: *Do you make all of the preparations for the farm?*

UH: Yes, we have been making all of the preparations since the beginning. I took over making them when my father started to go to Russia. I knew if I didn't do it, it wouldn't get done, so I just got into it.

AP: *When I was on your farm for the Fellowship of Preparation Makers conference, I noticed you had made some special tools to make the preparations. Would you describe how you stuff the horns? How many cow horns do you bury annually for the BD #500?*

UH: We usually bury 1,200 horns a year at Michaelmas [late September] when we gather for fall preparation making. We dig them up in May. We use about half of that amount and the rest is shared with the Ontario biodynamic group at the annual meeting. We use a sausage press to fill the cow horns. We attached a pipe to the container that is long enough to reach the bottom of the horns so we are sure to get manure into the bottom of the horn. The manure is quite firm since it is the dry season and it gets packed in quite tightly with pressure from the sausage press. In the agriculture lectures, Steiner actually suggested to make the manure more firm by taking a few cows aside and feeding them more hay to firm up the manure. I make the horn silica (BD #501) in May when we dig up the BD #500. We use the pre-ground silica and bury about thirty horns that are dug up around Michaelmas. We usually make between two and five gallons of the compost preparations (BD #502-506).

AP: *Do you have any special tricks for stuffing the chamomile into the intestines?*



Sausage press used to fill cow horns when making BD #500

UH: I have a short pipe, about ten inches long, attached to a board with a hole. I can push up a long length of the empty intestines over the pipe and then I push the chamomile through the hole with a stick into the pipe and intestines. It is kind of a hand sausage stuffer and it works quite well.

AP: *When making the oak bark preparation (BD #505), my mother used to bury the cow skulls in the swampy area near the creek and right below a spring. How do you make the oak bark preparation?*



Rain barrels used in making the oak bark preparation BD #505

UH: I learned from my dad, basically the way that Steiner had suggested in the agriculture lectures, to have a rain barrel underneath eaves with the rain spout running into it. Half or more of the barrel is buried in the ground.

AP: *How many skulls can you fit into one barrel?*

UH: I aim for close to twenty skulls total so I use two rain barrels, ten skulls in each barrel. I shorten the skull by taking off the jawbone and cutting off the snout below the eyes so I really only have the back [top] of the skull where the brain is located. In the beginning, we put vegetable compost from the garden (not the manure compost), green matter and leaves in the barrel. I think my dad put a little peat moss in it too but I haven't done that. Since all of that stays in the barrels, I only add a little green matter and leaf compost from the garden occasionally.

AP: *When do you make the oak bark preparation?*

UH: We make it at Michaelmas at the end of September. Last year [2013], we pulled them out on the 14th of May. I look for a day that is not a fruit day because we need the fruit days for farming. In Germany, we used to dig them out after Easter but it is substantially colder here and I think it helps them to have extra time.

AP: *And the yarrow? My mother used to cut a slit in the stag bladder to stuff the yarrow in and then sewed it closed. Is that the way you do it?*

UH: I don't have any special techniques for the yarrow or for the dandelion. I usually try to get the hole in the neck of the bladder. I soak the dried bladder in warm water to soften it and then work a pencil into the neck of the bladder to open it up. Then, I take a really small funnel and work it around to open it up more. I use larger funnels to stretch it out more until I can fit in a funnel about the size of my thumb.

AP: *At the Fellowship conference in Oregon last year, you said you buried the nettle in a wooden box or frame with the bottom and top open. Would you describe it?*

UH: It is a frame made with 2" x 6" white cedar planks from our farm and it is four feet square. I put four inches of peat in the bottom of the pit and then set the frame on top. Peat is filled in around the outside of the frame. I stack the nettle in the frame and tamp it down. It is heaped well above the top of the frame but the heap settles down as the nettle decomposes. I put feed sacks filled with peat on top of the nettle and then cover the pit with about a foot of topsoil that was taken out of the pit. We make this prep in June when the nettle starts to get the little grapes [flower buds] hanging down. I plant oats and peas on top of the pit; otherwise I get too much grass growing into it. In the spring, I will plant oats and peas over it again.

