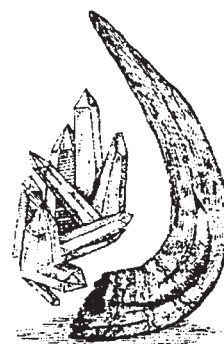


Applied BIODYNAMICS[®]



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Issue No. 72

How Do the Preparations Help In a Large-Scale Kentucky Farming Operation? – An Interview with Philip Lyvers and Laura Riccardi Lyvers Cindi Courter

Philip Lyvers runs Lyvers Farm, Inc., a large-scale grain and hog operation in Loretto, Kentucky. Lyvers Farm is a hybrid operation of conventional design and size, implementing biodynamic and organic practices for eight years. For four decades, Philip has operated the family farm, including wildlife and woodland management with tree planting and forestry improvements on nearly 2,000 acres. He has gardened and homesteaded his entire life.

Laura Riccardi Lyvers runs the biodynamic program for Foxhollow Farm in Crestwood, Kentucky which raises grass-fed beef, a 5-plus-acre market garden and a CSA. Laura has a small business – Biodynamic Agricultural Resources, providing biodynamic preparations and consultation to local farmers and gardeners. She has gardened biodynamically for over ten years.

I had the pleasure of interviewing Philip and Laura over several sessions between December 2010 and March 2011. They are dedicated farmers and gardeners who are protective over their animals, land, the environment and they practice sustainability. Philip uses a unique hybrid approach on his farm – conventional, organic and biodynamic. This out-of-the-box thinking and methodology led to some interesting discussions with Hugh Courtney as I was putting this article together. Hugh's thoughts have also been included at the appropriate points in the interview. I hope you will find the following information as interesting, thought provoking and useful as I have.

Cindi Courter: *How long have you been farming?*

Philip Lyvers: I have been farming for forty years, since 1970. I started farming with 336 acres and one hundred sows. Over the years, I bought the 336 acres plus surrounding acreage to create the farm it is today with 2,600 acres. The number of hogs has also increased to 550 sows. We produce nine thousand hogs per year to sell.



Fifty-fifty-five-day-old pigs. The wood seen here is all harvested and milled at the farm. All wooden structures on the farm are made and mended with wood harvested and milled there. Photos by Laura Riccardi Lyvers.

CC: *How long have you been practicing biodynamic agriculture?*

PL: Since 2002–2003, about eight or nine years.

CC: *How did you come to biodynamics?*

PL: Hugh Courtney wrote an article and it was published in Acres USA. Soon afterwards, I attended the Acres USA

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Editor's Note

Dear Readers,

This winter, many of us across the country have seen more than our share of rain, snow and cold temperatures. Well, perhaps this is the new normal. One more reason to increase your use of the preparations – soil and atmospheric health are a result of the balancing of forces brought about by preparations use. This will help plants remain healthy and stable during extreme weather conditions.

Cindi Courter spent many hours on the phone with farmers Philip Lyvers and Laura Riccardi Lyvers discussing the specifics of their biodynamic practices. We are especially excited about this article because of the example Philip and Laura are setting by incorporating biodynamic and sustainable practices into their conventional farm operation, to the extent that they can, while still maintaining an economically-viable operation. Each biodynamic input and practice matters. Even if all conventional farmers just grew cover crops, or properly composted their manure using preparations, soils would begin to recover, and less nitrogen and phosphorus would make its way into waterways. JPI hopes to reach out to other large-scale farmers who are open-minded, and care about soil fertility and proper composting as do Philip and Laura. As you might

have read in our Fall 2010 issue, JPI is in the planning stages of two research projects to use the biodynamic preparations at large-scale dairy and hog farms: "Proper Handling of Animal Waste Using Biodynamic Preparations and Pfeiffer Products" and "Conversion of Chemically-Farmed Soil to Biodynamically-Alive Soil." Even though a farmer may not convert his or her entire operation to the level of being certified Biodynamic, each effort moves the land in the right direction – toward health and sustainability. And each action enlivens the elements on the land, or perhaps in some cases, invites them back.

This is the wonderful aspect of biodynamics, it is inclusive. Nature does not exclude, we are all part of her. So, whether you are a backyard gardener, a CSA farmer, or a large-scale producer, one can bring aspects of biodynamics onto your land that will improve the quality of the soil and the food produced.

In this issue, there are questions and answers from Hugh Courtney on various aspects of preparation usage, composting and more.

Please visit JPI's new website, www.jpibiodynamics.org, where you may now order books and preparations on-line, sign up for our e-news updates and view our current events listing.

