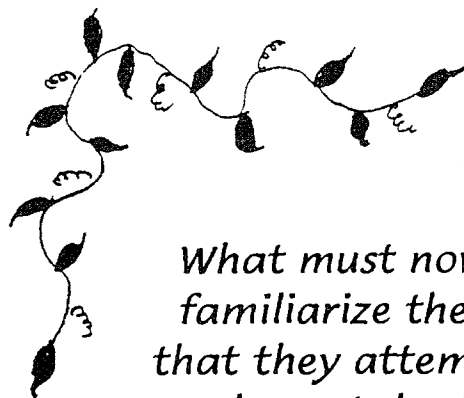
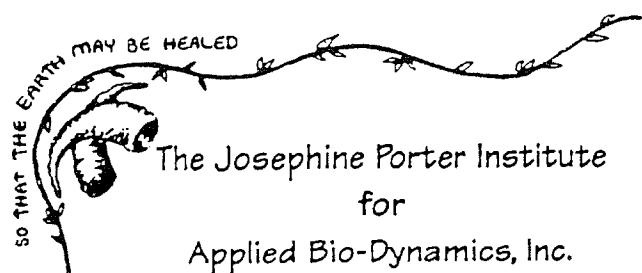




What must now be striven for is that human beings familiarize themselves with the elemental kingdom, that they attempt to come into connection with these elemental spirits. In a sense, human beings must take over and prevent other powers from using the elemental kingdom, and must strive to influence these spirits in such a way that they will continue to assist in the growth of plants.

Rudolf Steiner, August 1920
(*Spiritual Foundations for the Renewal of Agriculture*, p. 73)



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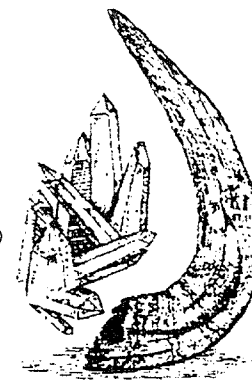
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FALL 1997

Applied BIODYNAMICS®

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Issue No. 21

The Tuft of Flowers

by Robert Frost

*I went to turn the grass once after one
Who mowed it in the dew before the sun.*

*The dew was gone that made his blade so keen
Before I came to view the leveled scene.*

*I looked for him behind an isle of trees;
I listened for his whetstone on the breeze.*

*But he had gone his way, the grass all mown,
And I must be, as he had been—alone,*

*“As all must be,” I said within my heart,
“Whether they work together or apart.”*

*But as I said it, swift there passed me by
On noiseless wing a bewildered butterfly,*

*Seeking with memories grown dim o’er night
Some resting flower of yesterday’s delight.*

*And once I marked his flight go round and round,
As where some flower lay withering on the ground.*

*And then he flew as far as eye could see,
And then on tremulous wing came back to me.*

*I thought of questions that have no reply,
And would have turned to toss the grass to dry;*

*But he turned first, and led my eye to look
At a tall tuft of flowers beside a brook,*



*A leaping tongue of bloom the scythe had spared
Beside a reedy brook the scythe had bared.*

*The mower in the dew had loved them thus,
By leaving them to flourish, not for us,*

*Nor yet to draw one thought of ours to him,
But from sheer morning gladness at the brim.*

*The butterfly and I had lit upon,
Nevertheless, a message from the dawn,*

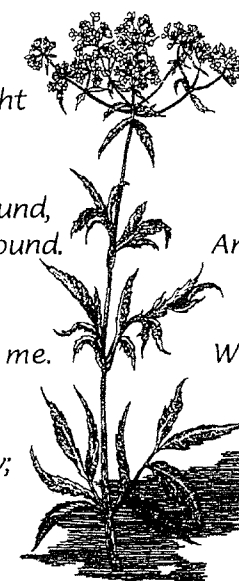
*That made me hear the wakening birds around,
And hear his long scythe whispering to the ground,*

*And feel a spirit kindred to my own;
So that henceforth I worked no more alone;*

*But glad with him, I worked as with his aid,
And weary, sought at noon with him the shade;*

*And dreaming, as it were, held brotherly speech
With one whose thought I had not hoped to reach.*

*“Men work together,” I told him from the heart,
“Whether they work together or apart.”*



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From the Editor

In this issue Nick Franceschelli returns with an interview with master gardening teacher Gunther Hauk. We also welcome several new writers to these pages—Don Jensen, Alice Petty, and Woody Wodraska—and a new artist, Lloyd Nelson (butterfly on first page). We wish to thank Doris Foster for reminding us of the lovely poem by Robert Frost. In several places in this issue the theme of elemental beings and nature spirits emerges. It behooves us to recognize that they too are part of biodynamic agriculture.

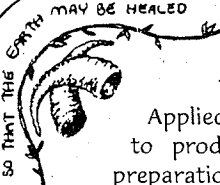
Malcolm Ian Gardner

More Goings & Comings at JPI

We were very fortunate toward the end of August to have Lloyd Nelson, the middle brother of John and Harold (see *Applied biodynamics*, Summer 1997), sign on at JPI for a 320 hour (minimum) work-study position. It turned out to be a win-win situation where JPI had the services of a very able and willing worker and Lloyd was able to receive academic credit from Blue Ridge Community College in Flat Rock, N.C., to complete his Associate Arts degree. Lloyd concentrated on making and processing Barrel Compost (Thun recipe) and BD #500 as well as learning the ropes of processing orders here at JPI. This may be the first time that someone has earned college credit in this country for stirring and stuffing manure. Lloyd’s stay here lasted through November 6th, except for a few days leave to celebrate his coming of age on October 22nd (incidentally, Oct. 22, 1985, is the official birthday of JPI). After his 21st birthday celebration Lloyd’s older brother John joined him here for our most intensive preparation-making period this Fall when we held a seminar to which people came from all over the country (more on this in a future issue).

It has been a real pleasure to have the Nelson brothers helping us over the last several months and it is very nice to meet young men who still have a sound work ethic and can remain full of enthusiasm after dealing with manure for so many hours a day. We look forward to return visits when their plans permit.