AP: *You must be making a lot of barrel compost (BC) to cover all your land.*

UH: I make a batch of 200 liters at one time, or about 50 gallons annually, which is quadruple the normal batch size. Usually, I aim to make it when the sun is in Gemini (July) as recommended by Maria Thun. I prefer to have it in the ground over summer, rather than winter, since it gets so cold here. I like to have it in my basement storage by winter. Lately, I just did not have the time to do it then, so we did it during the fall Michaelmas preparation days with the help of the community. We used to bury wooden barrels with the bottom cut out, but since the Fellowship conference, we have switched over to using two brick-lined pits.

AP: *Are you able to grow enough of all the plants needed for the preparations?*

UH: We had to introduce stinging nettle and valerian and now there is a sufficient amount growing wild on the farm. Yarrow, I have to transplant in the garden every three to four years, otherwise it starts yielding less. I transplant chamomile every year from new seedlings growing in last year's patch. There is an abundance of dandelion. We do not have any mature oaks nearby, so either I collect while

on holiday, or ask a friend to collect some for me. For grinding, I use an old hammer mill dedicated to oak bark.

Demeter

AP: *What is your current role in Demeter?*

UH: I am the administrator for Ontario and run everything under Demeter Canada. They receive the fees and pay for the inspectors. I send inspectors to the farms and they provide a report that I review with a few other experienced Demeter farmers and together we make our decision for certification based on the report. There are three provinces that are active with Demeter certification: Quebec, British Columbia and Ontario. Each one has its own administrator and Demeter Canada provides common standards for the trademark and certification. For the Demeter certification, you need to be fully organic certifiable with three years since the use of any conventional fertilizer or sprays. And, there needs to be at least two years of preparation use that includes two years of biodynamic compost and/or barrel compost, horn manure and horn silica on all the land.

AP: *How many biodynamic farms are in Ontario now?*

UH: There are fifteen Demeter certified farms in Ontario and there are a few outside Ontario that I certify. I go wherever I am needed so I review two farms in Nova Scotia and one farm in Alberta right now and work with farmers in other provinces as needed. Three of the farms export through Demeter and the rest sell in Canada and locally.

There is a large dairy farm, some grain farms. Most are smaller farms specializing in vegetables. There are several more farms working with biodynamics that are not certified and there are many organic farms in our area as well.

AP: *What is the future for the Hack farm? Is the younger generation interested in farming?*

UH: We will have to see. Between the two families, we have four boys and four girls. Most of them have some interest. We will have to see how it ends up. Two boys and one girl will be home this summer and the older children will all be away. The oldest boy who is almost twenty-five will be completing agricultural college this spring and he plans to work for two years on a conventional farm out west in Saskatchewan. At this age, they need other experiences.

AP: *I remember reading that Steiner said biodynamics needed to be economically viable for it to be successful, that farmers needed to be able to make a profit. Your farm is a wonderful example of a resilient and profitable biodynamic farm organism. Thank you for sharing your many years of experience with us.*

Demeter is the oldest worldwide certifying organization for sustainable agricultural practices. Since 1928, it has set the standard for biodynamic certification. For more information in the USA contact: www.demeter-usa.org or for international www.demeter.net/what-is-demeter.

Response to “The Valerian Preparation (BD #507) Revisited”

Abigail Porter

In the Fall 2013 issue of *Applied Biodynamics* (No. 82), I raised the questions of both the translation of Rudolf Steiner's *Agriculture Course* on the subject and the appropriate timing for the application of the valerian preparation to the compost pile – questions which were previously raised by Joseph Stevens and Hugh Courtney in two articles in the Summer 2001 issue (No. 33). All three of these articles are available for you to read or download on the JPI website (www.jpibiodynamics.org).

I have since done a small informal survey and have found that people in various parts of the country are applying the valerian preparation at different times. Most people are sprinkling or spraying the diluted and stirred valerian over the outside of the pile at the same time the other preparations are inserted into the pile; some people are also pouring the valerian into a separate hole in the pile in addition to spraying it on the outside of the pile. Other people are waiting until the manure has been transformed by the preparations (a few weeks before using the compost) before they either spray

the valerian over the pile or pour it into a hole in the center of the pile. More recently, I came across yet another variation. Some people have been taught to put a little valerian in each hole with the other preparations in addition to spraying it over the outside of the pile.

