SO THAT THE EARTH MAY BE HEALED

# Applied BIODYNAMICS©

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## Fellowship of the Preparation Makers Holds Meeting in California

***Hunter Francis***

*Over fifty people from across the continent met February 18–21 at the beautiful Yokayo Roots Ranch in Ukiah, California at the Fellowship of the Preparation Makers 2016 conference. For over a decade, those interested in advancing preparation making in North America have met to share their knowledge and experience in biodynamic preparation making. The conference has provided a wonderful opportunity for people to gain deeper insight into the craft and to strengthen each other's work thereby. This year was no exception and was a success by all accounts. The theme of the conference was "Making Visible Formative Forces within Substance: Broadening our Horizon to Perceive Quality in BD #500 (horn manure preparation)." The event was hosted by the Biodynamic Association of Northern California (BDANC) and co-sponsored by the Josephine Porter Institute for Applied Biodynamics and the Biodynamic Association. It was interspersed with spiritual exercises, social activities, a talent show and exquisite biodynamic food. A highlight of the gathering was a group tour given by Luke Frey of his family farm (Frey Vineyards) in Redwood Valley, where people were able to see compost and preparations in production. The event was a wonderful opportunity to network with some of the leading preparation makers in the Western Hemisphere. A month later, I had the opportunity to attend another conference at the Harvard Divinity School in Cambridge, Massachusetts entitled the 'Spirit of Sustainable Agriculture.' Not surprisingly, biodynamics had a strong presence at that event, which likewise provided a great opportunity to make connections. Reflections on that conference follow this article.*

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The Fellowship of Preparation Makers was conceived at a conference in Copake, New York in 2002 and has convened several times since in various locations around the country. These gatherings were born out of a shared concern that the quantity and quality of available preparations be sustained and improved in support of the biodynamic movement into the future. With the aging of several of the leaders in the movement and with the expansion of preparation making by new groups across the country, the need for education and coordination of the movement was recognized and has become a driving force of the Fellowship. In addition to the national meetings, several subgroups have formed to support preparation making activities, including the generation of outreach materials, and support for evaluating, researching and distributing the preparations. The network is growing and new members are welcome.

*Lloyd Nelson and the Frey's barrel compost*

The theme of this year's conference emerged from a growing interest in the question of quality. Utilizing BD #500 (horn manure) as a basis for study, conference participants, examined the question of quality in a series of lectures, hands-on demonstrations and collegial discussions with

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# From the Editor

Dear Friends of JPI,

In February of this year, I had the good fortune to be able to attend the Fellowship of the Preparation Makers 2016 conference that was held in Ukiah in Mendocino County, California. It was a wonderful opportunity to meet many of the country's leaders involved in preparation making, many of whom have been highlighted throughout the years in this publication. The breadth and depth of experience that this group comprises is impressive to say the least. I was very inspired by the insights and creativity that were shared there and am delighted to relate them in the feature article of this issue.

Given the season, many of the articles that we are featuring here reflect the practices and preparations used during this time of year. We are especially grateful to our contributing writers for sharing their thoughts and wisdom on the many considerations that we should keep in mind during this season. Special thanks go to Karen Davis-Brown for her poetic reflections on the spring and summer activities of biodynamics and also for her piece on stirring the BD #501 preparation. Co-editor Abby Porter also shares her experiences with using the BD #501, as well as practical tips for using the sequential sprays in weather extremes. Carol St. John explains her results from an interesting seedling and transplanting trial that she conducted at Blueberry Gardens in Maryland as her project for a training course at the Pfeiffer Center. JPI Board President Pat Frazier opens this issue with exciting news about the growth of JPI, future plans, and the now finalized purchase of our home farm site!

Needless to say, I am saddened by the news of the passing of unique leader in the preparation making movement, Devon Strong. He was clearly a remarkable soul who dedicated his life to the inclusion of our native ruminant, the American bison, in the preparation making repertoire. I was honored to have been able to interview him in one of our previous issues and thank Wali Via for his touching remembrance of Devon. These and many other opportunities to interact with the leading figures of biodyamics from the across the globe have been a meaningful part of my professional and personal experience. I'm very grateful to have had the opportunity to serve in the capacity of writer and co-editor for over a decade now. However, given new projects and goals on the horizon for me, I will be stepping down as co-editor at the end of this year. Please note the announcement at the end of this issue for the recruitment of a new person to fill this position. This is a wonderful opportunity, and it has been my privilege and honor to work with the talented and dedicated team members involved in the publication of *Applied Biodynamics.* I will miss working with them greatly when I conclude my tenure in December.

With all our best wishes for a prosperous season,
Hunter Francis


## *Applied Biodynamics*

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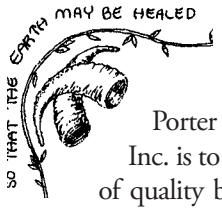


## Mission

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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**Fellowship of the Preparation Makers Holds Meeting in California**

the overall goal of helping people to increase their capacity to perceive quality. Discussion of the spiritual impulses behind preparation making permeated the conference. As co-host, Luke Frey welcomed participants with a reminder that spiritual beings are at work behind the community's efforts and that they desire to dialogue with and support us. The sense of community created by the conference itself provided a container within which to cultivate connection with the spiritual world. In the end, true progress in preparation making, or any activity, will increasingly depend on recognition of that connection. "Guardian angels want to move us in the direction of health. There is a yearning in the spiritual world to help us." Luke pointed to the fact that the inner spiritual landscape is reflected in the outer. "Design reflects our mindset." A farmer can gain clues about his/her inner topography by paying attention to the external landscape he paints. Order or chaos on the farm has a connection to inner reality. Perception of quality thus has a deeper significance than just being able to determine whether something is "good." It can provide a window to the deeper dynamics of nature.

Robert Karp, co-director of the Biodynamic Association, opened the conference with a captivating lecture on the inner dimensions of quality, noting that quality arises when spiritual forces and material substances are able to work together harmoniously. This, in turn, has become more and more dependent on the work of human beings. "Quality is a matter of whether spiritual beings and forces are able to permeate and work through substance." Ideally, the farm organism becomes a vessel for the work of higher beings. Their spirit permeates the whole community through the food that is produced on the farm. This weaving of spirt and matter is a similar process in preparation making.

## *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*)

*Luke Frey showing his compost pile*

There also, the essence of quality is to allow spirit and matter to interpenetrate each other and work together. In this sense, preparation making is itself farming, and farming is preparation making on a larger scale. "To potentize a substance means to heighten the virtue of the materials we are working with so they can be permeated with great intensity by spiritual forces." Making and eventually stirring of preparations is a part of our anchoring the spiritual in a particular place. "Stirring is a good time to bring to mind your experiences of the place you are in."

One thought Robert shared that I found particularly interesting is that in biodynamics we are trying to elevate each kingdom of nature (mineral, vegetal, animal, human, spiritual) up to the next level. For example, we are trying to raise the dense physical of the mineral up to the etheric vitality of the plant, and to connect the plant with the astrality/sentience of the animal. In industrial agriculture, the opposite process predominates. The kingdoms are dumbed down; there is a tendency to make the animal world plant-like, with a diminishment of their astrality, as if automatons, and to understand plants merely in terms of their chemical (mineral) elements. The "I" forces of the spiritual world give individuality and coherence to things. Those are the forces of identity, as in the individual self of a human, or the group soul of a species. As humans, we seek to work out of the forces of our higher "I", our higher self. Through the making and the application of the preparations in farming, we assist in the process of raising up the forces of nature. "When we dose the farm with preparations, we stimulate the raising up of the kingdoms of nature. The key to the future is that we must work ever more consciously with the spiritual world. As individuals, we must deepen our spiritual practice with reverence, moral development and study."

Robert felt that the conference had a "Saturn mood,"

*Observing chromatography results*

one of deep earnestness. It's appropriate to occasionally cultivate this mood. It is the mood we should cultivate when we bury the preparations in the Earth. He saw the conference as a sort of "social potentization." Through the conference, a social vessel was created through which spiritual beings could work. Acknowledging such a vessel involves being receptive to others and creating space for the whole to live. Rudolph Steiner's idea of "association" implies a group for a spiritual being to express itself through. Human beings living with one another create a folk spirit. True brotherhood within it can only happen when each lives selflessly with the other. Rudolf Steiner said, "The healthy social life is found when in the mirror of the human soul the whole community finds its reflection and when in the community the virtue of each one is living." Another key to progress on Earth will thus be the ability to work together through community. Through community, humans create an opportunity for spiritual beings to help. It's similar on a farm and working with the nature beings. The task of the farmer is to hold the consciousness of the whole, creating an organism through which the virtue of all of the elements can express themselves. The correct interrelationship of parts builds a sense of the whole. With the correct management practices, the parts of the whole are integrated. That creates a farm individuality through which higher beings can work.

Robert noted that we are at a decisive time in preparation making in North America. "It's as if the sun of biodynamics has been rising in America over the past ten years. Before that we were operating in relative obscurity." In spite of the development of the organic movement, biodynamics stayed in the background. There was spiritual protection in that obscurity. The challenge now, with the conspicuous expansion of biodynamics, will be to maintain and enhance quality as market forces expand within the movement. In Robert's view, this calls for a deepening of our work with the spiritual world. Thus, while there is a horizontal expansion across the society, there must also be a vertical deepening of the impulse of biodynamics. There is a need for renewal at this time, a reconnection to the original impulses but on a higher level. The ongoing quality of the preparations ultimately depend on this renewal.