Hugh J. Courtney



MISSION

The Josephine Porter Institute for Applied Bio-Dynamics Inc. (JPI), was founded to produce quality biodynamic agricultural preparations based on the spiritual-scientific research of Rudolf Steiner.

It serves as a living memorial to Josephine Porter, a pioneer for this work in America.

The mission of JPI also includes education and research in biodynamic agriculture.

JPI undertakes these tasks so that the Earth may be healed.

Thank You, Flower-Pickers!

Although we put together and bury the preparations here in Virginia, we cannot produce the necessary quantities of all the ingredients ourselves. We extend our sincere thanks to the following diligent volunteers who recently made contributions:

- Florence Bates, Fairbanks, Alaska (chamomile)
- John Carlson & Camphill members, Copake, New York (dandelion)
- Sharon Carson, Delmar, Delaware (dandelion & valerian juice)
- Uli Hack, Kincardine, Ontario (dandelion)
- Marie Kamphefner, Trenton, Missouri (dandelion)
- Gregg Martens & family, Englewood, Colorado (dandelion & chamomile)
- Conrad Mentjes & Mary-Lee Plumb-Mentjes, Anchorage, Alaska (yarrow & equisetum)
- Tom Stanford & Iris Yellow Cloud, Machias Port, Maine (dandelion)

Conference Announcement

Mini biodynamic conference: “Back to Basics,” Jan. 24-25, 1998, Eustis, Florida. Contact: Bob Luzader, 26425 CR 44A, Eustis, FL 32736 (352-589-4606).

Biodynamic Preparations Legend

BD #500 — Horn Manure	
BD #501 — Horn Silica	
BD #502 — Yarrow	} Compost Preparations
BD #503 — Chamomile	
BD #504 — Stinging Nettle	
BD #505 — Oak Bark	
BD #506 — Dandelion	
BD #507 — Valerian	
BD #508 — Horsetail (<i>Equisetum arvense</i>)	

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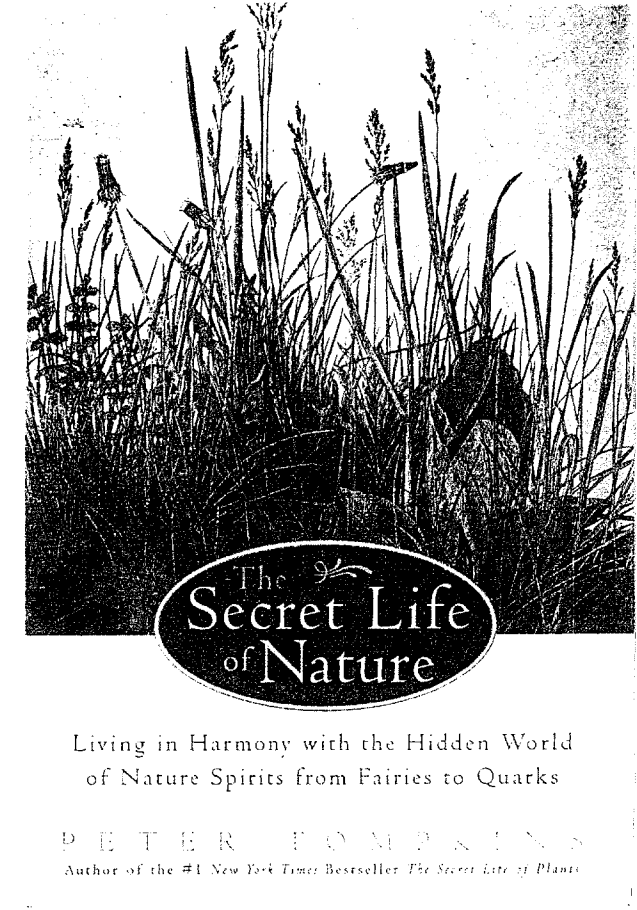
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Artwork in this issue by Erin Coffin & Lloyd Nelson.

While he brings up the subject of the *Goddess* culture, it is not done with the condemnation of present-day human culture that pervades much that labels itself today as stemming from this *Goddess* culture. Most interesting were his efforts to present a classification of the Elemental World, his description of an evolutionary facet within the Elemental realm, and the hidden structure of Nature Temples that can still be discovered within the landscape.

The author of at least four other books on the subject, this is, regrettably, the only one yet translated into English. The value of the book lies in the fact that it is almost entirely based on his own practical experiences.



The Secret Life of Nature[†]
by Peter Tompkins

Reviewed by Woody Wodraska

In the mid-1970s two books sealed my fate as a gardener. One of them was *The Secret Life of Plants* by Peter Tompkins and Christopher Bird. Once they convinced me there was a spiritual side to plant tending, I determined to make a living as a gardener if I could. (The other book was Paul Hawken’s *The Magic of Findhorn*, which reinforced my conviction.)

[†]*The Secret Life of Nature: Living in Harmony with the Hidden World of Nature Spirits from Fairies to Quarks*, Harper San Francisco, 1997, 228 pp. ISBN 0-06-250847-4. Hard-cover \$22.00 (available from JPI).

Now, two decades later, Tompkins takes us on a journey far beyond plants’ reactions measured by polygraphs, far beyond even the marvels of Findhorn. *The Secret Life of Nature* is a bold, wide-ranging exposition of the (to most of us) invisible world of elementals, nature spirits, and angelic hierarchies, who are the “cosmic agents who bring the ideas and love of the Godhead into manifestation in our world.”

On the other hand, the book also includes some quirky features. For example, Tompkins goes to great length to tell us that Annie Besant and Charles Leadbeater established through clairvoyance the details of atoms and subatomic particles decades before the physicists did. He does this in an attempt to make credible their descriptions of nature spirits. While interesting, if a bit obscure, these chapters on occult chemistry seem not completely necessary. The same goes for a truncated and unsatisfying account near the end of the book of Tompkins’ own experimentation with a drug-based shortcut to clairvoyance: “I will not be the same again in this life,” he says. Well, OK, but a slightly more ringing endorsement of Rudolf Steiner’s “slow but safe and sure” methods of gaining clairvoyance would have been welcome here.