Steiner gave indications on how the preparations were to be made and used and said that further experimentation and testing would be required. He recommended that we do our own investigation and research and not take his word or anyone else's as dogma. Much more research needs to be done with all the preparations and the valerian question is an easy place to start. Anyone making compost could do an informal trial by applying the valerian at the two different times and observing the results, both in the consistency and texture of the finished compost, and on the effect on plant growth and health in comparable test plots. If additional funding is available, conventional analysis, chromatography and sensitive crystallization pictures could be made of the

composts, the soil in both plots a couple weeks after application of the compost, and the plants growing in the two plots to further verify differences and to determine if there is a preferred method of application. Good record keeping would be helpful including the date, crop and type of day (earth, water, air or fire) that seeds were planted. If any of you do any trials, please send your observations and findings to JPI so we can share them.

Since Malcolm Gardner worked on the 1993 Creeger and Gardner translation of the *Agriculture Course*, I asked him for his response to the questions raised regarding the translation and timing of the application of valerian. He has generously shared his thoughts below.

Malcolm Gardner's Comments on the Valerian Question

“When and how to apply the valerian preparation to a manure pile is a valid and important question. However, Steiner's use of the German words *Dung* and *Dünger* does not actually throw much light on this question. *Dung* is the same as our English word ‘dung,’ i.e., solid animal excrement (feces), while *Dünger* means fertilizer in general. The two German words are obviously closely related, which is not surprising since dung is traditionally used as fertilizer. In the *Agriculture Course*, Steiner is fairly loose with his use of these two words and their variants as well as with the word *Mist* (which has almost the same meaning as *Dung* but often refer to both solid and liquid excrement).

“When describing the valerian preparation in Lecture Five, Steiner first says to add it “*bevor man den so zubereiteten Dünger verwendet*” (before one uses the treated fertilizer), and then immediately goes on to say that it should be added in a very fine manner to the *dung* (“*dem Dung*”). In this case, therefore, it is particularly clear that he is using *Dünger* and *Dung* interchangeably and is *not* trying to make any distinction between *dung* as unfinished manure, and *fertilizer* as finished manure. (For this reason, it is no sin to translate both German terms here with the single English word ‘manure,’ which is more common than ‘dung’ and which can also mean ‘fertilizer.’)

“Conversely, when Steiner describes the other compost or manure preparations, he is equally loose with his terms. He says to add the yarrow to a *Misthaufen* (manure pile), the chamomile and nettle to the *Dünger* (fertilizer), the oak bark to the *Düngemassen* (fertilizer masses) and the dandelion to the *Dung* (dung). Incidentally, when Steiner does explicitly refer to *unfinished* (fresh) manure, as he does in connection with tomatoes in Lecture Eight, he uses the term *wilder Dünger* (literally: wild fertilizer). (For those who want to study this further, the German text of the *Agriculture Course* can be found online at <http://bdn-steiner.ru/cat/ga/327.pdf>.)

“As regards the original question, however, I think it is

significant in itself that valerian is not mentioned until the very end of Lecture Five and that it is also not mentioned on page 30 of Steiner's handwritten notes where the other five manure preparations are listed (valerian is then listed briefly on page 33). Furthermore, while the first five manure preparations are solids that have undergone a period of burial and have a connection to potassium and/or calcium, the valerian preparation is a liquid that does not need any burial time and is connected with phosphorus (“it helps the manure relate in the right way to the substance we call phosphorus”). Lastly, while the solid preparations are meant to work on the manure pile from *within* (see Steiner's sketch in the Second Discussion), Steiner indicates that the liquid valerian preparation should be applied in a “very fine manner,” i.e., sprayed on the *outside* of the pile (presumably in order to mediate forces coming from the periphery).

“These considerations suggest that the valerian's role with respect to the manure may be quite different from that of the other five preparations, and that unlike the solid preparations, which Steiner says can stay mixed with the manure for any length of time (Second Discussion, 15th answer), it may indeed be best to spray the valerian on the manure not long before the manure is spread on the soil, especially if a crop is planted soon thereafter. Phosphorus is a carrier of energy and is most needed by plants when they are growing most actively. Seeds usually have relatively large amounts of stored phosphorus (e.g., as phytates), which at germination is then released by enzymes (phytases). After germination, however, plants depend on external sources of phosphorus, i.e., from soils and fertilizers. Valerian's role may well be to facilitate the release of phosphorus from these latter sources. If so, then it would make a lot of sense to wait to spray the valerian and spread the manure until just before the phosphorus and the energy were actually needed and not risk having them dissipate prematurely. One does not strike a match until just before one needs a fire! (Perhaps not coincidentally, phosphorus is an essential ingredient in every match.) In any case, some comparative trials would be very welcome here.”