Bruno Follador of the Nature Institute in New York, interviewed last year in this newsletter, traced the evolution of art in the Western world as a means of showing how perceptions of outer nature have evolved over time and how our current age is in need of a more "Goethean," or holistic and imaginative, appreciation of nature if we are to succeed at truly manifesting quality in our agricultural endeavors. In the Renaissance, with its vibrant colors, man was increasingly seen in nature. It allowed us to enter into the landscape. "People wore the world as a garment." Representation of the material world became more important and this corresponded to science's increasing analysis of matter, namely the quantitative aspects of the material world. Yet in the focus on the quantitative, the ability to appreciate quality diminished. "Quality is not a thing we can touch… and sense impression alone will not give us meaning." The loss of appreciation for quality, i.e., of the deeper aspects of being, is a fundamental problem in our age and it is reflected in our language. Bruno often uses the demeaning reference to a chicken as a "broiler" or "layer" as reflective of this quandary. "We can only describe things the way we do when we no longer perceive properly – in the fullest sense." Bruno also iterated a caution in the rapid spread of biodynamics within mainstream culture, saying, if done well, "it will require a new way of seeing and perceiving." Only then will we be able to keep its "livingness." There is need for awareness even with tools commonly used in the evaluation of biodynamics, with the chromatography method developed by Pfeiffer, for

*Dinner with, clockwise from left, Robert Karp, Pat Frazier, Lloyd Nelson, Bill McCranie, Brook LeVan and Hunter Francis*

instance. He said the spiritual world wanted to use that as a method to illustrate formative forces, not necessarily for diagnostic purposes. The original intent was to stimulate imagination – to help us form better questions. The goal with such techniques is not to explain pedantically, but to portray artistically. "Chromatography invites participation in the process."

Bruno talked about composting as a biological, cultural and spiritual event on the farm. "We need also to talk about compost in a qualitative way. Steiner said we should build a personal relationship with everything in farming, especially manures." Composting is an outer expression of an inner process. Its qualities reflect inner meaning. "Who is the being that produced the feedstock? Each pile has a biography." It is not just stuff. Imagination helps us to understand not just art, but also what happens on a farm. "We must trust our senses, but we must develop them. We must participate in the life of the cow and allow the cow to speak through us – as the preparations speak through chromatography."

One topic of special interest to the group was an initiative being led by Demeter USA to standardize preparation making through a new certification process, which was explained by Demeter's executive director, Jim Fullmer. In 2014, Demeter was approached by a farming community that asked if they could label and sell biodynamic preparations. This raised the question of how commercial production of the preparations should be approached. It was decided to seek a base definition for what should characterize acceptable preparations and a subgroup was formed within the fellowship to tackle the challenge. They started by looking at the BD #500 and ultimately a draft standard was created for all of the biodynamic preparations, which was shared with the group at the conference. The standards consider things such as the experience of the preparation maker (requiring that the producer has proper training), materials, preparation and burial procedures, safety (which includes careful record-keeping regarding the source of the preparation materials), storage and packaging of each of the preparations. The ultimate goal is to develop a certification program for preparation makers in North America. Such a system, if implemented, would only apply to organizations producing large quantities of preparations for sale (over $50,000 annually). The standard would help ensure the quality of the preparations made by large producers, who sell them off-site. A lively conversation ensued regarding the proposed standards and added to the discussion on how to make quality preparations.

On the experiential side of things, Barry Lia of Washington State led the group through several picture forming exercises in

*Conference participants*

which preparations were compared through "Steigbild," or "rising picture" techniques based on Lily Kolisko's capillary dynamolysis chromatography methods. With the Steigbild technique, patterns are produced on thin-layer chromatographic paper and evaluated as a qualitative fingerprint of the sample being studied – in this case, two samples of BD #500. The preparations were made into an extract with sodium hydroxide and allowed to "climb" up the paper. Silver nitrate and then iron sulfate were added in sequence to color and fix the samples. The development of the Steigbild pictures occurred over two days and engaged participants in an imaginative process that was well appreciated since imagination, and its relationship to the perception of quality, was at the heart of the conference. The polarity between the analytical and the imaginative was explored and discussed. In a separate exercise, Wali Via, from the Oregon preparation makers group, helped lead a comparative analysis of over two dozen BD #500 samples brought by conference participants and rated by one another in a practicum. The conference ended with a group discussion on the quality of each sample.

Throughout the event, many others shared illuminating work from communities as far away as Brazil. Deborah Beniacar and Castro Herminio spoke of the growth of the biodynamic community there. Lloyd Nelson of Colorado talked about the unique environment, with its strong astral forces, in high elevations and its relation to practicing biodynamics. The overall consensus of the group was that our ability to perceive and thus maintain quality in biodynamics will depend on the quality of our interaction with the spiritual world. We must become more and more attuned to the spiritual as we develop the movement.

## The Spirit of Sustainable Agriculture

### *Hunter Francis*

From March 31–April 1, I had the pleasure of attending a conference at the Harvard Divinity School on "The Spirit of Sustainable Agriculture." The conference brought together farmers, academics and community, religious and spiritual leaders for a stimulating discussion about the spirit of sustainable agriculture, delineating its past, celebrating and investigating its present, and theorizing its future. Topics such as indigenous agriculture, agroecology, permaculture, ethnobotany, globalization, food justice, and local food were explored. Biodynamics was very well represented. So well represented, in fact, that during a concluding panel at the end of the conference, one panelist remarked that he considered the event to be a "resurrection of Rudolf Steiner."

Steffen Schneider, a Biodynamic Association board member and now director of the Institute of Mindful Agriculture gave a wonderful presentation with Robert Karp on agriculture as a co-evolutionary force. Steffen noted that biodynamics is a part of the past but also a part of the future. "There is a yearning for the incarnation of a more spiritual agriculture," he said. Agriculture is at the nexus of nature and culture and will play a crucial role in the establishment of a new civilization that transcends materialism and leads to a true emancipation of the spirit. Robert pondered the irony of how the materialist conception of the world has, in fact, divorced us from matter. Their talk was followed by an experiential preparation making workshop.

Former JPI board member, Gena Nonini, gave a thought-provoking comparison of the work of Rudolf Steiner and that of Pope Francis, specifically as expressed in his recently published encyclical. Basil Williams, interviewed recently in this newsletter, spoke on the importance of appreciating spiritual beings in nature with healing substances and by celebrating them during annual festivals. It was a pleasure to spray a preparation he had brought within in the yard outside the conference. Mac Mead of the Pfeiffer Center in New York spoke on soil health and connecting agriculture with culture – and on the importance of connecting with the heart.

I was particularly impressed by a presentation given by Henning Sehmsdorf of S&S Homestead Farm in Washington on the philosophical concept of teleology from Aristotle to Rudolf Steiner - the idea that nature is permeated by immanent formative forces. A new, holistic science must factor in the human, he says, and is therefore qualitative.

Other topics included traditional rituals in agriculture, mysticism in relationship to agriculture, the Christian food movement, elements from Jewish and other traditions, Vedic agriculture, the relationship of agriculture to democracy, the women's movement in connection to local food systems, animal rights, agriculture as a means of "retreat," resistance movements in agriculture, and even a new program that uses farm education to help train seminarians (the Farminary Project at Princeton) – to be"pastors"! The event sold out a week before it started and much else could be said about it. One thing stood out, however: a blossoming of interest in the spiritual side of agriculture is now underway and biodynamics is permeating and inspiring it. To connect with the conference community, visit: www.facebook.com/SpiritSustainableAg.

## 2015 Year in Review: Josephine Porter Institute for Applied Biodynamics

### *Patricia Frazier, JPI Board President*

2015 was another year of growth and change for Josephine Porter Institute for Applied Biodynamics. After relocating to Floyd, Virginia in May of 2013, JPI entered into a lease agreement with Terry and Pat Brett, the owners of our current site. We are most grateful for the agreement and a beautiful place to relocate. After being there for the past two years, it became clear that this is our permanent home. Therefore last February, we began negotiations with the Bretts to purchase approximately 25 acres along the Little River just outside of Floyd. This purchase brings us into relationship with a like-minded community of biodynamic and organic stewards. Our neighbors Gunther and Vivian Hauk of Spikenard Farm Honeybee Sanctuary, and Woody Crenshaw of Riverstone Organic Farm along with JPI now form a solid community in support of a sustainable, spiritual and anthroposophic approach to Earth stewardship.

During our visit with Terry in Floyd in February, we engaged a landscape architecture firm to begin the process of visioning a holistic design for our new home. The result is a conceptual design that includes build out of our 4,000 square foot barn for making, processing and distribution of the biodynamic preparations and the Pfeiffer products. It will also include an educational space, kitchen, laboratory, and short-term residential use for educational offer-

*Work proceeds on the build-out of our barn*

ings; land use plan for the acreage that includes pasture management, animal shelter, and patterns of movement for rotational grazing; multi-species tree and shrub plantings, preparation plant and perennial medicinal herb gardens; research fields; and composting operations. The JPI board received a formal presentation of the plan in March. The plan is one of our many steps toward visioning our future as an important biodynamic community member, whose main contribution continues to be fulfillment of our mission: To heal the earth through the making, distribution, education and researching of the Steiner-inspired biodynamic preparations and Pfeiffer products.

In May, we had the pleasure of welcoming Bruno Follador from the Nature Institute for our Spring Preparation Making Workshop. The workshop began with a day and a half of preparation making, focusing on the traditional spring-crafted preparations of BD #501 (horn silica) and BD#502 (yarrow) compost preparation. In addition, Barrel Compost Compound Preparation (BC), although not necessarily a spring-crafted preparation, is an important and relatively easy preparation to make on any size farm or garden. JPI is committed to instructing as many biodynamic practitioners as possible in the making, burial, stirring and application of Barrel Compost Compound Preparation because it has the distinct advantage of introducing all of the compost preparations, fermented cow manure, a parent rock material in the form of basalt, and a calcium stimulant in the form of egg shells to the farm or garden. In these times of continued assault on the earth's fragile environment by radioactivity releases, toxic releases of chemicals in the continued exploration for fossil fuels and continued decline of our soil health, BC is instrumental in catalyzing a new healthy impulse to land that has not yet seen the effects of the biodynamic preparations, as well as land that has received the impulse for many years.