Tompkins begins with a depiction of the experiences of sensitive fairy watchers and clairvoyants, among them such early Theosophists as Madame Blavatsky and Charles Leadbeater, but by the middle of the book he is telling us, “Steiner goes deeper, much deeper.” Tompkins undertakes the immense task of bringing together Steiner’s insights about elemental and angelic beings, which are scattered through dozens if not hundreds of lectures. He describes in fascinating detail the role of the gnomes, undines, sylphs, salamanders, and so on. Once we read this book we will never again look upon planetary energies or the archetypal plant as being mere abstractions. Whenever we look more than casually at a plant, we will know that spirit agents are on the job. Tompkins tell us, “When Steiner talked of etheric formative forces, he did not mean abstract physical forces or their effects; he meant elemental beings: it is they who are involved whenever etheric forces or formative forces are in play. They are the long arm of the divinity ...”

Furthermore, he quotes Steiner as saying, “... to the degree ... that we deny reality to these beings that whirl and weave around the mineral, plant, and animal worlds, to that degree do we lose understanding of the world, an understanding necessary to life, health, and especially to the art of healing ...” This understanding is crucial to the future of the Earth. In Steiner’s words, “Unless man draws near to spiritual reality something completely different from what ought to happen will happen to the earth.” What we should be doing, Tompkins tells us, “is learning to transform nature by developing our innate talents, cooperating with the world of spirits ... to lead this planet back to its proper state as a Garden of Eden, thriving and healthy. But time is running out.”

And indeed it is. As growers, if we devote all our energies to getting food to market, even good food, we lose. The Planet loses. We must stretch ourselves. We are called upon to *see*. We are to draw upon our higher nature. We too are called to become the long arm of Divinity, nothing less. *The Secret Life of Nature* could be a guidebook toward that task.

It is very regrettable, however, that a book such as this should lack any kind of bibliography or references for the numerous quotations that it contains. Anyone wishing to discover more of what Steiner or others may have had to say than the quote or paraphrase Tompkins presents will be at a loss in the absence of these standard aids to scholarship. I would fervently hope that the publisher sees fit to include them in a second edition.



observed this phenomenon and was astonished; he too had sheep and fought a constant battle to keep them at home.

The only problem we have now, is that we sprayed my cousin’s hayfield which adjoins us! We started cutting hay on shares with him, so, naturally, we had to spray his field if we were going to use the hay. It lies just beyond our gate and across the road. In early winter, after all our fields and lanes are grazed down, his hayfield is a bit too tempting for the sheep to pass up, so on occasion they will venture out to graze it, but only when they no longer have easy pickings at home.

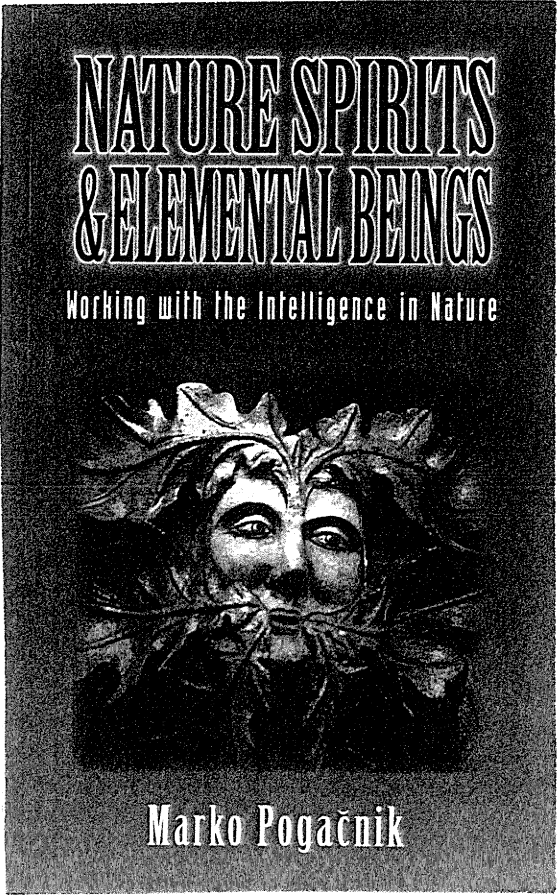
We have great reverence for nature, that’s why we use the preps. In our little plot of land we are trying to put back into the soil, what our ancestors spent so many years taking out. I’m not sure if the animals sense this, or if they need the preps directly. I first started pondering this question one day when Corry was spraying Barrel Compost on our corn ground. After he had finished there was some left over, so he sprayed a small area of the field where the cows were. At the time, the cows were lying down under the trees, resting. The pasture is in front of the house, so I watched with interest to see how they would react to the preps being sprayed in direct contact with their food source. They showed very little interest in the activity taking place. It wasn’t until about an hour or two later, when they got up to graze, that I found out how much of an impact the preps had on the field. The only place they grazed, was where Corry had applied the Barrel Compost. It was as if there was an invisible fence around the area. I spent some time trying to comprehend why they were doing this. Had the preps worked that quickly on the grass, or was it that they actually wanted to ingest the “enlivened spray”?

Besides spraying pastures, the only other times we have used the preps in direct contact with the livestock is with our feeder pigs (except for spraying the bedding in the barn and the few cows that were lying on it). Our customers are afraid to buy pork in the stores, so every couple of years we raise two or three feeder pigs. None of us eat a lot of pork, but we want it to be chemical free when we do. Besides, we like having pigs around; they are unique animals and are great compost turners.

We built a large pen around a couple of big round weedy bales of hay and put the young piglets in the pen; they love to dig and churn up the hay. We try to add kitchen scraps and garden waste to the hay bale/compost pile, but the pigs eat it instead of turning it in. Every now and then we spray the pen and their manure with BD 500 or Barrel Compost. It is hard to tell if they react any differently; they relish their feed and dirt so much anyway, it’s hard to tell when they like it even more.

There is so much we can learn from our animal wards if we just take the time to listen to what is being taught. We have to forego our normal lines of communication and listen not with our ears but with our hearts. Unlike Disney’s animals, ours are real and can’t talk the way we do. They don’t think as we do either, and that is where we have the most lessons to learn from them. They have a whole other side of life that is filled with devotion and, ultimately, sacrifice. We have had a few years to make a number of observations and are glad to share them with you.

