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Biodynamics Taking Root in the Legendary Napa Valley

An Interview by Hunter Francis

“Grape Stomping Today” was the sign that greeted me as I walked towards the Grgich Hills tasting room on a beautiful September day in the Napa Valley. The winery, centrally located in the heart of one of America’s most celebrated wine destinations, was buzzing with visitors. I was there to meet Ivo Jeramaz, vice president of vineyards and production at Grgich Hills Estate. Grgich Hills was founded in 1977, by Ivo’s uncle, Miljenko “Mike” Grgich, and Austin Hills, soon after Mike had received international recognition at the prestigious “Paris Tasting” of 1976 for his 1973 Chateau Montelena Chardonnay – selected as the finest white wine in the world. Responsibilities for operating the business are now shared by Mike, Ivo and Mike’s daughter, Violet. Thanks to Ivo’s leadership, the vineyards have been managed using biodynamic practices since 2003. The signature wine of Grgich is their exquisite, richly complex Chardonnay. They also produce Sauvignon Blanc, Merlot, Cabernet Sauvignon, Zinfandel and desert wines. Both Mike and Ivo were raised in Croatia, near the Dalmatian Coast of former Yugoslavia. They bring with them an innate connection to agriculture and its roots. During the interview that follows, Ivo and I were joined by Grgich’s vineyard manager and biodynamic farming specialist, Joey Brinkley.

HF: Ivo, I understand that before coming to the United States, you had some experience in agriculture on your family’s farm in Croatia. Can you tell us a little bit about that?

IJ: We had a couple of acres of vineyard and a few acres of vegetables, which we grew by ourselves. We weren’t “farmers” *per se*. The agriculture was a secondary activity. My father had a full-time job on top of managing the farm, which I helped with somewhat begrudgingly as I was not fond of the work it involved. I was more interested in sports at the time! It was a little crazy, because we didn’t sell the produce. We shared it with family and neighbors. But it’s something my father wanted to do, and I felt a responsibility to participate. So,



Ivo Jeramaz and Joey Brinkley

that was my first rendezvous with agriculture. It was not something I expected I would devote my life to.

HF: When did you come to the U.S.?

IJ: I was twenty-six years old when my uncle brought me here in 1986. I had recently finished my studies at the University of Zagreb, where I earned a master’s degree in mechanical engineering. At first, I wasn’t thinking I would stay. I thought it would be an opportunity to improve my English and gain some experience, but Mike took me under his

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Editor's Note

Dear Readers,

I hope you are all having a restorative and inspired winter. This is such an interesting issue of *Applied Biodynamics*. I hope you enjoy Hunter Francis's interview with Ivo Jeramaz of Grgich Hills Estate, with over 360 acres under biodynamic cultivation. A recent milestone is that all the biodynamic preparations needed for their vineyards are produced on-site. Initially their preparations were purchased through JPI. JPI's goals include graduating the grower to the making of his or her own preparations, and Grgich Hills is a prime example of how this should work. It is interesting to hear the story of how one is led to biodynamics, or rather, how biodynamics finds a grower. Reading the interview, I was reminded of my early interest in biodynamics which began when our next door neighbor had Alex Podolinsky's *Bio Dynamic Agriculture: Introductory Lectures Volumes One and Two* on his bookshelf, which he let me borrow, and within a few months, our other next door neighbor surprised me with a gift of a copy of the *Stella Natura* calendar.

In his article, Hugh Courtney brings insightful and forthcoming commentary on three biodynamic compound preparations. He addresses the concerns of those who have challenged the necessity, effectiveness and ideological cor-

rectness of these preparations, all of which have as their basis Steiner's indications as presented in the *Agriculture Course*. As always, when trying to interpret such esoteric indications as those given by Steiner in the *Agriculture Course*, few of us can claim to understand exactly what Steiner meant, or to have first-hand experiences of etheric forces at work, but yet, some are quick to claim expertise. Perhaps the proof is in the pudding; the grower will either experience results from a given product or he will not. Despite disagreements and differences, it remains up to the farmer to continue to carry out living research with quality preparations, honing his observations, and gathering data not only through soil testing, but also through qualitative sense observation.

This issue also brings news of a new executive director at JPI. On behalf of myself, and the rest of the staff at *Applied Biodynamics*, we look forward to working with Shelley Goguen Hulbert, and being part of the new developments at JPI. Hugh will still be involved in the activities of the organization, but will be able to focus on research and educational aspects at JPI. We thank Hugh for carrying the work in such a highly dedicated manner for the last twenty-five-plus years. Hugh's example of service is one to which we can all aspire.

Finally, we invite you to visit our new and improved website, where you can now order on-line. JPI will also be offering occasional news updates via email. Please send your email address to <info@jpibiodynamics.org> if you would like to be kept abreast of upcoming workshops and important information about biodynamics and the Josephine Porter Institute.