Warm greetings,
Christy Korrow

Applied Biodynamics

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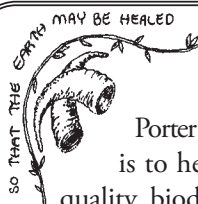
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Mission

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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Notes and News from the Executive Director

Shelley Goguen Hulbert

I thought it might interest readers to get an inside glimpse into all that happens at the Josephine Porter Institute from the eyes of the new executive director. I have been here at JPI since the beginning of the year and I can say that the staff is outstanding! I feel so fortunate to have stepped into an organization that has such a committed staff dedicated to the mission of JPI, which is to heal the earth by making quality biodynamic preparations available to gardeners and farmers throughout the US and by offering biodynamic consultation and educational opportunities, and doing research to further the practice of biodynamics. I would like to introduce you to our fine staff. They are one of the compelling reasons that I chose to come to JPI.

We are so fortunate to have Cynthia Bowman, our office manager. I am sure that many of you have a telephone relationship with her! Besides customer service and sales, Cynthia is an organizer extraordinaire. Thanks to her our office runs smoothly. Jason Martin is our inventory and packaging manager for the preparations. He is a wiz with inventory details, and pays the utmost attention to maintaining the high quality of the preparations in his packaging and shipping work. A bonus for us, he has impeccable computer skills. Larry Mabe, creates our Pfeiffer products. He has a background in biology which he uses to manage the intricate process of making our Pfeiffer BD Compost Starter and Pfeiffer BD Field & Garden Spray. In addition, he can fix anything mechanical and has customized several pieces of equipment for us, including making our copper stirring machine from scratch. Larry just celebrated his tenth anniversary with JPI in February. Jeremiah Proctor oversees the quality storage of all of our biodynamic preparations,

makes our Biodynamic Compound Preparation and cares for the cows who support our preparation making. He is also our website designer and master. And last, but certainly not least, there is Hugh Courtney, who continues to be our master preparation maker and educator. You'll still find yourself speaking with him on the phone or via email for complex biodynamic questions. We are so fortunate that Hugh Courtney remains with us during this time of transition, offering his biodynamic wisdom and background support. In addition, he now has a chance to engage in research that he has had on hold. He is also hoping to write a book, or two! The entire JPI team strives to support you in your practice of biodynamics, making sure that you have preparations and/or information and education when you need them. Together with each of you we are healing the earth.

Over the next year, I will be working with the staff and the board of directors to document all operations and administrative functions, increase our customer base and outreach efforts and raise funds to support our education and research plans. In short, we are putting systems in place to insure JPI's long term viability as a vital member of our national and international biodynamic communities.

At this time of year, we are busy helping people create or renew their Associative Contracts (AC). AC's are a huge help to us in our planning so that we insure that you have the preparations and information you need in the spring and fall. At the same time we are winding down our attendance at sustainable farming conferences, which have included the National Biodynamic Conference, Acres USA, Virginia Biological Farmers, the Fellowship of Preparation Makers Conference, and Georgia Organics. At these conferences we have the opportunity to educate attendees about biodynamics and make biodynamic preparations and books available to them.

I look forward to giving you a glimpse, seasonally, of all that is happening here at JPI. Thank you for your support of JPI and biodynamics.

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*)

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How Do The Preparations Help on a Large-Scale Kentucky Farming Operation?

conference and it was there that I spoke to Hugh. Hugh recommended six publications for me to read – Steiner's *Agriculture*, three books by Alex Podolinsky, Hugh Lovel's book *The Biodynamic Farm* and *Grasp the Nettle* by Peter Proctor. The information made a great deal of sense to me. I continued to study more and more about the practice and started to use it.

I bought the biodynamic preparations from Hugh and started making basic compost teas with a tea machine in accordance with what I had read about the work done by Elaine Ingham: the microbial life in the teas are enhanced by using preparations.¹ Years ago, I attended one of Elaine's workshops at Acres. She showed slides of the preparations and how they enhanced the microbial life in teas. The compost teas are used to help with disease-suppression and fungal issues (less *fusarian*), soil-building and nutrient-retention in the soil. We see this in the overall quality of the grain we grow.

CC: *So then what? Are you still continuing to use the same process?*

PL: I bought the preparations from Hugh for two or three years. Gradually, Steve Storch, a biodynamic farmer from New York, came down here from Long Island and showed us how to make BC (Biodynamic Compound Preparation a.k.a. barrel compost) and how to use the preps in the hog pits to treat the manures. For a 90,000 gallon pit, I use one set of compost preps plus one unit of BD #501 (horn silica) per pit. A pit holds between 9,000 and 90,000 gallons.