BOOK REVIEWS



Nature Spirits & Elemental Beings[†] by Marko Pogacnik

Reviewed by Hugh J. Courtney

This book is a report by an individual regarding his direct personal experience of the beings we humans label Nature Spirits. Marko Pogacnik is an accomplished dowser who had been working with Earth energy (ley) lines in an effort to restore the imbalance in Nature created by human beings indifferent to the existence of beings of Nature or Elemental Beings. With some help from his daughters, who are able to channel communications from other levels of existence while fully conscious, he began to see the various Elemental Beings as energy forms rather than the quaintly costumed "fairies, elves and gnomes" reported in Victorian and earlier literature.

The subtitle of the book, *Working with the Intelligence in Nature*, goes far to explain what Pogacnik's aim is in his work. Beyond that, he is deeply concerned with encouraging others to develop their sensitivity to the hidden realms of Nature and most particularly in helping people to learn to heal the disturbed elemental world.

[†]*Nature Spirits & Elemental Beings: Working with the Intelligence in Nature*, Findhorn Press, Forres, Scotland, 1997, 251 pp. Soft-cover \$13.95 (available from JPI). ISBN 1-899171-66-5.

INTERVIEW WITH MASTER GARDENING TEACHER, GUNTHER HAUK

by Nick Franceschelli

We contacted Gunther Hauk this past May in Chestnut Ridge, New York (formerly part of the village of Spring Valley), where Sunbridge College (a Waldorf teacher training facility) has been farsighted enough to incorporate biodynamic gardening and gardening education into its curriculum. Gunther speaks softly and deliberately. His articulation and use of English is very good, but he has to make an extra effort.

Nick: Maybe you could biographically sketch how you experienced biodynamic agriculture in Europe and how you experience biodynamic agriculture in this country.

Gunther: Well, when I returned to Germany after quitting my teaching position at Allegheny College in Pennsylvania, I was fortunate to land in Stuttgart, where I did my teacher training for Waldorf Education and then became an English teacher at the Waldorf school, which was actually the first one.¹ There I met gardeners who were doing biodynamics responsibly and with their whole heart and mind, in a non-dogmatic way. The garden is on a slope, so the challenge was how to take care of the beds so that nothing is eroded. All the technical details *and* the biodynamic preps were applied really conscientiously in a wonderful way. That’s where I learned the basics of it, and then when I was in Heidenheim [about 70 miles east of Stuttgart], I was in the same town where the oldest biodynamic farm in West Germany was. That was the Talhof [“Valley Farm”] with Friedrich Sattler, who wrote that wonderful book [*Bio-dynamic Farming Practice*, available from JPI]. Sattler and his wife had been there for forty years, as well as Hilde Pfeiffer, who is also one of the old generation of biodynamic gardeners. It was inspiring just to see how they made the preparations, with what reverence and awe, and how they treated the land, not trying to force it, not trying to push it, just using the preparations, paying attention that the land got more and more fertile. The state agriculture department came to visit the Talhof (that was about eight or nine years ago) and took readings from a meteorological station there which had all the daily temperature ranges recorded for years and years. They took soil samples of the surrounding countryside, and they came to the conclusion that agriculture is not possible there in that location, because it is a small, narrow valley with hills on both sides, so the sun rises late and sets early and you could have frost in every month of the year. One year I experienced a frost on August 19th, which wiped out all the zucchini, tomatoes, and cucumbers. So, it was very cold there, and yet he farmed successfully and his barn was plastered with hundreds of first and second prizes for his bulls. What a beautiful, wonderful piece of land. It was really tended and loved *knowingly*, and I

worked together with these people for sixteen years and was able to deepen my knowledge there, interacting with them. They became close friends. So I feel very fortunate that I met biodynamics with such a very responsible and quite unique group of people.. Of course, I met the other kind too. A farmer once asked me, “Do the preps really work?” I said “Well, you use them.” “Yes, I use them, but I don’t think that stuff works.” That was a biodynamic farmer who was biodynamic because he was selling his produce for a higher price. He wasn’t really behind it. You have the whole range, in Germany as well as probably everywhere. The whole range between just applying it for the sake of making a profit to the other extreme where, for example, at the Talhof twice a week in the evenings they worked on spiritual science, Steiner’s Agriculture Course, and another book by Steiner once a week. So it is a real spiritualized learning center too, not only doing biodynamics, but also studying esoterics. That changed when the Sattlers left.



Gunther Hauk

N: This was nine years ago when you were working with them?

G: That was up till five years ago.

N: I thought you were teaching biodynamics at Waldorf schools. What were you doing in connection with the Talhof for that length of time? I guess I’m confused about your relationship to that farm.

G: Yes, I was the school gardener for sixteen years in Heidenheim. Since the Talhof is just a couple of miles down the road, soon there arose a connection due to the work, due to the manure that I got from the Talhof, and I raised tomatoes and other things in the greenhouse for them, since they didn’t have one. So there was this kind of formal relationship in the first year or two and then afterwards a friendship developed with Hilde Pfeiffer, who is eighty-two or eighty-three now, and with the Sattlers. I worked with them on the Agriculture Course for some years.

N: It sounds like you had the opportunity to see a lot of different biodynamic farms in Germany of varying degrees of commitment and understanding. Would you say biodynamics is really thriving in Europe now, or would you say that it has reached a certain plateau? How would you characterize the biodynamic work in Europe?

G: It’s rising, maybe, from the numbers, because customers there want biodynamic food. In contrast to America, there you can go to almost any half-sized town, not even a big town, and get biodynamic produce, whether it’s fresh produce, whether it’s all the grains as flour or coarse ground or whole berries. Whatever you want, it’s all available there. That, of course, creates a suction on the market, which lets one or the other farmer think about converting to biodynamics because the market is there and high prices are paid, but, on the other hand, there is the danger, as with Waldorf education, when it expands very much, that the spiritual foundation may be weakened. It is a concern whether the farmers get into it for outer or for inner reasons. Whether they work with the Agriculture Course, or at least relate to it.