—Christy Korrow

Applied Biodynamics

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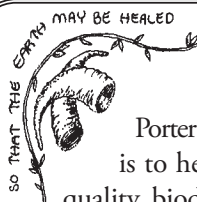
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Mission

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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Welcoming A New Executive Director

Hugh J. Courtney

In this issue of the newsletter it is with both humility and gratitude that I welcome Shelley Goguen Hulbert, our new executive director here at the Josephine Porter Institute. She assumes the position as of January 1, 2011. For more than ten years, JPI has hoped to find my successor to carry the work forward into the future, and for more years than that, it was often uncertain that JPI would have the fiscal strength that would enable us to pay a salary to an executive director. The fact that there is not yet a clear consensus among many in the biodynamic movement to ensure that a central preparations source is available has also added some uncertainty regarding JPI's future.

I am particularly humbled to now realize that the spiritual world, at least, has been at work to arrange that a successor will be available to steer JPI's future course in the world. I am also particularly grateful that Shelley Goguen Hulbert has accepted the challenge to continue the commitment to the preparations work that has been carried by me for more than twenty-five years. The preparations work entailed great sacrifice for Josephine Porter for the thirty plus years that she carried the work, and my efforts to continue her work have also required a bit of sacrifice on my part. It was for me and for Josephine, a commitment to biodynamics and a love for this Mother Earth of ours that allowed us to ignore the sacrifice required to do the work all these years. In taking up the task as executive director, there is also a degree of sacrifice on Shelley's part in relocating to Woolwine, Virginia after many years of living in Peterborough, New Hampshire and putting down roots there. Shelley also brings a strong commitment to biodynamics and a love for the earth that should serve her well as she expands JPI's efforts and firm dedication to our mission to fulfill Rudolf Steiner's mandate "so that the earth may be healed."

Shelley Goguen Hulbert has been chosen to be the new executive director of the Josephine Porter Institute for Applied Bio-dynamics. Shelley has an impressive record of achievement in her work with non-profits. She has led several fundraising campaigns for local non-profits (most notably a Waldorf school and a community resource center) in southern New Hampshire. In the past six years she has been the visionary and project manager of Nubanusit Neighborhood and Farm, an award-winning co-housing neighborhood and biodynamic farm in Peterborough, New Hampshire. She has also designed and led training events for organizations in the not-for-profit, government and business sectors. She holds a master's degree in social

work from the University of North Carolina at Chapel Hill and a bachelor's degree in social work from East Carolina University. She has a certificate in biodynamics from the Pfeiffer Institute. Shelley has been a biodynamic dairy and grassland farmer for over ten years.

Shelley is a weaver and water color painter. She is an avid outdoors person enjoying hiking, biking, canoeing, snowboarding, cross-country skiing and camping. She also loves to garden. Shelley and her husband, Robin, have two grown sons. Ben (24) is a fly-fishing guide in Colorado and Sam (21) is a professional snowboarder worldwide. Robin is a business consultant and long-time beekeeper.

A Word from Shelley

I am delighted and humbled to accept the position of executive director of the Josephine Porter Institute for Applied Bio-dynamics. Joining JPI and embracing its mission "To Heal the Earth" is a calling. It is work of the highest order for me. I look forward to serving you and working with you and the biodynamic community near and far. In addition to continuing to make quality biodynamic preparations available to you and creating many educational opportunities for you throughout the year (not the least of which is the regular publication of *Applied Biodynamics*), we will also be proceeding in a much more comprehensive way into research activities. I firmly believe JPI has the ability to significantly impact the future health of our planet. I look forward to getting to know you and furthering the work of the Josephine Porter Institute.

—Shelley Goguen Hulbert



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Biodynamics Taking Root in the Legendary Napa Valley



Ivo and Joey in the vineyard

wine, taking me to tastings and so on, and I realized what enjoyable work this is for someone who likes wine. I ended up living with Mike for three years. It took me a couple of months to get a working visa, and then he gave me a job. I soon began studying winemaking with the intention of becoming the “best” wine maker. I quickly realized that the secret is in the vineyard – that you first need to know how to grow grapes well. So, I decided to learn more about viticulture. I loved it and found myself studying grapes five times harder than I did engineering. I liked the practicality of it.

HF: *So, you started with an interest in wine-making, and that lead you to viticulture?*

IJ: Yes. They go hand in hand, of course, and I realized to make good wine, you need to start with good grapes. So, I shifted my focus. Flavors in wines come through the grapes. You can try to dress them up, as people do themselves with makeup and fine clothes, but in the end, you are who you are. Grapes are like that too. Winemaking is really about the preservation of what you harvested. All of the potential of a vintage is in the grapes. As a wine maker, you are hoping to utilize their potential fully. It’s like raising kids, who also need daily care and attention. As a parent you need to know intimately what your children need at any given moment. You are not forcing anything, you are just helping. You yourself don’t create who they are. You help them to develop their own unique personalities. And so it is with wine.