We began our spring workshop with instruction in making, burying, stirring, and spraying of BC on a warm, breezy spring afternoon at the JPI Farm. A great community event, this is a natural introduction to the novice preparation maker and a good icebreaker for a residential workshop. It doesn't take long to get to know others when you are stirring twenty-five gallons of fresh cow manure with shovels for an hour! The following day was focused on filling stag bladders with moistened yarrow blossoms and preparing them to hang in the summer sun, and grinding, moistening and filling cow horns with the quartz crystal silica. The horns must "set up" for a period of about twenty-four hours before burial. Instruction was provided in the proper burial site selection, timing of burial and excavation, use, and storage of both the horn silica and yarrow compost preparations. An unexpected treat was the harvest of our new crop of valerian flowers, just planted the prior spring, and in full bloom on that late May weekend. A demonstration of harvest, grinding and juicing of the valerian flowers for the BD #507 preparation was a bonus and gratifying to JPI staff as our first harvest of our site-grown valerian.

Bruno Follador presented a comprehensive and interactive series of lectures and a hands-on demonstration designed to develop our powers of observation in Goethean phenomenological style. The subject matter, on-site compost, as well as

*Bruno Follador*

pre-developed chromatography pictorial representations of compost, soils and some plant materials provided the grist for the observational mill. The varied exercises among participants, reflection on giving and receiving impulses, observational exercises on the characteristics of the compost, and finally a well-designed human experiment of three different groups observing the same sets of chromatography pictures were very revealing and deeply transformational. One could sense the change in perceptual abilities in just two days of practice. Imagine the skill set one could cultivate in a regular practice of Goethean phenomenological observation! Bruno Follador is indeed a gift to the biodynamic community and we are thankful to have him in the United States full-time now as the director of the Living Soils Initiative at the Nature Institute: www.natureinstitute.org. Bruno will be presenting at JPI again this spring in a more comprehensive look at compost and soil quality development and chromatography. Please join us June 9-12 for "Practices and Insights of Biodynamic Composting: Developing Dynamic ways of Seeing and Working with Compost and Ehrenfried Pfeiffer's Chromatography."

As a result of the relationship building with Bruno Follador and a soil foodweb consultant, Jane Weaver, www.earthandspiritdesign.com, an attendee at our spring workshop, JPI has begun collecting baseline data to demonstrate the change of our soils on our newly acquired home. Part of our farm has been in organic cultivation under a lease arrangement between Terry Brett and Woody Crenshaw of Riverstone Organic Farm. Over time, JPI plans to demonstrate through various forms of soil testing, picture forming methodology, and soil foodweb examinations, the effect of biodynamic preparations as well as quality evaluations of our soils, composts and eventually our preparations. This exciting research is an example of the investment JPI is making, at our expense, to enhance and develop the body of existing knowledge in the use of biodynamic preparations on farms and gardens.

JPI has continued to participate in outreach/educational activities in the biodynamic and sustainable agricultural communities through our presence at major conferences and with national committee work in sister organizations. This year JPI was in attendance at the Mother Earth News Fair in Asheville, North Carolina in April, Acres USA in December in Pittsburgh, Pennsylvania and provided sponsorship and speaker support to Food Farm Forum in Montrose, Colorado, and planning and sponsorship for the recent 2016 Fellowship of Preparation Makers Conference in Ukiah, California in February. Through a grant written and administered by board president, Pat Frazier, JPI has provided in-kind support and expertise to the initiation of the Demeter LOCAL Program in Colorado, a peer-to-peer certification being piloted in just a few states in the nation.

Board President Pat Frazier and board member Bill McCranie have also been involved in a lengthy and fruitful process to examine best practices for preparation making in larger preparation distribution centers such as JPI at the request of Demeter USA to the Fellowship of Preparation Makers. This process has had the added value of strengthening our relationships with peer preparation makers, and identifying unique regional characteristics of preparation making around the country. JPI will be present this April at the Mother Earth News Fair in Asheville, North Carolina, this fall at the National Biodynamic Association Conference in Santa Fe, New Mexico, and this December at Acres USA in Nebraska. We encourage our readers to visit us at these premier educational events.

Throughout the summer and into fall, JPI launched an initiative to recruit and hire a fundraising consultant. Three candidates were vetted and evaluated for a good fit for our needs. We hired Pamela Sophiajohn in August and have been working with her to improve our public communication strategies, website design, publications and development of a fundraising strategic plan. Pamela brings a wealth of experience in the anthroposophic community, having past associations as a writer for the Biodynamic Association and fundraising for the Camphill Communities of New York, as well as present fundraising assistance for Spikenard Farm Honeybee Sanctuary. We welcome Pamela to the team!

As described previously, we negotiated a contract for purchase of our leased land from Terry and Patricia Brett and are pleased to announce that on February 17th, 2016 the contract was executed and closed for purchase. Land stewardship is a privilege and a responsibility we take seriously at JPI. We have foregone some of the necessities of a large nonprofit organization over our past three-year transition from the Courtney farm in order to stabilize our financial picture to effect this purchase. As a result, JPI has been operating under the careful but voluntary guidance of a particularly dedicated five-person board of directors and a minimal and dedicated paid staff. However, we are proud that through all our growth and change, we are experiencing substantial increases in new customers and demand for quality biodynamic preparations, and have successfully fulfilled those demands despite the obstacles of moving an entire operation literally from the ground up. It is thanks to our many supporters and customers that this new home for the biodynamic preparation work on the North American continent has become a reality. We are most grateful.

# "The Most Distant Reaches of the Universe" – Biodynamic Practice April Through September

***Karen Davis-Brown***

Looking back over the last few months, it has been an interesting winter. Unusually cold or warm temperatures, and rain instead of snow or snow instead of rain in all parts of the continent – those of us in agriculture are starting to observe and discuss how "climate change" will impact our work and the future of food production on our continent.

But, what we perceive as the movement of the Sun is, at least, dependable. Winter solstice came and went, and the days have become noticeably "longer." For vegetable, herb and flower growers, and for orchardists, the catalogues have been arriving for a while, whetting our appetites for the coming season as we pondered and placed our orders. For those with livestock, we often take a look at the coming year – birthing, pasture quality and use, hay and grain needs, projected production and marketing – and begin to consider how best to make it all work with what we know, and in spite of what we don't know.

During the growing and grazing seasons, the overarching goals are "balance" and "exchange." We will know from the preceding year where weeds and poor crop vitality, productivity and quality provided invaluable information regarding imbalances in soil, water, air and/or temperature. Oftentimes, these imbalances or other barriers inhibit the exchange of these four elements and the crucial carbon, sulfur, oxygen, nitrogen and hydrogen that are, truly, the building blocks of life. The challenge is to discern the roots of the challenges and how to address them.

How these elements are balanced within a farm organism is unique, changing and a life's work for those who partner with an individuality in agricultural enterprises. But there are common denominators that bring farmers' heads together in person, on the phone and on the computer in mutual sharing and problem-solving.

## Orchards

In the orchards, by this time of the year, one hopes to have finished winter pruning, and to have already begun to ask oneself, "What was I thinking when I made that cut?" and "What needs to be removed and reshaped next time?" Though the act of pruning is only healthy a couple times a year, the orchardist is observing how best to prune all year long. I have been concerned this year, so probably others have as well, with observing whether the buds that were formed last season were already "pushing" due to early warm weather or frozen from low temperatures. This year's crop depends on the survival and timely opening of these tiny microcosms of life. This time of the season, one has valerian juice, horsetail and nettle teas to bring warmth and light to newly awakened trees, vines and bushes – and holds the imagination of the healthy emergence of life from the "soil" of the roots and branches – first leaves, then blossoms, then the formation of beautiful, flavor-filled fruit.

## Starting Seeds

Growers of annual vegetables, flowers and herbs, are currently surrounded by garden maps and schedules, largely complete and ready for succession planting and revision as the season progresses. This is a busy time, when most of the seeds are ordered and soil for starting seeds is made. The first seeds are placed in soil under light with careful attention to moisture and temperature, sending the tender and hopeful message that it is safe to emerge and trust in the care of a supportive and welcoming environment. Steiner's awe-inspiring imagination of a seed's emergence is appropriate to remember and hold this time of year:

> "*…when this structural complexity of earthly matter has been taken to the ultimate degree, it then disintegrates, leaving in place a miniature chaos. You could say it disintegrates into cosmic dust….then the whole cosmos begins to work on the seed, and leave its imprint and to build up whatever can be built up by means of the influences coming from all sides of the universe….In the seed we have an image of the whole universe….each time, within the seed-chaos, a new organism is built up out of the whole universe.*" (*Spiritual Foundations for the Renewal of Agriculture,* Creeger/Gardner, translation, 1993, pp. 34–5.)

More and more, growers are "extending the season" at both ends – spring and fall – with cold frames, hoop houses, tunnels and greenhouses, as a way to maximize market production and to address personal and market desires for more fragile, less storable crops outside of what have been their traditional seasons. With due care and informed planning, these challenges to the natural world can be met in healthy and balanced ways. Here, as always, it is important to take seriously the basic understanding in biodynamics that agriculture is inherently exploitive and the farm/garden organism needs to be supported in replacing the life forces and nutrients that are taken off the land. In the interest of diversity and farmer sanity, a good balance of perennial and annual crops is also good!