N: Did you find that farmers of a commercial size could actually apply preparations for a few years and then not somehow be changed by the very act of doing that? Did they at least become more curious and intrigued by this? Or, did you find that people could farm biodynamically for a number of years and have no idea what they were doing?

G: I would hope that this is the exception, but I have met at least two farmers who were not really changed through the work. At least not visibly. I mean, it’s unfair to make a judgment like that. For example, there was one farmer, whom we visited for three years to do the tenth grade agricultural block. I took a class there for two weeks to work on the land. The children, the youth, noticed that everything about him was just traditional, conventional. On the other hand, some of them once went and worked with a *real* biodynamic farmer, one of the real old masters with spiritual depth, and the children came back and verbally commented on this. They said that there was a vast difference between these two people. So, one can apply the preps and not be changed visibly. It’s such an individual thing. Now, in the Course itself Steiner says very clearly that

you don’t have to become an anthroposophist to farm biodynamically. It’s a method, and it’s important that the preparations get put onto as much land as possible in the world. On the other hand he says that the farther we go into the future, the more the real quality of a product will depend on the moral state of the farmer; on his motivation. Whether he does it out of deep inner conviction and with more and more insight, or whether he just does it, determines the inner quality.

N: Would you be willing to describe why you chose to come to the U.S. as a new field of endeavor?

G: Well, I wanted to come back to the States already in 1977. I had been into biodynamics for four years, gotten very deeply involved, also with Ehrenfried Pfeiffer’s work, and so I wanted to come over here. Then an old anthroposophist, as a matter of fact, Astrid Barnes’ mother, Frau Schnell, she called me to her apartment. My wife had told her that I had plans to return to the States, and she said, “Why do want to return to the States? You don’t know anything! Are you going to knock at doors and beg people to take you? Stay here and learn something, and you will be called.” And that’s exactly what happened. I was supposed to go to Harlemlville already twelve years ago. For personal reasons that didn’t work out.

N: I would just like to state here for the record that at least one or two very senior anthroposophists would have been delighted if you had come at that time to Harlemlville. I know this from personal communication, so there’s two sides to this story.

G: Well, I stayed in Europe, and several years ago out in the West, Harald Hoven [gardening teacher at the Rudolf Steiner College in Sacramento] asked me once whether I would think about relocating. But I couldn’t see this. I would love to work together with Harald, of course, and with Dennis Klocek and I respect these people very highly. Yet somehow I thought I couldn’t handle the six months of drought. I have no experience with that kind of agriculture.

N: The climate in the central valley of California has no rain from April to November.

G: That somehow didn’t give me the confidence that with my knowledge and experience I could really bring what I can bring, and then three years ago I was asked also here in Spring Valley to give a course on biodynamics and teaching gardening. That was in a workshop for one week, and somehow I felt very much at home here. So, when two months later a letter came asking me if I would think about coming here and starting a biodynamic training and a garden, it didn’t take me long to say yes. As a matter of fact, when I read the letter, I knew I had to do it, and I wanted to do it. Actually, there was almost no decision to be made. I slept on it for two nights just to say that I didn’t make an impulsive decision, and then I came over with my family in the summer vacation for a visit. They had never been in this country before, but they like the country too. So we came in August 1996, although people advised us to stay in Europe with, you know, a good salary and all the friends that we have, etc., etc. It was three weeks after we moved here that my wife said to me, “You know, I couldn’t think of being back in Germany.” I felt the same way. I am sure that I will never be sorry. It’s right just here, and there has been such a wonderful,

production and mineral uptake through a signal from the plant to the plant’s rhizosphere causing the change in the plant sap.

The element of most interest in the BD #508, from my viewpoint, was the silicon. I was surprised, however, to find the level of silicon in the sample possibly playing a secondary role to the levels of phosphorus, sulfur, and potassium. I would have expected silicon to be higher, but then I have not seen an average analysis of the plant itself, and here again is the possibility that the fermentation process may have played a role in this if any change has indeed occurred at all. The silicon could have also simply remained in the vegetative matter. Considering the use of 508 for the prevention of fungal problems, the levels of phosphorus and sulfur may be more important than the silicon level. Perhaps in a fungal attack on a crop, the sulfur organization of the plant is out of balance with other elements such as nitrogen, and by applying 508 foliarly, the plant’s organization is prompted to right itself through a rhizospheric influence upon the soil. Then the plant, through a phosphoric influence of 508, can proceed with the flowering aspect in a healthy condition.

As one can see, this is just a cursory look at some extracts from a material viewpoint. This study is the result of my curiosity, thoughts and questions as to what occurs in a plant when it is sprayed with plant extracts, or even artificial soluble fertilizers, in a foliar manner. Is it merely foliar feeding, since feeding in this manner is quite efficient? Is it a communication of energy responses between the plant and the soil that induces the plant rhizosphere to make more nutrients available to the plant? Or is it a foliar application of materials that enhances the plant’s ability to accept the cosmic energies that are a part of our world around us? I think that it could be all three and one’s answer depends upon the level at which the response is studied. In our roles as stewards of the land, we can only hope for knowledge and answers to these questions so that we can make appropriate decisions in order to be able to grow that which will be of greater benefit to the consumers.

* * *

BD Preps at Shepherd Hill Farm in Kentucky

by Alice Petty

We have been farming in western Kentucky for over 14 years. We knew very little of what it took to be land and live-stock care takers, but it was something that we felt drawn to do. We raise hens for their eggs to sell at the local food co-op, along with (12) sheep for wool and organic lamb and (30) cattle for organic beef, and we also have a milk cow, named Della Mae. All our ewes and cows are named, as well as the ram (Rocky) and the bull (Mercury). Our livestock generate a fair amount of

manure, which we love turning into compost. I use the wool for knitting and crafts, as I also teach elementary school art. My husband, Corry Watts, logs and farms the land, as well as keeping everything organized and in running order.

Corry started reading Steiner in the mid-’70’s and introduced me to anthroposophy when we met in 1982. I had never heard of Rudolf Steiner before, but his teachings made so much sense that it was like stumbling in the dark for a light switch and finding out I just had to open my eyes—it was all there, I just couldn’t find it with my eyes closed.