Once the preps are put into the pits, the manure breaks down better and the odor decreases. Our manure tests have shown that the treated manure has a much higher mineral content – 46% more phosphorous and 21% more nitrogen.

CC: *That's considerable!*

PL: By breaking the manure down in a way where the manures aren't letting off noxious gases and odors, more nitrogen is tied up in the manures and not lost in the atmosphere. The ammonia levels are much lower. This is a direct observation by using one's sense of smell. We had our pits tested for three years without the preps and seven years with the preps. We tested the manure in the same pits and came up with different results than when we didn't use the preparations.

CC: *So, for each pit you use one set of compost preps and one unit of BD #501. What else do you do in your process?*

PL: Each time we clean a barn, or pump a pit we recharge the pit, between six weeks and four-and-a-half months, depending on the barn/pit. Every three weeks the new pigs

are moved out of the farrow house, where they were born, and into the barn where they are grown out. The hogs are 180 days old and weigh 240 pounds when they go to market.

CC: *Do you use any of the preparations, perhaps specifically the BC, in the animal's food?*

PL: I have previously used BC in the feed at the rate of 1 pound per ton of feed. We were hoping with E. Pfeiffer's and Nicolaus Remer's work, we would see a change in the animals.² We added the BC for four years. It was supposed to enhance the digestion of food and the animals' stomachs. We couldn't prove the hypothesis, so we have stopped for now. We need further study and research to prove it.

Hugh Courtney: Given the fact that hogs from time immemorial are known to eat dirt on a regular basis, and to such an extent that rings are clamped onto their noses to keep them from destroying plant growth in the homestead garden and that sometimes they are deliberately turned into an area to, in essence, provide a "plowing service," one should not be concerned about feeding them BC which is certainly *not* manure any longer.

CC: *What other practices do you employ towards achieving healthier animals?*

PL: We do not use antibiotics, hormones or steroids on our hogs. We grow about half the grain we use for feed

Anatomy of a Hog Barn

In the Lyvers' hog farm operation, three different barns are used for the various phases of the hog's life and purpose. Each barn has a "pit" underneath it and the size of the pit (in gallons) correlates to the number of animals the barn houses, as well as the purpose of the animal. First, there is the farrowing house where the piglets are born and where the sows are kept with the piglets until they are weaned. When the piglets are weaned, they are moved to what is called a "nursery/grower/finishing" (NGF) barn. At that time, the sows are moved to gestation barns. The hog houses, or barns, are mostly of wood construction with concrete floors with slats in them. When it is cold, and the young pigs are weaned from the sow, bedding is put down for them and lights are kept on them. The sides of the barns have "curtains" made of plastic which are opened and closed (rolled up and down) according to the temperature needs of the animals. Light comes through them either way. The farrowing houses are constructed differently, with no curtains, and there are some variations in gestation houses and NGF houses.



Flower and herb garden. Gestation barn to the right with windows open; greenhouse on left.

rations. The manures from the hogs supply fertility for the soil. Our animals' feed is comprised of 30% soybean meal and minerals and 70% grain. In our location, and in most places in the country, all of the soybean meal we can buy is genetically-modified (GMO). Of the grain that we buy, we try to get the highest percentage of non-GMO. We are trying to use no antibiotics and the least amount of GMO feed and still stay in business.

Hugh Courtney: The availability of organic soy and non-GMO soy across the US is not only cost-prohibitive, but in fact virtually non-existent. The market has been cornered by other countries.

CC: *Your operation is very large. Is this the reason why you need to employ other agricultural methodology in addition to biodynamics?*

PL: The size of the operation is one aspect. Another aspect in our hybrid approach is that the hogs are sold to the commodities market and receive commodity prices. Despite several attempts and investments made to work with other

buyers, the limitations on the buyer's side of slaughtering, processing and shipping have so far eliminated our product's availability to different, higher paying markets. Therefore, we do not receive a premium price for our product, limiting us in what we can do in our operation. The inputs cannot cost more than the price paid for the product.

CC: *Are there any other methods you employ in your "hybrid" approach to farming and hog production?*

PL: We use conventional, organic and biodynamic methods. We find that all of the methods have good aspects to them. For example, because we must employ growing continuous crops, it is important to understand about the management requirement for weed control in this type of crop production. Because of our hilly terrain, we use no-till methods and cover crops, and we do have to use some herbicides. The concern is for timely weed management in order to protect corn yields, especially in the post-emergence phase. The land receives regular applications of all nine BD preparations. As I said before, the compost

preps are routinely added to the manure pits eliminating a lot of the hog farm odor. In order to supply as high a percentage of the hogs' food as we can, we grow 300 acres of corn and 150 acres of wheat – half of our feed ration.