The fragility of annual crops for human consumption makes pest and disease challenges an ever-present reality. In organic and biodynamic agriculture, proactive prevention through healthy soil and adequate air and temperature is the goal, but the weather and the natural world do not always cooperate. When careful planning is not enough, after initial panic, the biodynamic grower then observes the what, when, where and how of the pest or disease. Is it all the plants, or just some? Are there weather or soil conditions that have created or exacerbated the situation? What damage is really being done? Then, the grower consults his or her own experience and the experience of others, to determine how best to address the issue with minimal intrusion and use of "remedies." *The key to soil, crop, and livestock health is constant observation*, so that any issues are noted and addressed as early as possible.

### Pastures, Hay, and Grain

Livestock is an important component to a biodynamic agricultural organism, and the discernment and evolution of an understanding of the number and type of livestock is part of the farmer or gardener's life work. What the term "livestock" means is, here, loosely interpreted. The need of every biodynamic individuality is for some wildlife and some "domesticated" animals to bring astrality to the soil and plants, which have none for themselves. For the smallest individualities, "livestock" may mean bees and/or worms, which also contribute to plant and soil health. When honey bees can't be supported – or even when they can – areas planted to encourage beautiful and beneficial wild insects and pollinators can be developed. Many practitioners are able to add a few laying chickens or ducks, which, when managed well, can also help with pest control. The ideal, if space and time allow, is ruminants – particularly milking or multi-purpose cattle – whose special manure enhances soil fertility like no other.

A core principal of biodynamic farming is "minimal inputs," which means the ideal is to provide all livestock feed from the farm itself. This requires a plan for raising hay and managing pastures to maximize herd and soil/grass health. Knowing the healthy "stocking rate" – number of animals compared to amount of pasture and hay available – and making and following an informed grazing plan are the keys to this health. As a farmer moves forward to plan for livestock on her or his land, there are information sources and people who can help figure out species and their needs and numbers. For farms that have livestock for which they need grain, integrating the growing of that grain into the individuality's cropping plan becomes an important goal.

A key tool for any farmer or gardener is the use of cover cropping – the planting of a crop in soil that would otherwise lay bare for a longer period of time. This crop is intended to be dug into the soil and not harvested. Different cover crops are used depending on the need and the season, but they often contain nitrogen-fixing legumes and grasses that build nutrients and/or texture to restore and maintain soil health.

### Compost

The building and spreading of compost takes place all season long. In colder climes, many gardeners and farmers spread compost made in the spring and summer on beds and fields in the fall, to let it integrate into the soil over the winter. Compost made in the fall is applied in the spring and throughout the season especially to top dress heavy feeders.

### Preparations

Making and using biodynamic spray and compost preparations also takes place throughout the spring, summer, and fall of the year. In many regions of the continent, these activities are planned to coincide with the seasonal festivals of Easter in the spring and Saint John's Day in the summer (June 24), which also relate to the Sun's spring equinox and summer solstice. Fall preparations are frequently made at Michaelmas.

However, at least with the spray preparations, it is the land itself that "tells" the biodynamic practitioner when and where it needs to be sprayed. This is true not only due to climate and weather, but due to the practical realities of other tasks faced by the farmer at this time of year. The first spraying of BD #500 (horn manure) and/or barrel compost should happen when the ground to be sprayed is most receptive, not by any calendar. BD #501 (horn silica) is sprayed when the plants are ready and the air quality is right (or as right as it can be, if the plants are ready). Spraying larger acreages of fields or pastures can take days, and the windows of time when this is optimal can be frustratingly short. It is very often necessary to do this work in less than ideal conditions, because the most important thing is that the preparations be applied. There are as many different approaches to the timing of the spray preparations as there are farmers and gardeners, but *in order to for an individuality to be considered biodynamic, the regular and methodical use of the preparations is non-negotiable.*

Some are fortunate enough to be able to harvest ruminant intestines, mesenteries/peritoneums and skulls near the time that they make chamomile, dandelion and oak bark preparations, but obtaining and/or harvesting animal sheaths can take place any time of the year and the sheaths can be dried or frozen for future use. Particularly deer bladders, for most of us, have to be obtained when they are available

regardless of when we are making the yarrow preparation, and can be stored for the time when we are ready.

Harvesting the blossoms for making the herbal compost preparations – dandelion, chamomile and yarrow – typically needs to be done throughout the growing season in order to have sufficient quantities, with the plants dried and stored properly until they are used.

In the spring, most people dig up the preparations buried in the fall and store them for use throughout the season. BD #501 (horn silica) is often ground and buried in late spring, and deer bladders are stuffed with yarrow and hung in the sun for burial in the fall. Nettle preparation can be harvested [just as it is starting to bud], buried anytime and left for a full year ["… let it spend the winter and the following summer – it must be buried for a whole year", *Agriculture*, Adams translation, p. 96]. All of these tasks are opportunities for social gatherings and community building during this busy time of year, as well as for providing on-going training and mentoring to newer members of the community. Compost building and the insertion of the compost preparations into piles can also be educational or social, beginning in spring and lasting throughout the season.

However consistently a farmer or gardener follows the indications given on a planting calendar, *striving to be aware and knowledgeable regarding the movements of planets through the heavens above one's agricultural individuality is crucial to effective observation and practice in any of the agricultural endeavors described above.* The positions of the moon that guide the month, and the sun's spring equinox and summer solstice, are particularly important milestones in the course of the season. There are several excellent planting calendars available for use on this continent, and the practitioner is free to use any or all as part of developing a holistic relationship with the land that he or she stewards.

Last but not least, in the midst of all the pressures and imperatives of the season, one needs to take a moment to stand before the beauty of the farm or garden individuality as the plants reach toward the heavens in anticipation of the summer equinox, and then contract again toward the earth as the days shorten and the fruits of the year are harvested and shared or stored. Rudolf Steiner's guidance to work always within the "realm of the living" needs to be as real to us as the daily "to do" list that narrows our focus in time and space. In the end, it is all for nothing, unless we are truly grateful for the gifts of the year and express that gratitude in thought, word and deed. Blessings on your season!

*Devon Strong*

# Remembering Devon Strong

## *Wali Via*

Devon Strong was a biodynamic farmer, buffalo rancher, sweat lodge water pourer, sheep shearer and father. But those are just labels. Those fortunate to have spent a little time with him knew him as a wise soul, a kind man, a humble teacher and a person who lived by prayer finding guidance in his connection to Spirit and the world around him.

He died recently when his hand slipped while carving a feather from a buffalo bone. Somehow it was a fitting way for him to go. One of the important focuses of his life work was learning how to kill in a holy way, respecting the group soul of the animal with immense gratitude and respect. After having asked his Lakota elders how to ceremonially prepare and kill the buffalo he found that they had, over the generations, lost that wisdom. Devon, through sweat lodge prayer, was gifted what to do and he proceeded to honor the buffalo in this way many, many times in the course of his life. He knew intimately the process of dying by the blade. And he knew how to connect to spirit in a profound way at these moments. At his own death he would have made his prayer of gratefulness and then passed experiencing his final lesson in the miracle of leaving this world.

Devon made biodynamic preparations using the buffalo. In this act, this animal holy among the People and so thoroughly denigrated by European conquerors, was bringing its healing once again to the land. I pray that this important work will be picked up by others.

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# Horn Silica (BD #501) Frequently Asked Questions

***Pat Frazier***

*Why use 501? When? What does it do? Why do you use 501 so early in the morning? What happen if it's used later in the day? What happens if you don't use 501? Is the 501(5X) as good as the 501? How do you spray 501? How often do you use 501? When and how do you make 501? What's the difference in the 501, 501(5X) and 501F?* These are all common questions that arise as people begin to familiarize themselves with the use of one of the staples of biodynamic farming: the BD #501 (horn silica) preparation.

## Uses and Timing

The biodynamic preparation BD #501 (horn silica) is the polar opposite to BD #500, (horn manure). BD #500 provides a stimulus for seed germination and proliferate growth of roots and leaves and encourages proliferate growth in the various stages of the season, beginning in spring as soil temperatures begin to warm. In contrast, BD #501 utilizes the forces of light and warmth to provide a stimulus toward ripening, enhancement of the fruiting impulse, seed maturation and increased quality of our annual and perennial food crops as well as our pasture crops for animal forage. Sprayed overhead as an "atmospheric" application, horn silica provides a canopy of light forces, often seen as a crown of rainbows overhead as one sprays. This concentration of light forces is the action the plant experiences during exposure to horn silica. The use of all nine of the preparations as indicated by Steiner in the *Agriculture Course* is highly recommended. Some discussion remains in the biodynamic community regarding the preference of one spray preparation over another based upon local climatic conditions. Although it is true that some areas of the country may have affinity toward conditions favoring multiple uses of one spray preparation over another, JPI recommends a balancing of climatic affinities by using all preparations at least once during the growing season, if not more. A more targeted approach to this balancing is through the sequential spray of all nine of the preparations over a two to three day period. (See the Sequential Spray article in this issue)

The timing of the spray (very early morning at sunrise) coincides with the outbreath of the earth as a confirmatory gesture of connection to the earthly etheric (life) forces flowing up toward the cosmos and cosmic forces flowing toward earth. This timing is the most effective for provision of the action of warmth and light as the day begins and concentrates those energies as it progresses. However, one can spray BD #501 directly upon seedbeds of difficult germinators such as carrots, lovage, parsnips and some of the oil-rich medicinal herbs to enhance their germination. In this application, the early morning timing is less important than the planetary aspects associated with the part of the plant one is asking for emphasis from. In the case of carrots, one would ideally sow carrot seed on a root day, ascending moon, and spray with silica just after seeding to enhance the germination impulse of warmth and light.