Corry and I started farming organically, but after my first BD conference in 1987, we began using the biodynamic preparations. The preps do more than just heal and enliven the soil; they are, in a way, a state of mind: the preps work on the soil and on your soul. We soon found out that the animals sensed something unique in the preps too.

Being humans, we have a hard time noticing some of the subtleties of nature. It has been so long since we have had to rely on our senses for survival that we miss out on certain aspects of nature that our animal friends are able to perceive more readily. If not for our friends in the animal kingdom, certain insights would otherwise go unnoticed by us. I believe our animals here at Shepherd Hill are also able to observe the influences that the biodynamic preparations have had on the farm.

We can document the effect the preps have on plants; we can see the texture of the soil change and how it is directly benefited after a number of sprayings (of BD 500 or Barrel Compost). In certain ways we do “feel” the influence of the preps, but I personally think there is an aspect of the BD preps that we miss, and I don’t think we sense the effects as quickly or as much as the animals do, who live by their instincts.

After a few years of using the preps here, I could tell our animals were different than other farm livestock; of course, this would be obvious, since we, as their keepers, weren’t your typical farmers. I don’t know if the change was in them or in us. We have always tried to treat our animals with respect and kindness, but they are farm animals, not pets (well, mostly). While they are in our care, they are given a lot of love and freedom; so I think the change was in them. We do for them, before we do for ourselves, which is something our family cannot understand at all.

Before we started using the preps we had a lot of trouble keeping the sheep and cows on the farm. We moved here with no fences or barns and tried to keep the animals in the newly reclaimed pastures with the thin portable electric fence called polywire. It didn’t work. We were always having to go find them, especially the sheep. Now, since starting to use the preps, we use the polywire to keep the sheep away from the house and garden. We let the sheep run loose and they graze on the outside of the fence, while the cows graze the inside. The sheep will run to the end of our drive, stop, look out at the gravel road (shaking their heads at the condition of the world out there), and turn around and start grazing their way back to the house. They have no desire to be on ground that has not been prepped. We had a fellow helping us work on our creek one day. He

G: Yes, it took half a year for the Co-op here to get biodynamic oats. They said, “They are too expensive, and don’t move.” So now they have got them, and they’re selling! The students in my courses are getting aware of it, and other people too. A funny thing happened. I mentioned at a lecture to organic farmers on Long Island, where there was also a biodynamic farmer, that I eat biodynamic oats every morning, and they last me all morning without a snack in-between.

N: So who was that BD farmer, Steve Storch [see *Applied Biodynamics*, #20, p. 7]?

G: Yes.

N: All right. So you had promoted biodynamic oats as a really nourishing food, and he was skeptical ...

G: Yes, and then he got some. He called me last week about something else and said, “By the way, I got some biodynamic oats. I used to get hungry in the mid-morning, and they really lasted me all morning!” He was so excited that he ate nothing but biodynamic oats for three days. But they are hard to get! In Europe we used to get grains, biodynamic wheat, barley, rye, oats, and rice—everything—in a lot of stores. You can’t find it here.⁴ This networking, as well as trying to raise the awareness in the consumer to know the difference, so that they select the biodynamic rather than the other ones, even if it costs a little more, that needs a lot of work in this country.

N: It seems to me that biodynamics is just a drop of water on a hot stone in the United States, in fact, in most of America, from Canada down to the tip of South America, and that’s not true in Europe. Biodynamics has a role to play in the makeup of European agriculture, whereas it has no role at all in this country. There aren’t too many shining lights here, as Jean Yeager [former editor of *Biodynamics* magazine] used to call them. I don’t know if you see a way of breaking out of the insular situation that we have in this country, which has existed, in fact, since biodynamics was first begun here in the thirties. Nothing has really changed that much. Even with the remarkable growth that we’ve seen, to some extent in the seventies and a little bit again in the late eighties and nineties, we still have not achieved any real public awareness. Why is this so, and can it ever change? Is there something that we have missed?

G: Well, I would say it *can* change, but it won’t change in a year, or overnight. This really takes time, because it means awareness and differentiation. I think that the great tolerance here in America which is so wonderful is also a factor. Everything here is “all right,” you know. Everything is all right, and so it doesn’t require you to differentiate. One doesn’t want to make a judgment. One is afraid to make a judgment. Another inhibiting factor, in my opinion, is the rapid growth of organic gardening. Rodale took it from Steiner, but popularized it and made a huge movement, which is OK, but because people think that organics is already the ultimate, it takes away a chance for biodynamics to get a stronger foothold. In Europe it was biodynamics that was established already as a name, even as a brand name “Demeter,” before the organic movement was popularized. It was the reverse here, and I think this has contributed to the struggle of biodynamics here. It will take longer to raise public awareness of what the difference in

biodynamics is. My hope is that the yearning for spirituality will bring more and more people to an organic kind of agriculture that involves spirituality, which of course biodynamics does, from the elemental beings to the spiritual hierarchies and the whole cosmos. I don’t know if you can say that publicly—in his state of consciousness the organic farmer doesn’t really have to change. He can still think materialistically about fertilizing, what fertilizing means. He just does it organically, whereas the biodynamic farmer and gardener has to think in terms of processes and stimulation, like in homeopathic medicine; that goes actually beyond the physical. You have to make a leap in order to truly understand it.

N: I have often thought, even though our climate is harsher than much of Europe, we are blessed with abundant water in this country, and typically with halfway decent soils. If we compare our soils to places in Central and South America, we have quite fertile soils even at this late stage of depletion. We have fairly forgiving growing conditions, and I don’t know why, but chemical farming still works quite well here to some degree. We are still producing bumper crops year in year out. So I think that’s a great barrier here, because we haven’t really had a crisis here. We are going to be able to get by for a little while longer without looking at biodynamics very seriously, at least not on a commercial scale, where masses of people become directly familiar with biodynamics.