HF: *Did you study viticulture formally at the university here?*

IJ: No, the type of farming I am interested in was not taught at the university. There, the focus is on science, especially for large-scale production. Of course, science is a part of it, but I believe farming and winemaking are an art. You have to gain a “feel” for them. If you ask me how I

gained my knowledge, I’d say it’s through observation and experience. There are so many gadgets for vineyards these days – to tell you when to water, etc. And there are more and more each year; but we don’t use them. Instead, we are in the vineyards every day, and we rely on our senses. This appreciation has to be cultivated through experience. I don’t think I missed anything by not studying viticulture or enology at the university.

HF: *Was the vineyard biodynamic when you started working here?*

IJ: No, it wasn’t.

HF: *How did that transition come about?*

IJ: My uncle, as a business person, was so busy with the winery he never had much time to get intimately involved with the vineyards. At the time, we had vineyard managers who were paid as outside consultants. They were using conventional techniques, with fertilizers, pesticides, and so on. When I started to become more interested in the vineyards myself, I realized they didn’t look as good as they could. I didn’t like what I saw. Eventually, we began to transition to organic practices, not exclusively, but more so. This all changed in 2003 when I discovered biodynamics. I read something about it, but wasn’t sure where to go to find more information. As fate would have it, and this often happens to me when I start thinking about something, the next day, I received a flier for a full-day seminar with Nicolas Joly to be held at the Benziger’s winery (also in the Napa Valley). I immediately signed up. The second thing that happened right at that time, was that I received an impromptu visit from Philippe Armenier, a biodynamic consultant who was soliciting business. He asked me if I was interested, and to his amazement, I think, I said, “Yes.” Mind you, this all happened within a matter of three days! It’s as if someone knew I was thinking about biodynamics and sent me what I needed to learn.

HF: *Did you hire Philippe?*

IJ: Well, I had to check with my uncle, the owner, of course, so I told him I would get back to him. I decided to go to the seminar first. That was a mind-opening experience. I felt as if a seed was planted in me that day, and I was very excited. But, I was afraid my uncle might say no to this experiment. I talked to him that night. Luckily, when he was a small boy growing up in Croatia, his grandfather was a farmer with a small vineyard, so the idea of “natural” farming was not alien to him. It’s what was normal then. They made compost and used natural methods. When I asked him if we could try biodynamic on five acres, he said, “Why don’t we try twenty?” He didn’t see any harm in trying. Shortly thereafter, we hired Philippe Armenier, and that’s how we started – first with twenty acres in 2003, one

hundred the next year, and 260 the year after that. By 2006, all 366 acres of our vineyards were biodynamic.

HF: *Was Philippe involved in this whole process of transitioning?*

IJ: Yes, but then he actually quit on us! We were one of his biggest customers at the time, but in 2007, I invited him for lunch around the holidays, and he told me he wasn't going to work with us any more. I was shocked! He explained that it was like when children grow up, and at a certain point they need to be on their own. I had to accept his decision, but for the first six months I was a bit terrified, because in the past, all I had to do was call Philippe when I had a question. However, after six months, I began to love it. It forced me to reconnect to the vineyards more and to make my own decisions. Yet, around the same time, I also realized I could not do everything alone, there is just not enough time to do everything. That's where Joey comes in. Biodynamics is spiritual farming. It takes total commitment and attention, but with all of my other responsibilities running the business, I couldn't provide all that was needed myself. So, I am very fortunate to have Joey and his wife, Natalie, to help manage the vineyards. They are very dedicated, and can provide the presence that is needed for this type of farming. Joey is doing what I cannot.

HF: *Are you making your own preparations at Grigich?*

IJ: Joey makes all of our preparations now.

HF: *And before, with Philippe?*

IJ: In the beginning, with Philippe, we only made the BD #501 (horn silica), because it was the easiest to make. That was it. We bought everything from JPI. After a couple of years, we started to make BD #500 (horn manure). In 2004, Philippe took us to JPI for a special preparation making workshop. There, the spirituality that I didn't have really opened up for me. I was raised in communist Yugoslavia; my father mocked the church, and I was far removed from any kind of spirituality. So, the workshop was important in that regard. I also met Joey there, but before he came to work full-time, it just wasn't feasible to make our own preparations, even though we were encouraged to do so. Gradually, after he came, we started to do all of our own.

HF: *Have there been any challenges?*

IJ: Moisture is one, given the dry conditions here. Getting the timing right is tricky.