Please Note Our New Contact Information

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Phone: (540) 745-7030

2013 Enzo Nastati Workshop in Colorado

Caren von Gontard

Last October, two seminars were given in the US by Enzo Nastati from Arca della Vita in Italy. Enzo's four decades studying agriculture, biodynamic principles and anthroposophy, based on Rudolf Steiner's work, led him to deep research in many fields. One of his specialties has been the development of homeopathic preparations for farms based on the biodynamic preparations indicated by Steiner.

Since homeopathic preparations are made in strictly controlled laboratory settings with quite specific ingredients, rhythms and methodology, it is not possible for the average person to create them. Just as Steiner established the laboratories for homeopathy at Arlesheim and Stuttgart in his day, it was necessary for Enzo to set up a specific laboratory for the manufacture of his Homeodynamic Preparations resulting from the research farm he started.

These products are readily available and quite inexpensive in Europe but regulations forbid their import into the United States. Because of this difficulty, when Enzo came to America he wanted to provide seminar attendees the knowledge and means to create their own preparations and thereby become autonomous. Given the extreme conditions we face in the world and the challenges they present, Enzo wanted us to learn how to make the BD preparations more efficaciously while still preserving the cost and time effectiveness we must have in order for them to be widely accessible.

We spent the days in the October seminar learning to make biodynamics work better. Participants asked for a follow-up to teach us the next step in making situation specific remedies for the various conditions we face as farmers, gardeners or just citizens of the earth.

When I presented this request to Enzo, he agreed to return and teach us another step in the methodology. But, he reminded us that both BD and Homeodynamics are merely crutches in our struggle to raise our consciousness to be able to serve as the preparation ourselves. During the October seminar, Enzo repeatedly asked us to use our higher brains to find the "secret name of things" – to find the secret name of a particular plant or fruit tree, animal or farm organism. He suggested that the step that is most important for the human being is to develop our ability to read the book of nature and thereby find the appropriate action to benefit or even heal wherever needed.

With that in mind, Enzo had planned to return to Colorado for a second seminar from April 25 to April 29. The title of the seminar was to be "Spiritual Agriculture." A brief outline of the envisioned course follows:

Each living being is a specific bridge between macrocosm and microcosm. But only humans have within them to completely support the function of this bridge. Man, with his conscious, free action, is called to be a tool of support for the evolution of all kingdoms. To do so, man is called to take a path which will bring him back to the original state of purity.

- The first step is to "pay" the open debts to the natural kingdoms, which, by no fault of their own, followed man in The Fall. This is the development of the "Incorruptible Body."
- The second step is to develop resonance with the dimension from which, in the current age, the action of the Christ being is released on the Earth. This is the development of the "Resonance with the Etheric Ring."
- The third step is to develop the higher spiritual arts, the "Seed."
- The fourth step is to activate the "Higher and Lower Unmanifested Helixes."
- The fifth step is to know, to be acquainted with and to overcome the limits of space, time, life, and evolutionary design. By doing so, man moves toward becoming the tenth celestial hierarchy.
- The sixth step is to activate the heart, the brains, the bodies, and the Merkabah on all higher planes.
- The seventh step is to interact with the energetic system which is dominated by the cosmic network.

By operating in this way, man can become a life bearer at the service of the evolutionary design.

Note:

At press time we were notified that the April 2014 workshop in Colorado was canceled as Enzo was denied entry into the United States because of issues with his visa.

For more information about Enzo's work, please contact Caren at adivg@tds.net.

Dandelion Blossoms Sought

JPI welcomes your contributions of dandelions, chamomile, yarrow and valerian for our preparations. Now is the season to collect dandelions! Your efforts ensure an adequate supply of BD #506. Thank you to all those who have contributed in the past. Would you like to harvest dandelion or other preparation materials for JPI? If so, please contact JPI for collecting and drying information.

JPI at EcoFarm Conference

Pat Frazier

The annual EcoFarm conference just celebrated over three decades of wonderful gatherings in northern California at Asilomar Conference Center this past January. Approximately 1,800 attendees had the opportunity to learn far more than they had in previous conferences about biodynamics. Judging from the enthusiasm and numbers of participants, biodynamics is on the minds of a great many farmers these days.