G: Well, it’s not only Europe, look at Australia. The vast amount of land they are working biodynamically there absolutely dwarfs the amount of biodynamic acreage in America. But the catastrophes are coming. The droughts in the Midwest and the erosion, the depletion of humus ... but I agree with you, it will take more years. The illusionary fertility which the artificial kind of fertilization gives, you know, those apparent victories, they are still here; the reality is still hidden by the insecticides and pesticides and fungicides and all that. But it can all collapse within a year or two. It can collapse very quickly, just like our economy can collapse in a year or two. Of course, that is the time when we will have more of a chance of being heard. Right now the scientists are still so convinced that biological engineering is going to give us the answers to our problems. This kind of thinking won’t get us out of the problems. It really takes a new kind of thinking.

N: Getting a little more specific about the biodynamic preparations, have you seen them work here in the same way that they work in Europe? Are you convinced that, at least in this area, which is somewhat similar to parts of Western and Northern Europe, that we are on the right track? Are the preparations here doing the job they were intended to do?

G: Well, just from taking this piece of land and making a garden out of it and putting the preparations on it several times, even the students, who have never been in touch with biodynamics, felt that the land is more vibrant now. They could sense a quality of light in it, an “enlivened” quality. I haven’t been here long enough to make a definite statement, but I just know that, for example, the preparations that Mac Mead and the Fellowship Community make are just wonderful. We made preparations together last fall, and the seriousness, the depths,

and the questions that Mac brings to the preparation-making, are as good and as deep as anything I have seen in Europe. The people I have talked to who use the preps made by the Josephine Porter Institute were also impressed by the results. So, I think the preparations definitely do work. It can be seen. I hope we will do some research in this place too, together with Will Brinton, so that we can scientifically prove some of the things. That’s very necessary. That’s what Malcolm Gardner wrote his wonderful article about, too, that we need to do some research,⁵ which also involves a sacrifice, such as allowing part of the garden not to be as good as we would want it, in order to have an objective comparison. I am convinced that these dynamic qualities exist, and you can even get into understanding a little bit of why, for instance, the oak bark is put into the skull of an animal, and that there are actually reasons behind the timing of it, and why it’s put in water. You understand these connections and then you know, even if you don’t understand all of it, that there is an inner logic to it. It is really potentized healing forces that are given with the preparations. It is this healing which is actually very necessary. Healing the scars, healing the wounds that we have made, also healing the human being through nutrition. We have to heal the earth, this aging planet, to such a degree that it will still give us nourishment for a long time to come. So the preparations are really medicines for the land.

N: We have just had a class of fifth graders visit the farm in Harleville, and the farmer there was very anxious that we stay on a human scale with distributing the preparations, so he kind of forced us to spray with the children, so we took plastic yogurt containers and twenty-three children and we sprayed an eight-acre field. It worked very well from an organizational point of view. It was very smoothly done with a fair degree of accuracy and engagement. Have you had good success in doing such things with children in Europe of this age?

G: Not with that number. I usually had two students stir the preparations for an hour, and then one or two students would also spray, but I never had twenty students spray the preparations. If you prepare that well, I think it’s fine. If the children, on their level, have an imagination, a picture of what they are doing, and they do it joyfully, then it will work. The elementals will graciously take it from twenty-three pairs of hands and not only one. Definitely. But if twenty-three people would do the stirring, then you might wonder whether the quality would suffer.

N: We had an adult who had a connection to biodynamics do the stirring. We did not ask the children to stir, because I was afraid of losing the intensity of the stirring, which is—and I hate to use the word mechanical—a kind of rigorous discipline that has to be brought to the task. It’s unfair to ask children to bring that consciousness and discipline for an hour, unless maybe they are from a biodynamic farm.

G: I think it makes a lot of difference whether they stir joyfully or say “Aw, do I have to stir ... ?” That’s no good. And the children to whom I usually gave the task of stirring, I selected carefully and then very seriously told them with what attitude they have to stir, so that the result would be good.

N: And they respected that?

G: Yes. Of course, they were not that young; they were sixth, seventh, eighth, ninth graders. If I found that in one group I couldn’t find someone who was serious enough (usually there are a few children in every group who are very, very dedicated and serious), but if I didn’t, then I would rather stir myself. The timing is also important. I wouldn’t let children stir at one or two o’clock in the afternoon just because that’s when I might have them in class. That’s no time to stir. Then I would stir in the late afternoon myself. [In Germany, however, the school day often continues until 5 p.m.] But if the children each get a yogurt cup and sprinkle it, I can imagine that the gnomes are overjoyed at such activity.

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Editor’s Notes

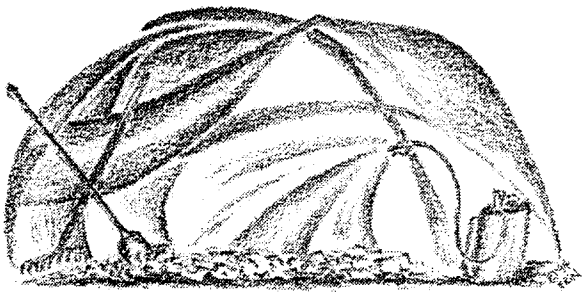
1. The Waldorf schools, where the teachers work out of Rudolf Steiner’s insights into human development, are the largest non-denominational primary and secondary school movement in the world.
2. The Fellowship Community is an anthroposophical retirement home.
3. Meadowbrook Herb Garden, P.O. Box 407, Wyoming, Rhode Island 02898 (tel. 401-539-7603).
4. Biodynamic oats may be obtained from Bob Steffen, RFD 1, Box 104, Bennington, Nebraska 68007 (tel. 402-238-2175).
5. See the Special Report accompanying *Applied Biodynamics* #18/19 (Winter 1996/1997): “Some Guidelines for Experimentation in Biodynamic Agriculture.”

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Courses Offered by Gunther Hauk at Sunbridge College

- 2-Year Course (6 one-week sessions): *School Gardening & Environmental Education*
- 1-Year Course (one weekend per month plus 2 weeks in summer): *The Biodynamic Gardening & Environmental Studies Program*

For further information on these courses as well as other courses and internship possibilities, contact the Pfeiffer Center at 285 Hungry Hollow Road, Chestnut Ridge, New York 10977 (tel: 914-352-5020).



OBSERVATIONS AND EXPERIMENTS

For this issue, two people have submitted articles describing their experiences with and reflections on some of the biodynamic preparations. We welcome their initiative and encourage others to share their experiences in future issues. If you don’t feel like writing a whole article yourself, please at least telephone us with a report.