HF: *I understand you have also done trials using Pfeiffer BD Field and Garden Spray. Could you tell us about your experience with that?*

IJ: We started with fifty acres in 2007, with a fifty-acre control. Now, I should give you a little background. When you harvest grapes, sugar is not the only thing that the yeast needs for fermentation. Yeast also needs vitamins and nutrients, particularly nitrogen. Each time we press grapes, we send a

sample of the juice to a laboratory to be analyzed for nutrients, including amenable nitrogen. For proper fermentation, you need at least 150–200 ppm (parts per million) of nitrogen. Otherwise, you get “stuck” fermentation, which is when the yeast stops fermenting due to lack of nutrient. In that case, you have a lot of residual sugar. So, this is crucially important, but easily measured. Ideally, you have all of the nutrient you need in the juice itself, but if not, there are organically approved additions you can make. In any case, we have records of our nitrogen levels before we started using the BD Field and Garden Spray. After the crush of the 2007 harvest, we saw a dramatic rise in the nitrogen levels in five of the six vineyard blocks tested. The year before, those blocks all tested at approximately 150 ppm nitrogen. But after the use of the BD Field and Garden Spray, all but one block (which inexplicably remained at 150) went up to two hundred. For me, it was clear that there was an effect. The next year, in 2008, we applied the BD Field and Garden Spray to all 366 acres. Unfortunately, we didn't see much improvement that year. What likely happened is that 2008 was a very dry year. There was no rain from February to the autumn harvest that year! This affected our cover crops, which did poorly. Since then, we have discontinued use of the BD Field and Garden Spray because, logistically, we found it is too hard to do on all of our acreage. In order to apply BD Field and Garden Spray properly, you have to disc the cover crop the day after you spray, so it becomes a very cumbersome management challenge. Nonetheless, I would highly recommend it where possible, especially if you have good moisture and good cover crops.

HF: *Did you notice any other differences with the use of the Pfeiffer BD Field and Garden Spray other than the rise in nitrogen?*



BD #500



Stirring BC

IJ: Well, it is hard to say without being too qualitative, but the rise in nitrogen was concrete. Unfortunately, it's not practical for us to use the BD Field and Garden Spray at this time, but overall, I think we are doing a good job with biodynamics. We make all of our own preparations, which we apply regularly, and we make our own compost every year, which we also use on our fields. I believe strongly in the benefits of compost. It is the crux of farming, in my opinion. All of our pomace (crushed grapes) goes into compost. One of the things I like about biodynamics, is that it's not the Bible. It's not a dogma. You adapt it to your own circumstances.

HF: *Is there any thing else you would like to add about your experience with biodynamics?*

IJ: I would say since we have started to use biodynamics, our soils are healthier and our plants are healthier. I would never say we make "better" wine because we are biodynamic, because that is very subjective – that's a matter of one's opinion. I think the main benefit is healthy plants. Ultimately, that does translate to better flavors, so we have

definitely noticed a difference in the wines. And flavor is something that no instrument can measure. You must use your own senses to judge quality. The enologists who work here, who were originally against biodynamics, are now some of its biggest promoters because they have experienced the difference in the quality of the flavors, which have more personality, more sense of place. In the vineyard, the vitality of the vines is the best indicator. The vines are more resistant to pests, and the "take," or the ability of our young seedlings to establish themselves, is outstanding. With proper farming, plant roots go deeper into the soil, and are more capable of coexisting with pests. In Napa Valley, the average vineyard is pulled out after seventeen years. Our vineyards are fifty years old and thriving! We expect our vines to prosper for up to eighty years, and that's important because it often takes twenty years before the vines start producing their best grapes. For me, the health of the vineyards is the greatest achievement.

HF: *Thank you, Ivo.*

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*)

In Memory of Kent Carson: April 5, 1949–December 31, 2010

It was with enormous sorrow that we learned from Sharon Carson of the sudden death of her husband Kent Carson ("KC" or "Casey" as my mind sometimes translated) on the last day of 2010. Since New Year's Eve, especially at the midnight hour, was deemed by Rudolf Steiner to be a very special time when the Earth is most open to the Cosmos, it seems to be a particularly powerful moment for one to be born into the spiritual worlds. While that thought may provide little solace to those he left behind, KC was a special person who departed at a special time. He was a quiet and steady supporter of biodynamics and JPI in particular for many years. His presence here in the physical plane will be sorely missed. Our most heartfelt condolences to Sharon and the family.

—Hugh J. Courtney

Expanding Biodynamic Horizons: Biodynamic Compound Preparations

Hugh J. Courtney

From the very beginning days of biodynamic agriculture, the early pioneers in the movement were concerned and focused on bringing to a reality Rudolf Steiner's mandate: "The most important thing is to make the benefits of our agricultural preparations available to the largest possible areas over the entire earth, so that the earth may be healed and the nutritive quality of its produce improved in every respect. That should be our first objective. The experiments can come later."¹

We will take a close look at three of the most prominent of the various biodynamic compound preparations that have been created in different geographic areas of the world by several of the major pioneers of biodynamic agriculture. In Europe, Maria Thun created a popular biodynamic compound recipe, Barrel Compost (BC), also known by several other names: Cow Pat Pit preparation, *Fladenpreparat*, or simply BC – Biodynamic Compound Preparation (Thun recipe). In Australia, with vast acreages to deal with and a shortage of compostable materials, Alex Podolinsky chose to add the six compost preparations to regular BD #500 (horn manure), with astonishingly successful soil improvements to millions of acres, creating deep, humus-rich soils in a time span of years instead of the centuries required by Nature herself. In America, Ehrenfried Pfeiffer, when faced with the difficulty of introducing the actual biodynamic preparations to the practical, "show me" American farmer, formulated the BD Compost Starter and the BD Field Spray. These substances, when introduced, emphasized their bacterial component, and by so doing, created a less esoteric pathway for introducing biodynamic agriculture.