Josephine Porter Institute (JPI) and the Biodynamic Association (BDA) successfully collaborated on a number of efforts for this conference, including a JPI sponsorship for the BDA pre-conference, "The Farm as a Living Organism," shared space in the vendors section where BDA had multiple educational materials for beginning to advanced practitioners, and JPI displayed, marketed and educated about the biodynamic preparations to the public. The pre-conference was well attended with approximately 150

persons, and showcased a panel of biodynamic farmers, workshops on preparing the inner life of the farmer, biodynamic composting and spraying preparations, biodynamic vineyard management, associative economics in small farm management, and biodynamic animal husbandry.

The main EcoFarm conference featured a track of workshops focusing on several different aspects of biodynamic agriculture. In most of the sessions, there was standing room only, especially on such topics as *Nourishing Your Farm with the Biodynamic Preparations*, given by Lloyd Nelson (previously with JPI), and Colum Riley, and *The Emerging Biodynamic Marketplace*, given by Demeter's co-directors Jim Fullmer and Elizabeth Candelario.

There is a clear groundswell of support for the deeper aspects of sustainable farming that the biodynamic method offers. Interesting new aspects of this support include a higher level of interest in food quality, as it relates to bio-



From left, Lyn Ruoff, Lloyd Nelson, Pat Frazier and Rebecca Briggs at the EcoFarm Conference

dynamic growing methods, from large purveyors, such as Whole Foods and Amy's Kitchen. This interest has been generated directly by the educated consumer whose introduction to biodynamic food and value-added products has resulted in a marketplace demand. New biodynamic farmers and increased biodynamic acreage will be needed to meet this demand in the very near future. Another emerging trend is the increased cooperation and supportive net-

working between the major biodynamic organizations in North America to meet the demands of education, preparation making, and certification standards in support of the biodynamic farm. This level of cooperation is a perfect mirror of the harmonizing effect of the biodynamic method in the creation of sustainable and resilient farm organisms of the future.

JPI Recommends

Book Reviews by Abigail Porter

***Thinking Like a Plant:* Craig Holdrege – \$25.00**

Observation is necessary for good farming and gardening practices. Participatory, "living" Goethean observation and thinking is vital for the practice of biodynamics at its fullest as we work with the rhythms of nature and the unseen forces streaming in from the cosmos. Holdrege uses two quotes in his book that convey the essence of *Thinking Like a Plant*. The first quote is from scientist and environmentalist, Aldo Leopold, "We can only be ethical in relation to something we can see, feel, understand, love or otherwise have faith in." The second quote is from Goethe, "If we want to attain a living understanding of nature, we must become as flexible and mobile as nature herself." Holdrege attributes the current environmental crisis resulting from unsustainable practices to the history of conventional thinking and scientific research that separates the object being observed or studied from its full context. This approach disregards the fluidity and interconnectedness of all life.

In one chapter, using Leopold's holistic ethics and Goethe's study of plants as a guide, Holdrege takes us on a journey through the expanding and contracting life cycle of the whole organism or community of the common milkweed. Our thinking is transformed to a more conscious and engaging way of observing the whole environment to come to a greater understanding of the plant and its larger world. Taking a plant out of its context to study it gives us only a fragment of the whole picture. Goethe studied plants the way he studied color. Just as you cannot isolate color from the diverse qualities of light, so to, plants cannot be understood when they are taken out of their environment. Rudolf Steiner goes farther in making the same point regarding understanding nature and agriculture in Lecture One of the *Agriculture Course* (p. 17–28, Adams translation) by saying that one cannot understand a beetroot or any other plant, if you separate it from the soil,

the farm, the season, the farmer and the whole earth and cosmos, just as you cannot understand the movement of the needle on a compass by studying the needle and not its relationship to the whole earth.

Observing a plant in a conscious, participatory way changes us and we change the plant by giving it our attention. By allowing plants to be our teachers, we become more aware of the interconnections in the whole world and can reorient our thinking to develop a more ethical and sustainable approach to life on earth.

Craig Holdrege is a biologist and researcher and the founder of the Nature Institute in Ghent, New York. He holds classes in observation of nature, and critical and imaginative thinking. The Institute has summer and winter weeklong intensives with the winter session geared towards farmers and gardeners. www.natureinstitute.org

***How To Move Like a Gardener: Planting and Preparing Medicines from Plants:* Deb Soule – \$33.00**

This book is one of the best, if not the best, introduction to biodynamic gardening that I have read. Not only is it clear and understandable, it is also a visual feast, filled with luscious photographs of plant, insect and bird life in the garden. Deb Soule's perception and reverence for the rhythms of life is evident in her descriptions of her gardening practice. Following a brief history of biodynamics, Soule describes the preparations, their use and benefits, working with daily, monthly and seasonal rhythms and using the planting calendar to work with the cosmic rhythms.