Malcolm Ian Gardner

A Spectroscopic Analysis of BD Preparations #507 & #508

by Don Jensen

It has been a number of years since my interest in biodynamics began, and through the years various experiences have increased my curiosity concerning the biodynamic preparations and related materials. In growing our own food organically I realized that compost was a valuable soil amendment and that some was needed for the garden. Lacking ample quantities of cow manure, I started by going down to the neighbor’s pasture to gather cow manure in 5-gallon buckets to add to our compost pile of weeds, chicken manure and other compostables from around the farmstead. Wishing to aid the decomposition of the pile I ordered some Pfeiffer Compost Starter as well as the Field Spray Concentrate, which I was going to use for aiding the decomposition of some green manure crops. Both worked so well that I became interested in the biodynamic compost preparations themselves, as well as the horn manure, horn silica and the horsetail spray.

In the process of learning of the preps’ influence upon plants, I became interested in the elemental constituents of the two preparations BD #507 and BD #508. The preparations were already made and on hand for analyzing. The 507 was made by gathering the flowers, packing them tightly in a glass jar and covering them with distilled water to extract the essence of the flowers. It was left to sit 7-10 days during which time the mixture began to ferment. The extract was then separated from the solids and bottled for future use. The 508 preparation was made by gathering the horsetail, drying it slightly, then adding about 10 ounces to a one-gallon jar and filling it with heated water to extract and ferment the horsetail for the next 7-10 days.

During this time the opportunity arose to analyze the preparations using some advanced spectroscopic equipment and procedures while working in a chemistry laboratory. After the preps were readied for analysis, they were aspirated into an instrument utilizing a computer program that directed the instrument to analyze the samples for 10 elements which include phosphorus and silicon. These two elements, I thought, were chiefly responsible in the preps’ influence upon the plants. The results of the analysis were surprising:

Element	Valerian Extract (mg/L)*	Horsetail Extract (mg/L)*
Calcium	307	414
Iron	7.4	0.2
Magnesium	271	186
Manganese	2.1	0.9
Phosphorus	55	1116
Potassium	2650	888
Silicon	12	177
Sodium	3	2
Sulfur	144	560
Zinc	5.6	0.1

In reviewing these results, one can see, from a material perspective, the varied quantities of the different elements that are present. Caution should be observed in accepting and interpreting these results, as differences may occur from preparation to preparation due to the method used in making the preparation as well as the differences in the plant due to location and condition of the soil in which they were grown. Differences could also arise from the fact that in preparing the 507 and 508 some fermentation occurred that could have altered the contents in comparison to a simple extract.

In the BD #507, the element that stands out the most is the potassium. Small amounts of calcium and magnesium are present, along with a little phosphorus, sulfur and traces of others. The 507 prep, being noted for its relationship to phosphorus and its use in increasing plant tolerance to frost, I would have expected more notable quantities of phosphorus in the sample. Perhaps it is the relationship of phosphorus to the other elements that makes it effective, as a tolerance to frost involves the condition of the plant sap. The higher the minerals and sugars in the plant sap, the lower the freezing point is depressed. This particular combination may enhance the sugar

*A perspective or reference point is needed to fathom “mg/L”. The term mg/L or milligrams per liter is quite similar to parts per million. In modern soil chemistry an acre of soil is considered to be roughly 2,000,000 pounds of soil or about 43,560 square feet by six and two thirds inches deep. To get an idea of what one part per million is, it would be similar to spreading two pounds of ground limestone per acre to get one part per million of ground limestone added per acre.



The Pfeiffer Center garden

warm welcome from the whole community in Spring Valley, and not only from the community, but from biodynamic groups and in the workshops that I have been giving on bees in several places. All has worked out wonderfully so far. I don’t know if you saw the Pfeiffer Center garden, as we call it. Maybe we can take a look at it tomorrow morning. Two years ago that was still a field with logs and chips and machines, not to speak of weeds, for about 8 years, although years ago it had been a community garden, so we were not starting up from scratch.

N: ... but it was just a brushy mess.

G: Yes. Well, Mac Mead from the Fellowship Community² then plowed it for me when I knew I would be coming here. He plowed it and put in some rye as a green manure, and later, with the Sunbridge College students and teachers (we were sixty-five people out in that field), we landscaped it so it would not just be a square piece of land. We put the first beds in, made cold frames, turned the composts, stirred the horn manure prep. That’s how it got started.

N: I’d like to stop by and take a picture of it, if you don’t mind, because things are starting to grow now. *[It is a lovely garden, creatively laid out and carefully tended, already establishing itself as a place where one derives nourishment for body and soul].*

N: Have you traveled around the country a little bit? Have you gotten to see some of the biodynamic places besides the one in Fair Oaks?

G: Yes. I was on Long Island on a biodynamic farm. Of

course, down in Kimberton [Pennsylvania] and in Harlemville [New York]. I was up at Trauger Groh’s [in Wilton, New Hampshire] and at Ann Mendenhall’s [Aurora, New York] several years ago. The produce she delivers here in Spring Valley is just fantastic. Very nice. You can taste that it is biodynamic.

N: Would you say that biodynamics is working in this country, or would you say it *could* work in this country?

G: It is definitely working. Just judging from the conference in Minneapolis last fall and also from the one down at Kimberton Farms in January, there are very wonderful, deeply committed people doing it out of their full heart.

N: They are very aware people?

G: Oh yes! It’s here like it is all over the world. There is a core group of farmers and gardeners who also tackle Anthroposophy in a deeper and deeper sense. Biodynamics is working here. What is difficult here is the network, also the lack of awareness by the public of the difference between biological/organic and biodynamic, even among some of the Anthroposophists. Just yesterday I just heard one say, “Oh this is great! It’s organic and it’s not sprayed!” And you wonder: Do they realize there is really a *quality* difference?

N: I know, it’s heartbreaking for me to go to a number of anthroposophical, even biodynamic gatherings, and not find Meadowbrook Herb Tea, but instead find Celestial Seasons or some other brand of herb tea, when we have such an excellent biodynamic product from Meadowbrook.³