Hugh Courtney: Should we encourage all farmers to use some aspects of biodynamic agriculture? The more that the spiritual energy of the preparations is used in the world, the less will it be possible for the farmer under the influence of the preparations to not change to a healthier system. We have to start somewhere. Philip in essence is caught in something of an economic trap, because of the huge investment in the hog production system of scale that he is doing, but sooner or later the farmer willing to think like Philip will find a way out of that economic challenge. That way out will only be furthered the more the preparations are used. It will take more people thinking like Philip to design a different hog production model and will take quite a few years, or else a rather massive conversion to vegetarianism. JPI stands for healing the earth. In all farming systems, increased uses of the preparations will only further that healing possibility. We must start the conversion process somehow, and to the greatest extent possible, without completely bankrupting the farmer.

CC: *How do you work with biodynamic agriculture, while still using other methods, staying within all the necessary parameters of each methodology, and ultimately achieving high yields in crops, healthy animals, healthy soils and sustainability?*

PL: The biodynamic preparations tremendously enhance the farm by balancing the minerals in the manure and compost. We do not have to bring in any fertility. This year, 2011, we will buy no nitrogen for the 450 acres of crops. All needed nitrogen will be supplied from the hog manures and legume cover crop. At times we can use the liquid manures treated with the preps to burn down the cover crops, instead of herbicides traditionally used to “burn down” in no-till farming. We make all nine of the BD preps plus BC, and harvest all of the needed ingredients (dandelions, chamomile, valerian, yarrow, stinging nettle, oak bark and manure) to make the preps. We do have to buy *Equisetum*, ground silica and cow horns. Because of the rolling land on the farm, we do need to use some herbicides to control weeds, but no GMOs. We do have to be no-till for government programs in order to comply because of the shape of the land. However, in the big picture, I believe in no-till because of the rolling landscape, not because of government subsidies which are very minimal.

CC: *Do you embrace the concepts of the local food movements?*

PL: Food will have to be local so everyone knows what they are getting. How is it produced? Is it healthy, nutritious? The farm produces food for my own family. One must

grow as much as one can for self and family in order to have one's own forces in the food.

CC: *And, you do this and see a noticeable difference by using the preparations?*

PL: Yes, we see a noticeable difference in our garden produce, our croplands and in the health of the animals. What I am really interested in is the calcium and silica relationship. Modern agriculture has been driven by calcium, not by silica. If modern agriculture understood the calcium and silica relationship, many issues and questions could be answered. I wonder why certain elements of calcium and silica have not been addressed more. Silica applied to legumes will reduce seed production. Steiner said, “the silica, when applied to legumes, would destroy most of the reproduction and if applied to wheat could destroy some reproduction.” (*Agriculture*, Adams translation, p. 81.) In my experience, silica may need to be soil applied instead of plant applied with some plants.

Hugh Courtney: The focus in soil testing and the recommendations by the extension services is always on adding lime to the crop land. However, there is no attention paid whatsoever to silica. An approach I can endorse is applying the silica to the soil instead of to the plant in some cases. This is based on an intuitive experiment with broccoli grown on two different side-by-side beds with identical treatment other than one bed received BD #501 as a pre-planting soil treatment. Both beds received BC, BD #500 and fermented BD #508. The crystalline uprightness and virtually zero cabbage worms on the silica treated bed were absolutely amazing!

CC: *Are there particular times of the year when you suggest this should be done?*

PL: Silica, in the form of BD #508 or BD #501 may need to be sprayed on the soil in the fall and early winter to prepare for winter's in-breath. Steiner says that we see the effects and “expression” of silica in the roots (tap roots) and in the color of the flower (*Agriculture Course*). So we need to be aware and know if we are applying it to the right plant at the right time.

In the case of wheat, in 2010 we used fermented *Equisetum* before fourth leaf stage and we used horn silica after pollination. This had a positive effect. Spraying it on at the wrong time will reduce the number of heads of wheat. In *Grasp the Nettle* (p. 57), Peter Proctor says to use BD #501 before fourth leaf stage on wheat and again after it flowers. I have observed that spraying fermented BD #508 at flowering reduces the number of tillers per wheat plant. To understand this better: wheat has four leaves per tiller and the flowering of the wheat plant can take two weeks if all the tillers set heads and pollinate. By spraying BD #508 during flowering

stage, reduction of additional tillers – which means reduction of additional wheat grain – has been observed.