In addition to the inspiration of Rudolf Steiner's original vision, there were other reasons prompting the development of biodynamic compound preparations. In the first place, it was a challenge to produce sufficient biodynamic compost to fulfill the customary biodynamic ideal (as initially practiced in Europe) of first making compost, applying it to the fields, and only then introducing the spray preparations BD #500 and, subsequently, BD #501 (horn silica). In the second place, it was also necessary to find some way to extend a relatively small quantity of the various compost preparations to meet a large need. A third reason was to improve efficiency of labor as well as to reduce possible soil compaction by making fewer trips over a given field with heavy equipment. Finally, in America, Pfeiffer faced an almost impossible task of trying to explain the biodynamic preparations to the American farmer who

found the methods used to make the preparations required a "suspension of disbelief" not easily mustered.

The first publication of Maria Thun's recipe in America appeared in the Winter, 1981 issue of *Biodynamics* (#137), in the article "Compost Preparation According to Maria Thun's Method" by Xavier Florin. A follow up article, "Further Indications Concerning Maria Thun's Compound Preparation," by David Miskell appeared in Issue #138, Spring, 1981. It was these two articles that inspired me to try my hand at making the Thun Barrel Compost the same year they appeared. The recipe described in the first article consisted of the following ingredients: "five buckets of manure (a bucket of ten liters or approximately ten quarts), five hundred grams (= 1.1025 Av. Pds.) of basalt powder, and one hundred grams (= 0.2205 Av. Pds.) of powder of eggshells."

Initially, I could not find a source of basalt powder, and so used local quarry granite dust in making my first ever batch of barrel compost. Subsequently, with the help of John Carlson, I was able to locate sources of basalt powder in both Minnesota and Massachusetts. Although the first several batches of BC that were produced here were made using wooden whiskey or wine barrels, it became apparent that one could use the same barrel only about three times before it became necessary to replace it because the action of the BC in the barrel resulted in composting the interior of the barrel quite successfully. (According to Maria Thun's experience, the bottom of the barrel must also be removed, so that the manure is in contact with the soil; otherwise, transformation does not take place.) After experiencing such rapid deterioration of the barrels, I chose to line the pit with bricks. In India, no doubt for similar

Basalt is a rock of volcanic origin and sources can be determined by consulting your state geologist to see what road gravel quarries within the state may be quarrying from a basalt rock site. Should a quarry identify itself as having "trap" rock, it is likely of volcanic origin and basaltic in nature. Every quarry in each state is required to keep on file an analysis of all of its constituents that compose 1% or more of content. One can now obtain a twenty-pound box of basalt rock dust (contains some pebble-sized pieces) from a business in Michigan called Nothing But Rock (269-674-3078) for around \$25.00, including shipping.



Girl Scouts stirring manure for BC



Adding compost preparations to BC

reasons as well as probable termite damage, Peter Proctor used brick to line numerous contiguous pits when making the “Cow Pat Pit” (CPP) preparation.² Our current practice is to make a circular pit lined with brick, using a total of eighty-one bricks per pit, sunk into the ground to a depth of four and a half bricks up to ground level with four and a half bricks above the initial soil level and banked with the soil removed from the pit. The circle of bricks

uses nine bricks for each level, and a total of nine levels of brick are needed from lowest to highest tier. Into this pit, we place two full recipes, consisting of twelve and a half gallons of manure per recipe for a total of twenty-five gallons of manure per pit. This manure has been stirred for one full hour, incorporating one thousand grams of basalt powder and two hundred grams of ground eggshells. To this manure mixture, we add two full sets of the compost preparations, although the BD #507 (valerian) we now put in the mixture only at the halfway or forty-five-day point when the contents have assumed a more colloidal humus-like nature. Also, at that halfway point of working with the BC mixture, we will add an additional set of compost preparations. Although some practitioners favor the inclusion of stinging nettle herb added to the manure along with the basalt and eggshells, practical application on actual crops using this form of a compound preparation leads to an increased emphasis in the growth of the leaf and stem portion of the plant, a result that, while favorable for some crops, is definitely not desired in vineyards and perhaps other fruiting crops.