Experienced gardeners, wanting to become more attuned to the seasons and the energetics of plants or having an interest in growing medicinal plants will also benefit from this informative book. There is a section on what foods and herbs to eat during each season to support and strengthen us. Another chapter, "Energetic and Elemental Associations of Plant Parts," is devoted to the four elements

of earth, water, air and fire and their association with roots, leaves, flowers and fruit or seeds. About one-third of the book is about growing, harvesting and using medicinal herbs. This is another book that helps us develop a more conscious, participatory relationship with and understanding of nature.

Deb Soule, gardener and herbalist, is the owner of Demeter-certified Avena Botanicals in Rockport, Maine,

where she also holds classes in herbal medicine, healing and biodynamics. See www.avenabotanicals.com

If you would like to delve deeper, Rudolf Steiner offers guidance for developing our perception of the unseen or spiritual world that surround us in *How to Know Higher Worlds*, available for \$16.95

All three books are available at www.jpibiodynamics.org.

Save the Date

May 10: The Sacred Bee, A Workshop and Celebration at the Sanctuary

An exploration into a realm that needs to be re-discovered and regained by our culture. Spikenard Bee Sanctuary, Floyd, VA. For info, please visit: www.spikenardfarm.org/calendar.

May 16–18: More Humus – More Humanity: The Inner Nature of our Agricultural Crisis

Weekend workshop with Bruno Follador. What is the relationship between ecosystem health and social conflicts? Nature Institute, Ghent, NY. For information, visit: www.natureinstitute.org.

May 17: Midseason Beekeeping: Preparing for Dearth

A workshop with Keith Gelber at Rudolf Steiner College, Fair Oaks, CA. For info, visit www.steinercollege.edu/registration or call (916)864-4858.

May 24: Pest & insects

Learn how to manage insect, animal pests and fungal disease by attracting beneficial insects with Harald Hoven and Keith Gelber at Rudolf Steiner College, Fair Oaks, CA. For info, visit www.steinercollege.edu/registration or call (916)864-4858.

May 28: Biodynamic Method of Pest Management for Beekeepers

The biodynamic method of dealing with pests. Spikenard Bee Sanctuary, Floyd, VA. For info, please visit: www.spikenardfarm.org/calendar.

May 30–June 1: JPI Spring Workshop

The hands-on workshop will focus on silica, yarrow and barrel compost preparations and will be led by Pat Frazier from the Western Colorado biodynamic group. Guest lecturer, Gunther Hauk from Spikenard Farm Honeybee Sanctuary, will speak on the relationship of silica to bees and humanity. The fee of \$175 includes three meals on Saturday and breakfast

and lunch on Sunday. For more information and registration go to www.jpibiodynamics.org, or call (540)745-7030.

June 18–22: Advanced Biodynamic Intensive

With Harald and Cynthia Hoven at Rudolf Steiner College, Fair Oaks, CA. For info, visit www.steinercollege.edu/registration or call (916)864-4858.

August 6– 9: Exploring Essential Oils: A Tool for Deeper Perception in Nature

An exploration into the world of nature & essential oils with Yesha Karmeli. Spikenard Bee Sanctuary, Floyd, VA. For info, please visit: www.spikenardfarm.org/calendar.

August 10: Family Constellation Workshop

Discover hidden issues behind our physical and emotional suffering with Yesha Karmeli. Spikenard Bee Sanctuary, Floyd, VA. For info, please visit: www.spikenardfarm.org/calendar.

August 15–17: Medicine for Earth and Man - the Earthworm, the Cow and the Bee

A biodynamic conference featuring Dennis Kloczek, Thomas Radetzki and Steffen Schneider to be held at Rudolf Steiner College, Fair Oaks, CA. For info, visit www.steinercollege.edu/registration or call (916)864-4858.

September 6: Winter Hive Preparation Workshop

Suggestions for a successful overwintering and new start in the spring. Spikenard Bee Sanctuary, Floyd, VA. For info, please visit: www.spikenardfarm.org/calendar.