Steiner's lectures talk about enlivening the nitrogen in the soil in November and December with a legume so the soil can be sensitive. I do this by planting vetch, crimson clover and sweet clover. I plant three different cover crops together, of three different colors (blue, red, and yellow) to correspond with the three planets of Jupiter, Mars and Saturn. I use them following the wheat crop in the summer and half the corn crop in the fall.

CC: *So, Phillip, let's recap for our readers why you would consider spraying the silica on the soil rather than on the plant...*

PL: Steiner said the silica, when applied to legumes, would destroy most of the reproduction and if applied to wheat, it could destroy some reproduction. I see this on my own farm. The *Equisetum* and/or horn silica can be sprayed on wheat, but only after it has flowered or before fourth leaf stage, which in effect means also spraying the soil because the plant is so small at fourth leaf stage. Each plant species is different, so it needs to be determined when to spray what

crop. If silica is sprayed on the soil, we do not see a problem with reproduction in legumes. We have begun to think that if the silica is applied to the soil in the fall, it may help the Earth/soil to take in more of the cosmic forces in the winter.

CC: *How long have you noticed the different effects of silica?*

PL: For the legumes, it's been four years. With the wheat, it's been two years. I noticed it a great deal this past summer. On 40 acres of wheat we sprayed BD #508, BC and BD #500 before the fourth leaf stage and sprayed BD #501 after the wheat had flowered. It out-yielded the acres of wheat where we applied only the BD #508, BC and BD #500 by 20 bushels per acre.

CC: *That's considerable!*

PL: The *Equisetum* (BD #508) should help to offset moon forces and therefore helps to regulate water. It also helps to balance pH and minerals if it does what the kidney does in the human body.

CC: *How do you apply the preparations on your farm?*

PL: BC, *Equisetum* and BD #500 are all applied together in both the spring and fall of each year. We use a tea machine to separate out the coarse solids, to extract the humified



One of two rows of BC pits (second row not shown), with wheat field in background in early March (between 3rd and 4th leaf stage).

material from any coarser substance of the preparations. The water and preparations are run through the compost brewer (tea machine) for about an hour. We end up with a very dark brew which is then run through flowforms to potentize the preparations for 1 hour and 20 minutes because that was the result from dowsing. In 2010, I used BD #501 only on part of the wheat crop (40 acres) after flowering. In 2011, I will spray BD #501 on all 150 acres of wheat before fourth leaf. I have already sprayed the soil in the wheat fields with fermented BD #508 in the fall of 2010 before planting, and will spray it again after pollination to control fungal diseases. We also use all the preparations on the gardens, fruit trees and berries.

The six compost preparations are used in liquid manures and in the compost. We make compost year-round from dead animals and carbon: rotten hay, straw, and wood chips. We also use the minerals from the bottom of the hog lagoon which are very high in calcium.

CC: *Since your operation relies on wheat and corn production, as well as the hogs cannot free range on pasture land and must stay in barns, how do you deal with insect and weed pests?*

PL: I use a lot of ashing, but I do not understand it very well, yet.

CC: *How many different ashes do you make for your farm?*

PL: About fifty.

CC: *Wow! That is a huge number and a lot to create and apply on the land. Tell me several of the major pests that you are dealing with...*

PL: Flea beetles, corn worms, potato beetles, squash beetles, mice, voles, rats and raccoons. At times it works well. Other times, it does not. We have seen a reduction in the number of deer and there are many less weeds in the garden.

CC: *How long have you been ashing?*

PL: Seven years. I have been using the deer peppers for seven years.

CC: *How do you see the peppers working?*

PL: We keep count of the number of harvested deer on our farm. We record the numbers, the age, weight, sex and if they reproduced. We have seen a reduction in reproduction, reduction in the number of fawns and the number of does that do not have fawns. There are less twins, no triplets and more does not breeding at all.

CC: *Is this just on your farm, or have you heard reports of this happening elsewhere?*

PL: On the edges of the farm, reproduction is the same, but in the center or core of the farm, we see this by the number of deer we are harvesting.

CC: *How many deer do you harvest per year in order to have this data?*

PL: For four years, we were harvesting over one hundred – 115

per year. Then, the numbers were reduced to seventy. Last year, it was fifty and this year, we have harvested sixty. There are the same number of hunters and the same length of season. All other criteria are the same.