In the late 1980s, when I was privileged to meet Maria Thun in Kimberton, Pennsylvania, I was advised to extract the BC from the pit while it still had substantial moisture, and a very clay-like consistency, and to use egg shells not ground to an extremely fine powder, but to maintain a particle size that could still be clearly identified as belonging to an eggshell. Such a particle size would be about the same size circumference as the lead in a pencil. (Thun credits discussions with Pfeiffer as having led to the inclusion in her recipe of eggshells as a form of living calcium.) I was also advised by her to set the price of a unit of the BC at the same level as charged for a unit of BD #500. Maria Thun has claimed from the beginning that the pre-stirring of the manure, basalt powder and eggshells allows one to apply the finished BC after a mere twenty minutes of BD stirring. Regrettably, she has not provided any data or other substantiation to support that conclusion on her part. She is also adamant that the BC should *not* be stirred together with BD #500. Many practitioners, however, choose to stir BC and BD #500 together for one full hour, or more often than not, the preference is to add the BC for the last twenty minutes when stirring the BD #500. My own conclusion is that the first time one is treating soils, the two different preparations should preferably *not* be stirred together, but subsequent applications could be stirred together. Inasmuch as the energies of BC and BD #500 are already working together in the soils, a combined application should not have the same possibility of interfering with each other. Reducing the number of times heavy equipment might

contribute to soil compaction is a significant factor to be considered. For many years now, the BC has been serving as an effective way to introduce the energy of the biodynamic compost preparations to the soil, and we have consistently recommended it, especially for those beginning to practice biodynamic agriculture.

On another continent, Australia, Alex Podolinsky chose a different approach to treat the soil with the energies of the six compost preparations as well as the BD #500. In thirty-gallon copper containers full of the finished BD #500, he added six sets of the BD #502–507. Since the finished BD #500 has already arrived at a condition of colloidal humus, there is no need to hold the BD #507 in reserve. Although there are those who object to his formulation (see below), a careful reading of the *Agriculture Course* would seem to provide substantial justification for Podolinsky's approach in Steiner's own words:

"But in other ways, too, we must still try to give the manure the right living property. We must give it such a consistency that it will retain of its own accord as much of nitrogen and other substances as it requires. For we shall thereby impart to the manure a tendency to that living vitality which will enable it to bring the right vitality into the Earth itself.

"Today therefore – more as a general indication – I shall mention a few more things in the same direction: preparations to add to the manure itself in minute doses, in addition to the cow-horn stuff. The preparations we add to the manure vitalize it in such a way that it will be able to transmit its vitality to the soil from which the plants are springing."³

While it is easy to conclude from the foregoing that Steiner is referring to the process of dealing with barnyard manure to be spread out on the fields in the customary fashion of "manuring" (or fertilizing) as practiced at the time, there is also nothing he says that would not also be applicable to the manure that comes from the recently buried cow horns as well. Given the vast acreages of sheep and cattle ranches in Australia that make it virtually impossible to apply sufficient BD-made compost, the Podolinsky solution seems to be highly appropriate. After all, what one is after is the distribution of the *forces* of the biodynamic preparations, not the substances thereof.

However, certain objections have arisen to Podolinsky's "Prepared" #500 (500 P) in some European circles. As reported by Monty Waldin in his book, *Biodynamic Wines*: "Opponents of the prepared cow manure, like Bouchet, say it confuses the soil by creating a growth-decomposition opposition between horn manure, which stimulates

growth of the roots in the soil, and the Biodynamic compost preparations, which stimulate decomposition of compost material. This causes the plant roots to remain in the topsoil. This may suit growers of annual crops like vegetables, but is not ideal for perennial crops like vines reliant on a permanent and deep root system. Bouchet also points out that Steiner outlined how both horn manure and the Biodynamic compost preparations should be made, but he never said anything about prepared horn manure." I could point out that there are many things that Steiner never explicitly said in the lectures of the *Agriculture Course*, but which may be inferred by exercising careful thought and taking into account what he may have said in some of the other thousands of lectures he gave. In addition to Bouchet's opposition, a Dr. Christian v. Wistinghausen of Mausdorf, Germany sent out a widely distributed commentary entitled "500 P: A Mistake?" This commentary states that the motivation behind such a combination is merely to expedite Demeter recognition, and further, it uses essentially the same wording as is quoted above from Bouchet in condemning 500 P. To quote from the commentary: "**Horn Manure** promotes root and plant growth and their life force, supports organisms in the soil that encourage plant growth and creates humus and the ego potentiality in the plants cultivated.... **The compost preparations** have the task of building up the useful humus by organizing cosmic forces. They support organisms in the soil, which break down all organic substances and, together with mineral clay substances, provide for creation of the clay humus complex in the soil.... Horn manure and compost preparations result in opposing processes. If the processes are mixed during their creation, they will cancel each other out.... The use of '500 P' or 'P 500' does not adhere to Demeter guidelines, since it is no longer horn manure."