Other uses and timing of spraying BD #501 are in midwinter as a ground spray, sprayed in balance with BD #500. One could consider utilizing the planetary oppositions of either Saturn and Moon or Jupiter and Moon or other calendar events specific to the farm individuality needs. The action of this tandem spray is to balance atmospheric and earthly forces for the upcoming spring season and can be continued throughout the beginning of the proliferate phase of the spring season, conditions permitting. If an excessively hot, dry, early spring season is evident, continuing with BD #500 as a ground spray would be prudent, discontinuing BD #501 and its resultant warming influences.

There have been reports of a concentration effect of sunlight on the leaves of plants sprayed with atmospheric BD #501 in the later hours of the morning, well into the out breath of the day. In these instances, the tiny droplets of the spray concentrate the more intense rays of sunlight in the later morning and may appear as a "burn" on the leafy canopy. Therefore, the recommendation for a very early morning spray is maintained. Similarly, the spraying of BD #501 in droughty conditions should be with caution and only before sunrise. In droughty conditions, a milder gesture of the silica preparation should be effective. One may consider using Horsetail (*Equisetum arvense*) BD #508 instead in drought conditions. Similarly, however, in conditions of excessive moisture, the horn silica preparation may be helpful in more frequent application to balance this excess. Again, the horsetail preparation is the plant form of silica and may be more appropriate as a balancing agent.

A season-long approach to the spraying of BD #501 is common among some practitioners. In this approach, regular applications of BD #500 and BD #508, up until the summer solstice or St John's Day are then balanced with BD #501 afterwards. After this point, a ripening gesture would be desired and silica sprays potentially enhance that gesture, particularly for the tree and woody fruits such as stone fruits, apples, pears, berries and grapes. It is not unusual to spray silica more than once after the solstice when taking this approach.

## Making and Storing BD #501 Horn Silica

*How do you make 501? How many units come from one cow horn? How do you store 501? Why leave it in the sunlight?*

Making silica is a rewarding experience for the biodynamic practitioner. When you create a horn of BD #501, it is likely you will be using it for at least several seasons. The amount used in a typical acre spray is about half a teaspoon. In a small cow horn, there may be as much as one half to one cup of finished silica or sometimes more. That is a lot of applications!

BD #501 is made by grinding quartz crystals into a very fine powder and mixing the resultant powder with rainwater. This paste (the consistency of very heavy cream) is poured into a cow horn and allowed to set up for a period of time, usually at least overnight. Water rising to the top is poured off. The opening is covered with muslin or cotton and the horns are then buried in the earth after Easter. There is some thought in support of burying the silica horns after Ascension in the biodynamic community, however, there is no specific indication of this preciseness of timing within the *Agriculture Course*. "*And now, instead of leaving the cow horn in the ground through winter, let it stay underground all summer, then take it out in late autumn."* (Steiner, R., *Spiritual Foundations for the Renewal of Agriculture,* Creeger/Gardner translation, 1983, p. 74.)

Transformation of this preparation occurs during contact with the summer forces in the earth. These radiating forces stream up through the earth toward the cosmos in the long seasonal out breath of the earth in summer. Steiner gave indications in the *Agriculture Course* for different types of suitable minerals to utilize in the making of BD #501. Orthoclase and feldspar were two other choices in addition to the quartz crystal. At JPI, we make the regular quartz silica and a feldspar 501 which may be better suited for very sandy soils.

In addition, one can potentize the preparation after it is dug up in the fall by stirring the dry contents of the horn for an hour, resulting in pre-potentized 501 or 501(X), requiring only a twenty-minute stirring time with water. The differing effects of application of the BD #501 and prepotentized BD#501(X) are not known.

This light filled preparation is happiest in the light once made. Store it in a sunny window in a closed glass jar once out of the horn. Or, it can also be stored in the horn in a sunny location. The silica preparation keeps for years in those storage conditions as long as it is dry. Some practitioners feel that reburying the silica filled horns in following summers increases potency of the preparation.

## Horn Silica (BD #501)– Plant Specific Questions

*When growing leafy annuals like lettuce, when would you use 501? I have tomato plants with an abundance of leafy growth but they are not blossoming. Would the 501 stimulate blossoming and fruiting? Can 501 be used in a greenhouse? Can you use it mid-day to kill unwanted weeds? At what growth stage is 501 used? Dose spraying 501 at harvest really help preserve the food? Can 501 be used on grass? Why can't you spray young fruit trees? Why wait 2 years to spray them?*

## Plant Specific Questions

When it comes to the uses of BD #501 on specific plant material, one must be careful to qualify any answer with some specific information, from the farmer or gardener, about the climatic conditions, the time of year and the particular expression of the plant that might warrant spraying 501. The responses to the questions above are typical representations of a general approach to the use of BD #501 on plant material. But, the generality of this response must be emphasized and deferred specifically to the development of the intuitive capabilities of the farmer regarding when to use BD #501 for the particular case. In general, the use of BD #501 in plant-specific cases is called for when desiring the following conditions in plant growth:

**Leafy crops:** Overly proliferate, lush growth leading to an increase in watery diseases such as aphids, slugs, molds and fungal organisms. BD #501, as mentioned before, is a polar opposite to BD #500 in the forces stimulated. Therefore, use of BD #501 in the above mentioned scenario with leafy crops would be a balancing to proliferate growth in totality, as in atmospheric spraying on the whole farm to include leafy crops. The more appropriate preparation for the specific conditions mentioned above would be fresh horsetail tea (BD#508) as a foliar spray. Leafy crops such as spinach, endives, chard, kales and cabbages that will be overwintered for the season benefit from an atmospheric spray of BD#501 as the season wanes past autumn equinox for keeping quality in the field until killing frost.

**Hot weather blossoming annuals:** Tomatoes, peppers and eggplants experiencing a cool summer, nighttime temperatures under 50 degrees F, or over-watering can sometimes refuse to blossom or if they do, linger in blossom and immature fruiting stages. Application of BD #501 can assist in the hastening of ripening fruit in this case by using an atmospheric spray at sunrise over the plants. If there seems to be an obvious nitrogen gesture as in excessive leaf formation without blossoming, there may be other balancing remedies needed. Using any of the biodynamic preparations as an input solution is an approach that will have limited effect as the preparations work best in a whole system approach of soil foodweb intelligence building and healing.

**Fruiting Trees:** Developing fruit trees should be seen as an anchor to the farm and garden. They provide structural integrity to the canopy of the landscape, beauty of blossoms, beautiful fruit and planetary gestures and associated virtues. To perform these functions well, they require a well-developed root system, with an adequate water supply and a rich, stable soil structure that has received ample amounts of biodynamic compost, or if unavailable, Barrel Compost Compound preparation in spring and fall, regular

BD #500 spraying, and biodynamic tree paste applications during dormancy over as large a surface area as possible, including pruning cuts or wounds. With attention to the above, and hard thinning of fruit for the first two years of establishment, a fruit tree maintained in this way will produce high quality fruit in its third year and beyond. Silica spraying for ripening of fruit in trees in their third years and beyond would proceed as follows: begin spraying silica around summer solstice for stone fruits such as prunes, peaches, apricots and cherries when fruit is reaching maturity. For seed fruits such as pears and apples, silica assists in the final ripening in late summer and in keeping quality just at harvest. An atmospheric spray of silica in ascending moon on fruit days in autumn one week or less prior to harvest will stimulate stabilization of sugars in storage apples and pears. Spraying silica on fruiting blossoms should be avoided. If a warmth gesture is desired, as in late spring frosts on developing fruit, BD #507 (valerian preparation) is indicated. In general, silica should be sprayed after young fruit trees are established, after a full, leafy canopy after blossoms have set fruit is present on mature fruit trees, and for keeping quality prior to harvest.

**Greenhouse applications:** Spraying BD #501 in a greenhouse application is risky. I tell a story of a greenhouse application of BD #501 in my own greenhouse at 6,800 feet in Colorado that still engenders fear. Admittedly, it is a cold greenhouse well into late spring. One year, I was growing tomatoes for our market farming operation. I was out of BD #508 but needed a gesture of warmth and light in those little tomato plants who were struggling with the cold greenhouse. So I took a risk and sprayed silica lightly in the house. The result was a horrifying army of stiff, tough stemmed tomatoes covered with blossoms at 6 weeks of age. Whoops! They rebalanced with ample spraying of BD #500 and went on to recover. However, I will never know how good they could have been if left to their own inherent maturity. A much better solution for silica impulse in the greenhouse, almost exclusively, is BD #508. The diffusion of light and warmth inside a greenhouse is not a natural environment compared to the outside. In addition, the effects of a silica spray in the greenhouse may last longer than anticipated due to the inevitable deposit of the spray on the glazing. Balancing watery influences and warmth in the greenhouse is much more effectively done with Barrel Compost Compound Preparation and BD #508 in compost tea applications to the soils and in foliar applications to seedlings after true leaf formation. If needed, nettle manure tea in 1:10 dilution can boost tired potting soil beds. In addition, building of soils in greenhouses for biodynamic applications should include ample amounts of biodynamic compost to the mix to maintain soil health from seedling to row crop beds. Pfeiffer Field spray is another good addition to soils in greenhouses, as well as on seedlings.

**Grasses:** Silica applications to grasses are growth stage dependent as well. Early season pasture grasses when soils are still cool will benefit from BD #500, Barrel Compost Compound spray, or Pfeiffer Field sprays to develop proliferate root mass that can stand up to early grazing. After first grazing, when blades have returned at least three inches of new growth, silica is beneficial for structural integrity of grasses as they go on to develop seed heads. For haying, silica sprays are applied prior to baling in deference to climatic conditions, calendar days and maturity to extend storage and nutritional quality. In urban applications, for grass lawns, silica applications are beneficial in balance with BD #500 later in the season to encourage seed head development for the next year.