CC: *What is your formula for making the deer peppers, and peppers for weed and insect pests?*

PL: For over forty peppers, I use ¼ teaspoon of each pest pepper. Each pepper is burned separately with the standard minimum of insect or weed seed as per Hugh. I use water, not lactose. The peppers are combined together to dynamize, then potentize. I potentize in water, first in a jar, then bucket, giving me two gallons plus one quart of liquid when at the 4th power. I then dilute this to 4,500 gallons of water for the final spray application and apply when I apply other preps to treat the 450 acres of crop fields. I treat the land twice per year. There is no way of knowing for sure. It will take time, but I do really see a difference with the deer.

CC: *Have you seen a marked difference in the number of pests when using any of the other peppers?*

PL: Yes, I have also seen a difference in the number of mice in the hog houses when I use the pepper every moon cycle (once a month). We buy a lot less mice bait, replace the curtains on the hog houses a lot less and notice less damage to the electric wiring. We were applying the peppers before a full moon and are now applying after the full moon.

CC: *The pest pepper work is definitely interesting and worthwhile. One of the many research projects defined by JPI is on pest peppers, both animal, insect and weed. I believe you are one of the main farmers working with the pest peppers. Perhaps with extra support, we can gather more data to gain solid recognition for this procedure.*

PL: There should be more research done and then we would have more information – something we could compare to what we are currently seeing.

CC: *I understand you and Laura just returned from the International Biodynamic Conference in Dornach, Switzerland.*

PL: We did. We left January 28 and returned to the farm on February 6.

CC: *How was the experience?*

PL: The whole experience was great. There were six hundred attendees at the Goetheanum. Just seeing the building was amazing.³ The conference was led by Otto Scharmer.⁴

Having been raised on a biodynamic farm in Germany, Scharmer showed the conference attendees how Theory U can keep the future stream, the “intelligence” that comes to us from the future, building and evolving through the individual. There were representatives from over thirty countries including: Brazil, Uruguay, Mexico, Canada, Argentina... all over Europe... and, amazingly, the language barriers were taken care of through multiple interpreters.

CC: So, this process is a “look at the big picture” gestalt for moving people, companies and ideas forward?

PL: Yes, this could be a great way to move biodynamics forward.

CC: *Imagine, everyone working together from every country in the world. Now, that really is exciting!*

PL: There were two classes for learning everyday with follow-up discussions. The conference organizers were very pleased. This was an interactive meeting, not a passive lecture-and-audience type of conference. Through the work of the conference leaders and organizers we were able to do individual inner work, interactive sharing through diverse, creative exercises in groups and then share this work to the rest of the six-hundred attendees. All in three days. From this we could connect our personal “future streaming” to the movement as a whole.

CC: *Did you take away any one thing from the conference that you can use on your farm?*

PL: Well, we’re still processing all the information and it will certainly be a long, on-going journey. Theory U helped us to look at our true selves and our highest purpose in our working life. From there, it is about having the courage and ability to listen and see what is coming out of the future stream to meet us and connecting with that impulse.

CC: *It is a very exciting time to be in biodynamics with its huge potential! Thank you so much, Philip and Laura!*

Notes

- 1) Elaine Ingham is an American soil biology researcher and founder of Soil Foodweb, Inc. She is recognized

Presencing

Otto Scharmer has introduced the theory and practice of the U process, based on a concept he calls “presencing.” A blend of the words “presence” and “sensing,” presencing signifies a heightened state of attention that allows individuals and groups to shift the inner place from which they function. When that shift happens, people begin to operate from a future space of possibility that they feel wants to merge. Being able to facilitate that shift is, according to Scharmer, the essence of leadership today. (For further information, go to www.presencing.com.)

around the world as a leader in soil microbiology and research of the soil food web. She is a key author of the USDA’s *Soil Biology Primer*.

- 2) Titles by these authors are available through JPI.
- 3) Rudolf Steiner designed and supervised the construction of seventeen buildings between 1908 and 1925. The first was a concrete and timber structure; the buildings were intended to be the synthesis of diverse artistic media and sensory effects, infused with spiritual significance.
- 4) Professor of Economics, MIT, German anthroposophist and author of *Theory U: Leading from the Future as it Emerges*, a model for change and used as a business model and step process for companies to show where they are now and where they will be in the future.

Anecdotes and Antidotes – Biodynamics at Work

Hugh Courtney answers readers’ questions

Where to Begin?

Q: *Do instructions accompany the preparations? Or would I have to attend a class/seminar to learn how to use them?*

I am working toward Demeter Biodynamic® certification. Would using the preparations be a good starting point? Or am I putting the cart before the horse? I don’t know the steps of the certification process yet – but I don’t want to wait too much longer to prepare the garden.