There is no evidence that Dr. Wistinghausen ever used 500 P before reaching the above conclusions, and one wonders whether such conclusions are mere "abstract intellectualism," especially since no foundation has been laid to substantiate that the processes "will cancel each other out." As far as Bouchet's comment that use of the 500 P "causes the plant roots to remain in the topsoil," given the totally opposite experience of creating humus-filled soils and very deep-rooted plants, not only in Australia, but here in the United States as well, one can only question the quality of the 500 P and the compost preparations used by Bouchet to arrive at such a conclusion, assuming that 500 P was actually used by him. Alex Podolinsky, himself, brings into question the quality of some of the biodynamic preparations being made in Europe.⁴ It is of further interest to note that Dr. Wistinghausen's paper on 500 P is accom-

panied by an additional sheet which promotes the use of a product labeled “Mausdorf Activator.” One wonders again whether the motivations for condemning 500 P are not dictated by a modicum of self-interest in promoting a competing product.

Sometime in 2007, it came to my attention that a vote had been taken within a Demeter organization in Europe not to allow Demeter certification where “Prepared” 500 had been in use. (Although the product is allowable under Demeter USA standards.) In response to that information, I wrote in protest to Nikolai Fuchs, the head of the Agriculture Section of the School of Spiritual Science of the Anthroposophical Society in Dornach, Switzerland, as follows: “I am aware of a recent vote that does not endorse the use of Alex Podolinsky’s ‘Prepared’ 500. I observe that this appeared to be an exclusively European vote, with no input from America or Australia. How unfortunate that this matter was not put to a practical test, but relied on mere human opinion from persons who in all likelihood had never used the product. I would respectfully suggest that the matter be reopened and that a real examination be used to make such a decision rather than relying on opinion not based on direct perception. ‘Prepared’ 500 has been used by at least a few people in this country with excellent results, and the formula itself can certainly be justified by a careful reading of Rudolf Steiner’s own words. Again, I would urge reexamination of the question.”

To date, I have never received any concrete response from anyone in Europe that my suggestion was taken up, and so far as known, 500 P is still not allowed for Demeter certification in Europe, even though there are now a number of farms and especially vineyards in Europe which are using the “Prepared” 500 made in accordance with Alex Podolinsky’s standards with the same humus building and deep-rooted plants resulting.

One last point of information on the “Prepared” 500 needs to be mentioned. It was in 1989, I believe, when Alex Podolinsky shared with me his recipe for “Prepared” 500 at a conference in Kimberton, where he was lecturing. At that time, his practice was to use nothing but regular BD #500 on a farm’s soils for the first two years, with a switch to “Prepared” 500 thereafter. In a recent telephone conversation, Alex advised me that further experience in using the “Prepared” 500 had established that one could begin to apply it even in the first year of transitioning to biodynamic practice. The only exception to this change in practice was reserved for soils that were virtually sterile, or so poisoned and maltreated, that an application of regular BD #500 alone was still necessary to restore some semblance of life to those soils. Certainly, the results achieved

by many farms and vineyards in Australia and many other parts of the world that have taken up the use of “Prepared” 500, provide overwhelming substantiation for the benefits to be obtained using it in one’s biodynamic efforts.

Our last look at biodynamic compound preparations involves an examination of Ehrenfried Pfeiffer’s contribution to this subject. Pfeiffer was a highly qualified scientist and bacteriologist and made significant contributions to several fields of science, most especially filter paper chromatography and sensitive crystallization techniques for analysis. Sometime in the late 1940s, because of the disinterest which greeted efforts to promote the use of the biodynamic preparations, Pfeiffer began the development of a compost starter material that incorporated the compost preparations and BD #500 in a more easily used and more stable form than was possible using the actual preparations. In the process of developing what subsequently became known as the BD Compost Starter, he extracted, from the preparations themselves, a certain number of strains of bacteria which proved quite beneficial in creating good compost which had a very high proportion of colloidal humus. Ultimately, he extracted and cultured some fifty-five different bacteria and other organisms, virtually all of which were found in the compost preparations and the BD #500. These organisms continue to be cultured and are still used in the production of the Pfeiffer BD Compost Starter. The Starter also includes a significant dosage of the actual preparations in its manufacture. As a companion or corollary to the Compost Starter, Pfeiffer also formulated the Pfeiffer BD Field Spray, for use on farm fields, and it proved to be especially useful when turning under green manure crops. In its production, the Field Spray contained a much higher proportion of the BD #500 and a much reduced proportion of the compost preparations BD #502–507 than was the case for the BD Compost Starter. When Pfeiffer originated these formulas, it was much easier to promote them to the American farmer for the “beneficial bacteria and enzymes” which they contained rather than making reference to the biodynamic preparations. Along the way, there have been several attempts of “industrial espionage” by individuals who sought to obtain the secret behind the efficacy of the Pfeiffer products. In every case, the focus was on the “bacteria” and not on the biodynamic preparations which they contained. In every case, an inferior product resulted from these espionage efforts, because the individuals chose to “keep the bath water” and “throw away the baby.”