**Weed management:** Weeds communicate information about the conditions of our soils and as such should be seen as potent indicators. To consider balancing one's soils with biodynamic practices is a first response followed by observations of change. Utilizing the known capacity for silica to potentially cause burning of leaves would not be an appropriate treatment for weeds as silica sprays are an application of a force or gesture in the environment and not isolated to one plant within that application. However, another biodynamically-based procedure for weeds is the making of weed manure teas. Fermenting the offending weed either when in flower or just before seeding, as in the case of annual weeds, or weed and roots for perennials, until completely decomposed in water, then diluting and spraying on the growing weeds in mid-day or late afternoon has been shown to be effective. Composting weeds prior to seed formation and applying to the affected area is also an effective control measure.

*Silica horns*

# Lessons Learned with Horn Silica (BD #501)

***Abigail Porter***

One may wonder how such a small amount of horn silica, the size of a pea, can effect change when diluted and stirred with three gallons water and spayed over an acre. I found out. After attending the Fellowship of Preparation Makers conference in Ontario, Canada in 2011 and hearing Hugh Courtney stress the need for more frequent application of both of the silica preparations on the North American continent, I was determined to be more diligent in their use. The horn silica was the one I had neglected most frequently.

I had read that applying the silica after fruiting can enhance the production of fruit in the following year, so I sprayed my strawberry plants. The plants were in two adjoining beds, one an older bed, three years old and the other, one I had planted in the spring of that year. Both had at least one application of BD #500 (horn manure) at the beginning of the season. And since I had silica spray material left over, I offered to spray a friend's strawberry plants. The unexpected result was that the leaves of my recently planted strawberries turned brown and died. About half of the plants died completely and the others re-grew. In contrast, none of the older plants were adversely affected. Unfortunately, almost all of my friend's plants died and I was warned not to spray again but she was impressed by the power of the silica.

In trouble shooting the situation, there were a number of things that contributed. First of all, we had started to go into the usual hot, dry, droughty period and although not bone dry, moisture was lacking in the soil and in the air. Most likely the plants were already stressed. Spraying the silica increased the loss of moisture from the leaves. Secondly, I could not get a fine mist with the sprayer I was using at the time resulting in large droplets falling on the leaves intensifying the sun's hot, drying effect on the plants. Although still early morning, with the plants in the shade, it was too hot and dry. In conclusion, I realized I needed to apply several sprays of BD #500 horn manure earlier in the season to stimulate deeper root growth so plants could better withstand the droughty conditions. And I learned only to spray the silica when there was still plenty of moisture, spray it into the air with a very fine mist, and avoid spraying perennials with the silica until they had gone through a winter and had stronger root development. Perhaps in my climate, using the plant silica (BD #508) may be a better choice unless there is plenty of moisture in the soil. The use of horn silica in geographic areas of high humidity, rainfall, and frequent overcast skies may not warrant as much caution in the timing.

I had another unexpected result when I sprayed silica on fig trees in late August to stimulate ripening. Nights were getting cooler and I thought the silica would hasten ripening before frost. I applied two or three sprays in the morning about a week apart. It might have helped some ripen but most did not develop fully before an early frost. What was unexpected is that the following year, in early spring, after a warm spell, the trees were loaded with baby figs before any leaves appeared. That had never happened before; previously, leaves covered the trees before figs appeared. The figs froze in a late frost and because the fruit had developed in size. It took a long time before another crop appeared. Perhaps applications of horn manure, compost tea and/or nettle tea would have helped bring strength back to the trees sooner after the frost but I didn't think of it at the time. Again, my conclusion is that I need to spray the silica much earlier and more frequently as growing figs, even a hardy variety, is challenging in this location in West Virginia. And the valerian (BD#507) preparation sprayed in the evening may be a better choice to provide warmth as the nights become cooler.

One year, I sprayed the horn silica on butternut squash plants on an fruit/fire day, one week before harvest. A week after harvest, as the squash was curing before storage, I sprayed them again with the silica on an fruit/fire day. None of the squash spoiled and one that I forgot in the basement for almost two years was still intact, firm, no wrinkles. It was starting to get a little punky in the very center and became a donation to the compost pile.

On the topic of silica, although not a biodynamic preparation, I have stored carrots in a box with white playground sand from the local quarry, US Silica. The carrots have remained fresh, crisp and sweet for six months.

## JPI Seeks New Co-Editor for *Applied Biodynamics*

Beginning in 2017, JPI will be offering the opportunity for new people to assist with writing for and editing our semi-annual publication, *Applied Biodynamics.* This involves collection, compilation, editing and writing of both new and recurring features of our newsletter along with other members of the publication team. This is a paid, year-long position, with a majority of the work occurring in winter and summer, prior to the publication of the spring/summer and fall/winter issues. If you are interested in knowing more about this position, please send an inquiry and brief description of your prior experience to Abby Porter at: abbyjporter@gmail.com

# Stirring BD #501

***Karen Davis-Brown***

It is 4 A.M. on a late spring morning in Central Minnesota. The first light to the East will appear soon, but right now the fixed and moving stars still rule the dark sky. I head across the road to the stirring machine, dressed in wool and armed with a clock, a lantern, and a thermos of hot coffee. One cup is for our farmer Angela, who will show up in an hour with the pick-up truck and sprayer. The rest is for me.

I check the calibration of the two 60-gallon drums, to make sure that the dual paddles in each make the deepest possible vortex. I put twelve units of 501 into each drum, filled about a third of the way with water. The preparation was a gift ground by our neighbor and mentor to the north, Dewane Morgan.

The plan this morning is to stir two batches of BD #501 to spray on forty-eight acres of pasture, hay and restored prairie. My role is to hold the human consciousness for the machine while it stirs. I will be home by 7 A.M., in time to prepare breakfast for my house community. Angela will spray nonstop (except for when the sprayer gets clogged!) from 5 to 9 A.M., when her morning farm crew arrives. The garden is still mostly indoors and will be sprayed in June, but the hay and the pastures are already so tall that Angela winces every time she talks about driving on them with the sprayer.

Needless to say, it is challenging to hold a positive, spiritual consciousness for a motor and four rotating paddles for three hours, particularly until the coffee kicks in. But I love it, and consider it an honor to serve our community and land this way.

Fortunately, I am a morning person. As I sit on the platform next to the tanks, I begin to subconsciously anticipate their churning rhythm. As the sky becomes lighter and the stars fade, I gaze south to our old barn and west to the ponds where marl was once mined and which now serve as recreational habitat for all the sentient beings who pass through. The barn roof doesn't claim one 90-degree angle, and the ponds are like round mirrors, reflecting the lightening of the morning sky completed by frames of tall green reeds. It's a priceless view.

As I accompany the machine beings in their work, I comb my memory for everything I know about silica, quartz, and the biodynamic preparation 501. I recall the only time I participated in its grinding – a large spring meeting of the Northern California biodynamic group. We worked under a large canopy at the Sacramento Waldorf School, as we moved from one "work station" to the next, for most of a day. We started with hammers on large quartz crystals, to mortars and pestles, to the final step of putting the sand-size chunks between two pieces of glass and rubbing them together to produce a fine powder. What I remember most clearly was the sound, as the pitch rose higher until it reached what seemed to be a screech. Harald Hoven, our leader, reassured us that it was the grateful sound of the elemental beings imprisoned in the rock as they were released.

My next memories were glimpses of Dewane Morgan taking quartz from Arkansas through the same process, but by himself in the dark and cozy confines of his basement family room. He was probably working on the batch that I am stirring now.

Rudolf Steiner doesn't say much about the horn silica preparation directly in the *Agriculture* lectures. In Lecture Four, almost as an afterthought it seems, he describes the grinding, burying, and use of the 501. Here, he talks about how it should be buried in the summer to be exposed to "the summer life of the Earth" and how this fine spray on the plants complements and supports the work of the "horn manure" preparation by pulling "from above." Perhaps someone has written it down somewhere, but most of what I know about spraying BD #501 came through an oral tradition that includes some disagreement but is really surprisingly consistent. I learned to spray it around sunrise, when the forces of the Earth are rising up into the plants and the light is just right to complement the light in the preparation. I learned to spray it on the plants themselves (as opposed to spraying BD #500 more on bare soil) and at a time that supports their flowering/fruiting process. I learned that it shouldn't be sprayed where it is too dry or where rain is expected soon, and I learned *never* to use it in areas where BD #500 has not first been sprayed.

As the minutes passed, I began to contemplate the formation of quartz crystals – essentially physical receptacles for light – in the darkness of the Earth. The wonder of this picture lives in me still. I realized that 501 is the only biodynamic preparation where the plant kingdom is not involved in the process of making it. With BD #500 and the compost preps, all four kingdoms – mineral, plant, animal, human – make an essential and irreplaceable contribution to the process. The *Equisetum* and valerian preparation processes require only plant and human involvement. For BD #501, the ground quartz silica is buried in a cow horn in the earth: ground, stuffed, buried and dug up by humans.