A: From our point of view, the preparations are absolutely the place to start. Without their use, there can be no biodynamics. On the other hand, we do not recommend that you should tackle one hundred acres all at once, but that you start off with a smaller area and apply the preparations as diligently

and thoroughly as possible so that you solve any technical problems you may encounter (stirring setup or equipment, spraying equipment and calibration thereof, etc.). The smaller, more easily managed area will also be easier to observe and note the biodynamic impact. There are instructions accompanying the preparations, but you can also give us a call if you need clarification. With a JPI Associative Contract, telephone consultation is available without charge as part of the package. While attending a biodynamic seminar may be advantageous, we have talked more than a few newcomers to biodynamics through the steps of using them.

For details on Demeter Biodynamic Certification, you may contact the Demeter Association: www.demeter-usa.org.

When to Bury BD #501 (Horn Silica)

Q: *We're wondering when to stuff our cow horn with silica and when to bury it in the ground. Any thoughts?*

A: Burying of the silica in the horn by Steiner's indications "you let the horn spend the summer in the earth and in the late autumn dig it out and keep its contents until the following spring." This indication is widely interpreted by biodynamic preparation makers, with many choosing the period from Easter to Michaelmas (September 29) as appropriate. Our practice here at JPI (as a result of sensitive crystallization tests, and our training by Josephine Porter many years ago, plus our own hoped-for sensitivity to the process) is to bury the silica horns shortly after Ascension Day (approximately mid-May) and dig them up around Thanksgiving but absolutely before Advent. We do not believe that Michaelmas meets the criteria for "late autumn," since it is only eight days after the end of summer. But in biodynamic agriculture, the practitioner may make his/her own determination "in freedom," as long as it is understood that one must live with the consequences of those choices.

Concerning Compost

Q: *I purchased your Biodynamic Compost Preparations and am wondering if there are specific days that are better to add to the compost?*

A: There are two answers to your question.

- 1) The specific day would be when you can get the task done. (Avoid blackouts, eclipses, occultations, Good Friday and Holy Saturday.)
- 2) Throughout her fifty-plus years of working with the preparations, German biodynamic farmer and researcher Maria Thun has found that best compost seems to happen when the Moon is in the constellation Capricorn.

Q: *Can the Pfeiffer BD Compost Starter be brewed in a compost tea? If so, how much should I use in 50 gallons of tea?*

A: The Pfeiffer BD Compost Starter has been used by a number of people in compost tea brewing with outstanding results. One or 2 units would serve you well. Just activate the BD Compost Starter in the usual way before adding to the tea brewer, and brew thereafter for twenty-four to forty-eight hours. It would also be helpful to improve the beneficial fungi count in the compost tea by adding a unit of fermented BD #508 (*Equisetum arvense*) to each batch. Please note that it takes ten days to two weeks to properly ferment the BD #508. For instructions on making the fermented BD #508, please contact JPI.

Q: *Do you have any additional recommendations for Pfeiffer BD Compost Starter? I refer to the amount of water needed to mix the starter, the frequency of turning compost piles, the*

ideal carbon/nitrogen ratio and adequate time required to obtain a good compost.

A: The amount of water used to mix with the starter is on the order of 3 to 10 gallons per ton of material. The major thing to take into account is to use 1 unit of starter for each 1 ½ tons of material. The quantity of water used is not as relevant other than needing to take into account weather and climate conditions that might affect the moisture in the pile as it is working and the particular substances being composted. A significant amount of paper or sawdust in the pile would require more moisture, whereas a large quantity of wet manure or fresh green vegetable matter would need less water.

Experience in composting is the best aid to judging. Although most compost "experts" speak of a carbon/nitrogen ratio of 15:1 up to 25:1, Pfeiffer, writing in *The Compost Manufacturer's Manual*, (out-of-print) indicates that his exhaustive laboratory tests in using the Compost Starter results in a preferred ratio of 11:1 to 20:1. Turning a pile frequently results in oxidizing many of the elements in the substances of the pile, that is: Carbon Dioxide or Ammonia gases, etc. rather than allowing for the desired colloidal humus to be built up. Thus, turning should only be employed if the pile is either too wet or too dry (maintain 50–60% moisture). If the pile does need to be turned, another smaller dose (say, 1 unit per 10 tons of material) of the BD Compost Starter would be helpful. Depending on the material in the pile, finished compost has been achieved in as little as three weeks, but even the most difficult materials should yield finished compost in three months or less with careful monitoring of the pile. Hope this response addresses your questions adequately.