September 19–21: Comprehensive Intro to Biodynamic Principals and Practices

Spikenard Bee Sanctuary, Floyd VA. For info, visit: www.spikenardfarm.org/calendar.

November 13–16: North American Biodynamic Conference

A national gathering hosted by the Biodynamic Association will be held in Louisville, KY in 2014. For details, please visit: www.biodynamics.com/conference.

Sustainable/Biodynamic Beekeeping Training

An intensive, two-year, four-session course in advanced sustainable/biodynamic beekeeping that explores the honeybee from many aspects. Spikenard Bee Sanctuary, Floyd VA. For info, please visit: www.spikenardfarm.org/calendar.

First Saturday of Every Month: Chesapeake Biodynamic Network (CBDN)

Networking, sharing, BD workshops and study of the *Agriculture Course*. Held in College Park, MD. Contact Micheal Judge at mjudge2000@gmail.com.

Third Saturday of Every Month: Biodynamic Day

Biodynamic workshops and festival celebrations held at White Rose Farm in Taneytown, MD. For info, visit www.whiterosefarm.com.

Time to Renew Newsletter!

It's time to renew your subscription for *Applied Biodynamics*.

Annual subscription for four printed issues remains at \$30.00 unless you have an Associative Contract; then it is \$20.00.

This year, we are offering an on-line only version for \$20.00 or for \$15 if you have an Associative Contract.

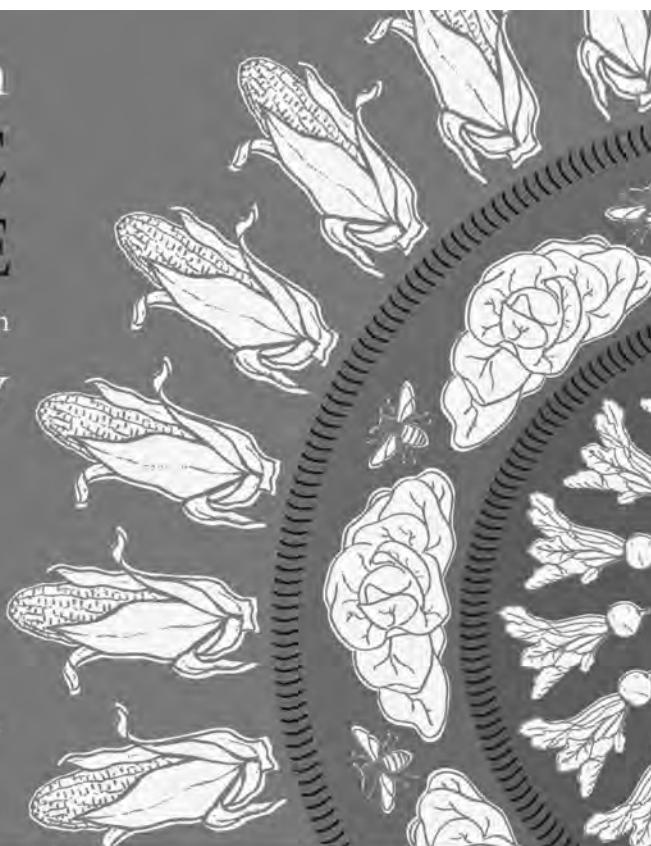
The set of printed back issues, up through Issue #83, is available for \$260.00 plus shipping. A valuable resource for your library!

Contact the office to order yours at (540)745-7030.

2014 North American BIODYNAMIC CONFERENCE

November 13th through 16th
Hyatt Regency, Louisville, KY

Join hundreds of farmers, gardeners, educators, activists, and interested newcomers for the foremost event for biodynamic education, networking, and community building on the continent, with four days of inspiring keynotes, informative workshops, networking, exhibits, entertainment, and good food.

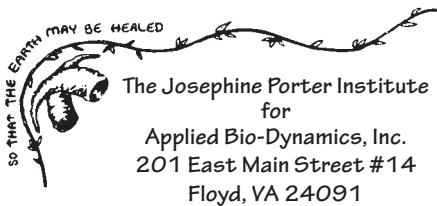


BIODYNAMIC ASSOCIATION

www.biodynamics.com/conference

“A farm is true to its essential nature, in the best sense of the word, if it is conceived as a kind of individual entity in itself – a self-contained individuality.”

Rudolf Steiner – *Agriculture*, p. 29 (Adams translation)



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