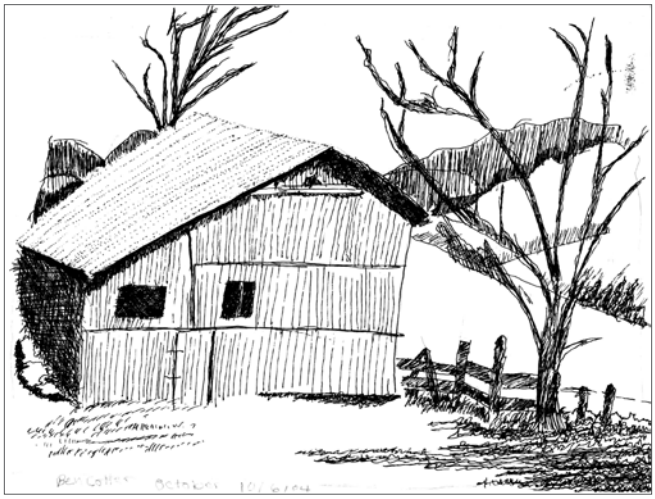
Controversies in the biodynamic community regarding horn silica are related to where, when and how much should be used. I was warned in my training to be very careful in its application, but others say that more should

be sprayed more often, particularly on this continent. In addition to obviously different situational factors, these controversies seem to be connected to differing understandings of how the physical substance of silica and the cosmic forces drawn into this material in the process of making BD #501 relate to each other – understandings of force and substance which probably underlie many differences of opinion regarding other aspects of biodynamics.

Obviously, we are still very early in truly comprehending and effectively utilizing the "indications" that Rudolf Steiner shared with the farmers at Koberwitz. Steiner's goal, when he instructed them in how to make and use the biodynamic preparations, was to show how to capture cosmic forces in a physical substance in a way that would support the plants and soil in developing a kind of "intelligence" needed to counter the degradation of modern agriculture, and to minimize the effects of the exploitation of land inevitable in the production of food for animals and humans, by tapping into the spiritual resources available.

How is this accomplished, when the fossilized light formed in the dark depths of the earth is: brought out to the living light of the sun (simultaneously releasing the elementals trapped inside and maximizing surface area by grinding it to a powder); buried in a receptacle (cow horn) that Steiner says has the best capacity to capture the cosmic forces that enter the earth from the heavens, in the summer (I was taught that the earth is totally "out of herself" at this time, so what forces are there?); dug up and exposed for months to the forces of the winter sun; then stirred and sprayed exactly like its complementary substance horn manure? What kind of hocus-pocus is this? What manner of ancient wisdom are we rediscovering? What resources are *we* tapping that materialistic science ignores? What partnerships are we forming, what relationships are we beginning and deepening, when we ponder these things as we sit with our machines or stir by hand with a stick or our bare arms, in the early morning light? Only time will tell.

I have also been taught that the application of biodynamic preparations to a piece of land is not to be taken lightly. It implies a relationship and commitment to the spiritual beings who live there, that must be honored with love and diligence. These beings don't know or care what we think; they only know what we do, how well we do it, and the attitude with which we approach the deed. The haphazard or "half-ass" production and application of preparations is a breaking of faith by human beings with the Earth and the beings with whom we ostensibly desire to partner. The rigidity, judgment, and fear that come from believing that "only my way is the right way" is just as dangerous. A constant striving for a balance between precision and compassion is what is called for here, as it is for the rest of life. For no preparation is this more true than for BD #501.



*Marlspring Barn, Camphill Village Minnesota, by village resident Ben Cotter*

I am grateful to the machine and mineral beings who have worked with me to create this cosmic substance. And, I am grateful that Angela has arrived and the rhythm of the stirring has given way to silence. My wool jumper is becoming uncomfortably warm and I shed it but keep the hat. I hand her a cup of coffee, we fill the sprayer, and she takes off for a distant hay field. I refill the tanks and start the machine for the second batch of the morning. By the time it is finished, Angela will have returned to begin the second spraying, and I will go back across the road to make oatmeal and toast for my loved ones in Brome House.

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Reprinted from a 2005 issue of the North Central Regional BD Group newsletter

Karen wrote this article in 2005, when she was a gardener and house leader at Camphill Village Minnesota. Recently, ten years later, she has returned to the community to work as an employee supporting their partnerships with local and state governmental agencies. She is "happy and honored to be back, and on that land again, in such an important role."

## Dandelion Blossoms Sought

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

# Using Horn Manure (BD #500) When Seeding & Transplanting: A Pfeiffer Center Student Research Project

*Carol St. John*

What effect would BD #500 have when used as a moistening agent for potting mix during the seeding phase, was a question that arose during my year as a student in the 2015 biodynamic training course at the Pfeiffer Center in Chestnut Ridge, New York. At the time, I was also interning three days a week at Blueberry Gardens* in Ashton, Maryland. Since they had experienced inconsistent germination rates with spinach and knowing that BD #500 (horn manure) promoted germination and root growth, I wondered what effect it would have if I used stirred BD #500 to moisten the soil block mix during seeding and transplanting. I also wondered if using the BD #500 in the potting soil mix for the spinach planted both inside and outside the hoop house would show any differences in color, general health and growth. This became my project for completion of the one-year, part-time "Practical Training in Biodynamics" course.

The questions I chose to investigate were:

- Does adding BD #500 to the soil blocks at the time of seeding and then transplanting to 2" soil blocks make a difference in the germination rate and the overall strength of the plant?
- What are the differences in the spinach grown in the hoop house versus in the open field?

## Methodology

The methodology for the trial was as follows:

### SEEDS

Biodynamic Turtle Tree, Butterfly Spinach seed, buried during the Holy Nights.

### SOIL MIX FOR MICRO BLOCKS

Three 10-quart buckets of biodynamic compost, three buckets of premium peat moss, and 2 tablespoons each of colloidal rock phosphate, glacial rock dust and greensand.

### SOIL MIX FOR 2" BLOCKS

See sidebar

### SOIL BED AMENDMENT

I amended the soil inside the hoop house with Aeromaster Humus Compost from Penn Valley, PA, as this was the current practice where I was working as an intern. I amended the soil outside with biodynamic compost. The grounds inside the hoop house and outside are sprayed with BD #500 in both the fall and spring.

### SEEDING

All seeds were planted into micro blocks made with the same soil mix on 3/27/15, a flower day, sun in Pisces (water) and moon in Gemini (air). One packet of seeds was planted in the soil mix moistened with stirred BD #500 (test). The other packet of seeds was planted using the same soil mix that was moistened with plain well water (the control).

### GERMINATION RATE

On April 9 (14 days later), 208 of the BD #500 treated seeds germinated versus 171 seeds in the control.

### TRANSPLANTING

Spinach was transplanted to 2" soil blocks on April 9 (leaf day). The soil mix in the test blocks was moistened with BD #500 treated water. The control was moistened with untreated well water.

### Blocking Mix Recipe

A standard 10-quart bucket is the unit of measurement for the bulk ingredients. A standard cup measure is used for the supplementary ingredients. This recipe makes approximately 2 bushels of mix. Follow the steps in the order given.

- 3 buckets brown peat (standard peat moss, use a premium grade)
- ½ cup lime. Mix ingredients together thoroughly.
- 2 buckets coarse sand or perlite
- 3 cups base fertilizer (equal part mix of blood meal, colloidal phosphate and greensand). Mix.
- 1 bucket garden soil
- 2 buckets well-decomposed compost. Mix ingredients together thoroughly.

Moisten the mix thoroughly using one part warm water for every three parts blocking mix. Successful soil block making depends on the mix being wet enough, rather than wet like soil mix in traditional flats. The mix should have the consistency of soft putty or wet cement, so that a small amount of water oozes through small openings in the blocker as the blocks are made, and that the individual soil blocks cling to the blocker without falling out prematurely.

From *The New Organic Grower,* by Eliot Coleman (JSS part #9899).

### TRANSPLANTING INTO THE GROUND

On April 23 (flower day), the spinach was planted into the ground in the hoop house and outside the hoop house. Half of the BD #500 treated soil blocks were planted inside the hoop house and the other half were planted outside. Likewise, half of the untreated control was planted inside and the other half into the ground outside.

### HARVEST

On May 13 the first spinach was harvested, 47 days from seed to harvest.

## Observations

The germination rate for the untreated spinach was lower than the BD #500 treated spinach. Leaves of the untreated spinach curled and discolored from hoop house temperatures reaching 86 degrees for six-seven days. Lost spinach plants were not harvested. The germination rate was 21% higher for seeds grown in the BD #500 treated soil mix. The plants did not suffer stress damage from the heat in the greenhouse; as noted by Rachel Zuses, hoop house manager, "BD #500 facilitates the uptake of nutrients so the seedlings were stronger and unaffected by the stressors of heat." The leaves of the spinach planted outside were deeper green, beefier, thicker and heartier than the treated plants in the hoop house. The spinach in the hoop house did not grow as fast as the outdoor spinach whether treated or untreated.

## Notes

Due to my work schedule in the hoop house, I was unable to do all of the planting on the preferred "leaf" days. The soil in the hoop house was amended with Aeromaster Humus Compost. The soil outside was amended with biodynamic compost. Using a soil test kit from AccuGrow, I tested the soil inside the hoop house and outside before and after amendments were added. One observation was the soil that was amended with biodynamic compost tested higher in nitrogen than the soil amended with the purchased humus from Penn Valley. However, the Penn Valley humus-amended soil tested higher in phosphorus and potassium.

*Heat-damaged untreated spinach in hoophouse*

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*Blueberry Gardens was featured in the Fall 2006, Issue No. 54 of *Applied Biodynamics* and has been farmed biodynamically for almost twenty years. It is a family-run produce and U-Pick blueberry farm, owned and operated by the families of Robert True and Howard Zuses.

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Carol St. John grew up on a conventional dairy farm in the Finger Lakes region of New York State in the 1960s. From there she became an educator on Long Island. After completing Waldorf teacher training at the Rudolf Steiner Centre in Toronto, Canada in 2004, she began teaching in the Acorn Hill Waldorf Kindergarten and Nursery School in Silver Spring, Maryland. As a teacher in the Waldorf School, she began stirring biodynamic preps with children and applying them to the school gardens. As a result, she joined the Chesapeake Biodynamic Network that led her to take the one-year, part-time biodynamic course at the Pfeiffer Center. Carol now lives in Durham, North Carolina where she volunteers two mornings a week at the Emerson Waldorf Farm and is actively involved with the Triangle Biodynamic Network in the Chapel Hill/Durham area.