In the same fashion as one stirs or potentizes the manure, eggshells, and basalt powder in making the Maria Thun Barrel Compost, so do the Pfeiffer products also go

through a much more rigorous potentization process when they are made. Further justification for Pfeiffer's efforts to produce the BD Compost Starter and BD Field Spray can be found in the minutes of a July, 1955 Board of Directors meeting of the Biodynamic Farming and Gardening Association: "(Dr. Pfeiffer) worked out 27 different tests to determine quality on the BD preparations. These are mostly to test biological value, only the crystallization test being used to determine dynamic efficacy. He has come to the conclusion as a result of this recent work, that only experts should make the preparations, not every farmer his own." Given the fact that by 1955, there were undoubtedly some amateurish and poor quality preparations being made, it is probable that Dr. Pfeiffer felt a need to establish a fail-safe baseline of quality to achieve an acceptable and consistent biodynamic result. In his own way, he was trying to meet Rudolf Steiner's mandate "to make the benefits of our agricultural preparations available to the largest possible areas over the entire earth."

In 1995, when the Pfeiffer Foundation was being evicted by Sunbridge College (with the help of the local building inspection department) from the ramshackle conglomerate of buildings which housed them in Spring Valley (now Chestnut Ridge), New York, JPI and the Courtney farm offered to provide a place to house the continued production of the Pfeiffer materials. Subsequently, an agreement was reached with the Pfeiffer Foundation for JPI to distribute and produce batches of the BD Compost Starter and the BD Field Spray. Thereafter, the Pfeiffer Foundation ceased all operations in Spring Valley. Not long after this agreement was reached, JPI began to experience very strong expressions of antipathy to the continuation of Pfeiffer formula production. Comments along the lines of "Why don't you just let it die?" were heard from several unexpected quarters. It was during this period, as well, that we learned that there was a substantial group of people who regarded Pfeiffer as a person who had betrayed Steiner's work by putting the BD Compost Starter and BD Field Spray out in the market place and thereby "commercializing" biodynamics. Given the virtual poverty that Pfeiffer experienced in his later years and his exceptional dedication to the biodynamic work, it is difficult to agree with such a characterization. Instead of viewing the joining together of Josephine Porter's preparation work and Pfeiffer's BD Compost Starter and BD Field Spray work as an extremely important event with not only physical world consequences, but highly significant from a spiritual point of view, JPI has continued to be maligned in certain quarters as having also betrayed the biodynamic work. This attitude is what it is, and JPI will continue to

provide a "home for the preparations" as was Josephine Porter's hope. JPI will also be honored to provide a home for Pfeiffer's contribution of the BD Compost Starter and BD Field Spray.

While the agreement with the Pfeiffer Foundation clearly specified the proprietary nature of the Pfeiffer products, JPI has continued the production of these materials in the belief that they provide an easily opened door for mainstream agriculture to take up biodynamic practices. In more than a few instances, using these products has served to stimulate a greater interest in how they achieve such effects, and there have been several farmers who have gone beyond their use and begun to take up the use of the actual biodynamic preparations themselves. During 2010, JPI established clear legal ownership of the Pfeiffer formula, and is now in a position, if deemed desirable, to license its production to other entities. In 2010, JPI also chose to change the name of the Pfeiffer BD Field Spray to the Pfeiffer BD Field and Garden Spray, because of its widespread and successful use in gardening applications.

As one of the premier biodynamic compound preparations available in the world, Pfeiffer's contributions of the BD Compost Starter and the BD Field and Garden Spray deserve a place in the continuing expansion of biodynamic horizons along with Maria Thun's Barrel Compost and Alex Podolinsky's "Prepared" 500. All three of these biodynamic "pioneers" have made a significant contribution to biodynamic agriculture and each of them has done an admirable job of fulfilling Rudolf Steiner's hope that the biodynamic preparations would serve humankind "so that the Earth may be healed."

Notes

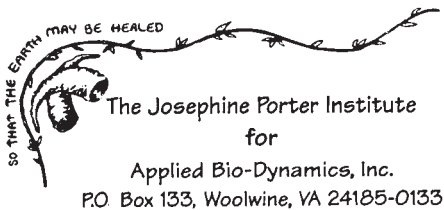
- 1) As voiced to, and recorded by Ehrenfried Pfeiffer in *We Remember Rudolf Steiner*, and subsequently republished in the introduction of *Agriculture*, as translated by George Adams, and in the Appendix to *Spiritual Foundations for the Renewal of Agriculture*, translated by Katherine Creeger and Malcolm Gardner. Excerpt taken from the Adams translation.
- 2) As can be seen in the movie, *How to Save the World*.
- 3) *Agriculture*, Rudolf Steiner, p. 91 (Adams translation).
- 4) *Bio-Dynamics: Agriculture of the Future*, Alex Podolinsky, p.18.

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Rudolf Steiner – *Spiritual Foundations for the Renewal of Agriculture*, p. 91



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