Recommended Reading

Q: *I've read Steiner's Agriculture Course and Hugh Lovel's book, The Biodynamic Farm, but the they both seem to be a little general. I'm into learning about the metaphysical side of biodynamics, but is there kind of a more straight-forward "plant this crop at this time while this is happening" guide for newbies like me?*

A: [After offering a detailed response to his inquiry regarding the practical side of biodynamics referencing the use of the biodynamic planting calendar, the following response was provided.] If you do want to address somewhat the metaphysical side of biodynamics, try Storl, *Culture and Horticulture: A Philosophy of Gardening*, or my introductory essay in Steiner's *What is Biodynamics: A Way to Heal the Earth*. Both titles are available from JPI.

Upcoming Events at JPI

May 7, 2011 – 9:30 to 4:30: How to Harvest, Make and Use the Valerian Preparation (BD #507)

Lunch is included in the price. Cost is \$75.00.

May 31, 2011 – 9:30 to 4:30: Biodynamic Technique of Ashing

Join us to learn about this grossly under-utilized practice. Ashing (or “biodynamic peppering” as it is also called) is an effective means for farmers and gardeners to deal with pests, be they weed, insect or animal. This is a hands-on workshop in which we will produce several pest peppers from scratch. Attendees are advised to wear appropriate clothing for an outdoor workshop.

Lunch is included in the price. Cost is \$75.00.

June 4, 2011 – 9:30 to 4:30: Making the Silica (BD #501) Preparation and Yarrow (BD #502) Preparation – Hugh Courtney with JPI Staff

June 5, 2011 – 9:30 to 3:30: A Deeper Understanding of the Plant/Planet Relationship for the Rejuvenation of Seeds, Plants and Our Own Being – Gunther Hauk

Not only have we become ever more disconnected from nature in general, but to an even greater extent to the cosmic rhythms influencing and supporting all life on Earth. A wonderful “connect” is to discover how the rhythms and movements of planets create the beautiful forms and growth patterns of plants. You will never look at plants the same way, after actually “seeing” Mars, Venus, Mercury in them.

For a future seed rejuvenation and plant breeding in harmony with nature – in sharp contrast to GMOs – we definitely have to deepen our knowledge of how the outer (Mars, Jupiter, Saturn) and the inner (Moon, Mercury, Venus) planets affect plant and seed quality and power of germination.

This course will positively alter your relationship to the plant world and give you tools in your work as gardener and farmer that are as exciting as they are necessary for the future.

Cost is \$75.00 for each day. Saturday dinner is \$20 and Sunday brunch is \$15.00. The total cost for both days including meals is \$185.00.

We Need Your Help Picking Dandelions!

Dandelion blossoms are **urgently** needed for use in making one of the biodynamic compost preparations (BD #506). This is a very practical way that you can join with us in fulfilling our mission “to heal the earth” by making the biodynamic preparations available to farmers and gardeners all over the United States and beyond.

Pick the Blossoms as Early in the Day as Possible And as Early in the Springtime as You Can

It is best to pick no later than one hour before meridian noon (the time when the sun is directly overhead where you are).

Pick Dandelions Where You Are Reasonably Sure No Poisons and Mineral Fertilizers Have Been Applied

Do not pick along roadside ditches or near parking lots.

Pick Only the Young Blossoms with Bull’s Eyes

Choose blossoms where the central petals are yet to open (see photo below). Pop the flowers off the stems and remove leaves or “trash.”

Blossoms Need Careful Drying, Which Must Be Done in a Warm, Dry, Shady Spot

A good method is to put them near a wood stove spread out on newspapers. Once dry put them in a bag and send them to JPI.

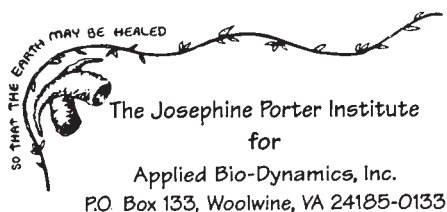
We will pay \$25.00 per pound for **dried dandelion blossoms only** or send you an equivalent value of biodynamic preparations or books. We would like to know if you plan to help us, so please call us at 276-930-2463. Thank you!



The blossom on the right has a bull's eye and is perfect for picking. The blossom on the left, is fully open and is too mature for use in making BD #506.

Silica lives either as if in a castle, as in the horsetail plant, or spread out over everything, sometimes in very homeopathic amounts. It is responsible for wresting away from the lime what must be wrested away. Here again we are confronted with extremely subtle processes in nature.

Rudolf Steiner – *Spiritual Foundations for the Renewal of Agriculture*, p. 60



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