*Spinach in hoop house; plants at the bottom of photo were untreated; those to the top were treated with BD #500*

# Sequential Spray of Biodynamic Preparations for Weather Extremes

***Abigail Porter***

A sequential spray of all of the biodynamic preparations has been used experimentally worldwide to alleviate conditions that are either too dry or too wet. It is not used to modify weather but rather to bring moisture balance to the local environment. The sequential spray technique was developed and first used by Hugh Courtney in the early summer of 1988, the third year of extreme drought. Courtney recalled that in the *Agriculture Course*, Rudolf Steiner attributed the preparations with the ability to help the plants attract to themselves what was needed. Over the course of three days, Courtney sprayed all of the preparations out in sequence with positive results bringing moisture. The sequence was refined and altered slightly so it could be used for conditions that were too wet and well as too dry.

**To balance hot, dry and droughty conditions:**

If you want to attract moisture to the area, the first step would be to identify, through the use of a planting calendar, three "leaf/water" days in a row that are not in a "black out" or unfavorable period. Leaf/water days occur when the moon sits in front of a "water" constellation: Cancer, Scorpio or Pisces. It is also good to consider ascending and descending positions of the moon. A descending position would be favorable to call in moisture. A waxing or full moon is also preferable.

In the evening of the first day, spray Barrel Compost (BC) out over your property. In the morning of the second day, at dawn, spray out BD #501 (horn silica). In drought conditions it is especially important to spray the horn silica *before* sunrise. In the evening, spray out BD #500 (horn manure). On the morning of the last day, spray out BD #508 Horsetail (*Equisetum arvense*), either as fresh tea or the fermented version that has been stirred for twenty minutes.

Abbreviated sequence: If there are only two favorable leaf/water days in a row, you can do the abbreviated sequence by adding the BC to the BD #500 in the last twenty minutes of stirring time and spraying it out the first evening. The following morning, stir the BD #501 for forty minutes and then add the horsetail (BD #508) for the last twenty minutes of stirring.

One can also use the pre-potentized versions of either BD #500 or BD #501 and stir for twenty minutes instead of the usual hour.

**To moderate conditions with too much moisture:**

If there is excessive rainfall and a balance of warmth with less water is desired, select three fire/warmth days in a row, when the moon stands in front of a "fire/fruit" constellation: Aries, Leo or Sagittarius. The preferred position of the moon may be waning, ascending and near perigee (the reverse of when you want to attract moisture). The sequence is the same as for drought conditions except that the spraying of horn silica and the equisetum are reversed. So on the evening of the first day, BC would be sprayed. The following morning at dawn, *Equisetum* (BD #508) would be sprayed and in the evening of that day, horn manure (BD #500) would be sprayed. On the morning of the last day, at sunrise, horn silica (BD #501) is sprayed. If only two fire/fruit days are available, the abbreviated sequence may be used by again combining BC and BD #500 the first evening and combining BD #501 and BD #508. One could also spray on air/flower days as a second choice.

Times to avoid using the sequential spray: Any of the grayed or blocked out times in the calendar indicating unfavorable, chaotic or transitional times. Eclipses, occultations, and lunar nodes are also not considered favorable. See Malcom Gardner's review of the data in *Applied Biodynamics*, Issue #25.

If the conditions are extreme and locked in, two or three sequential sprays in a row may be needed, one a week. Spraying the whole property is desired, but if that is impractical or time is limited, then the periphery could be sprayed with perhaps a couple areas towards the center. It is thought that the sequential spray may be more effective if all of the preparations have been used consistently for several years. In any case, it is a good way to get all of the preparations out in a focused and intentional time frame.

With climate change and more extreme weather conditions, and with the increase of destructive forces and chaos in the world, more frequent use of all of the biodynamic preparations is recommended to help balance and heal the Earth.

# JPI Offers Sequential Spray Kits

The kit includes one unit each of BC (barrel compost), BD #500 (horn manure), BD #501 (horn silica) and BD #508 Horsetail (*Equisetum arvense*) which is enough to cover one acre. It is recommended that you use the versions of BD #500 and BD #501 that require one hour of stirring to have enough time to fully focus your intention in a meditative way on the intended result. Knowing that many times there are time constraints, we also offer the kit with pre-potentized versions of the horn preparations, BD#500 and BD #501 requiring only twenty minutes of stirring.

- Sequential Spray Kit #1: $24.00 plus $6.50 shipping
- Sequential Spray Kits #2 (pre-potentized): $26.00 plus $6.50 shipping

# Horsetail BD #508 (*Equisetum arvense*) Frequently Asked Questions

***Pat Frazier***

*What's the difference between 501 and 508? When do you use 508? When is it better to use fermented 508?*

All of the biodynamic preparations have an association with a cosmic influence. In the case of BD #501, there is an association with our sun and its warmth, light and the influence felt in our atmosphere. In the case of BD #508, horsetail preparation, there is an association with mitigating the watery influence of the moon and an association with comets. Additionally, *Equisetum arvense* (horsetail) has a very high silica content.

The two preparations influence plants in a very different way. BD #501 influences plants in their utilization of light to photosynthesize, build structure, initiate and maintain the complex carbohydrates responsible for increased storing and keeping quality in food plants. It fosters more complex nutritive capacities for the nutrition of our grazing animals and, ultimately, food for humans that is more aligned with life forces. BD #508 has a different association with silica as a spray preparation. Plant association with the lunar forces upon earth can result in a watery influence, similar to the rhythmic effects felt by the phases of the moon and effects upon tides, female menstruation and birth. If those watery influences are accentuated in plants, there may be an environment conducive to disease states of fungal origin, insect attraction, etc. Spraying BD #508 balances those watery influences by introducing a drying, balancing effect of the silica-rich horsetail plant. The plant form of silica induces a similar stimulus toward structure, organization, and "uprightness" as opposed to fleshy, watery proliferate growth.

Use of BD #508 as a spray preparation should be part of a holistic approach using all nine biodynamic preparations. Although some practitioners feel more inclined to use BD #508 as a medicament for disease states, its full effectiveness is realized as both an atmospheric and foliar spray and as a ground drench to effect balance in the same way as the other spray preparations. In the sequential spraying technique, BD #508 punctuates a balance toward a drying effect. In a foliar spray application in the greenhouse, BD #508 balances the moist environment and can prevent aphid, white fly, fungus gnats and damping off. The fermented version as a soil drench can balance beneficial fungal and bacterial organisms in the soil by increasing their populations. BD #508 may be added to tree paste recipes, compost piles, when making Barrel Compost Compound preparation, and in compost tea brews. Advantages to the fermented version of BD #508 are a more concentrated preparation, so less is used in stirring, increased populations of beneficial organisms, and a stable preparation for longer storage. Varying dilutions of the fermented version have been used with success and the conditions of your geographic area may determine whether a stronger or weaker dilution is preferred. See below for directions for the fermented version.

### Fermented Version BD #508 Horsetail *(Equisetum arvense)*

**To Make**: The following is a slightly modified recipe of the one developed by L. Kolisko. Put one unit (8 oz. by volume or 1.5 oz. by weight) of dry horsetail herb in one gallon of spring or rain water, bring to a boil and simmer on low for one hour making a decoction. Let cool and transfer to a crock or large glass jar with a loose fitting lid. Store in a cool, dark place, such as a basement, and allow it to ferment for ten to fourteen days, until the characteristic sulfur smell described by Kolisko develops. Once it has fermented, strain the herb particles out and put the tea in a glass jar and store in a cool dark place until ready to use. It can be stored six months or more without losing effectiveness.
**To Use**: Add ½ gallon of the fermented tea to 4½ gallons of clean water, stir for twenty minutes in the usual biodynamic way of creating alternating deep vortices. This amount will treat 1½ acres. The ratio for diluting is one part fermented tea to nine parts water. The fermented BD #508 most likely should be applied as a soil spray (or in the atmosphere), whereas as the fresh tea version may be better suited for foliar application.

### Sponsorship for JPI Educational Endeavors

JPI is offering sponsorship opportunities to support the JPI *Applied Biodynamics* periodical and JPI workshops. Sponsors will have a presence in the print and on-line edition of *Applied Biodynamics* as well as in our monthly E-News mailings. Annual Sponsors will also be included on the home page of our website. Sponsorships are available for either six months or a full year and will reach a targeted audience of serious small and large-scale biodynamic practitioners.

For more information and sponsorship rates contact Abby Porter at abbyjporter@gmail.com or 304-258-4401

We appreciate your support in furthering our educational mission.

# Save the Date

**April 23: Foundations of Biodynamics Workshop**
At Sustainable Settings in Carbondale, CO. This class will cover all nine biodynamic preparations, the farm as a living organism, biodynamic history and philosophy. Cost: $120. For more information or to register call: 970-963-6107 or email rose@sustainablesettings.org

**April 29–30: Principles and Methods of Biodynamic Beekeeping**
At Spikenard Farm. An in-depth introduction to biodynamic/sustainable beekeeping practices. This workshop is for beginners as well as for practicing beekeepers. Participants will learn about the honeybee as a creative and life-supporting insect and about beekeeping methods that honor her very own needs. We will look at the history and evolution of beekeeping practices as well as the present challenges bees and beekeepers face. Cost: $95.00. In Floyd, VA. For registration and more information, call 540.745.2153 or visit: www.spikenardfarm.org

**May 13–14: Water – The Mediating Element Between Heaven and Earth**
Participatory workshop on water with Jennifer Greene of Blue Hill Water institute. Friday evening lecture and all day workshop on Saturday. $150 includes lunch. At the Christian Community, College Park, MD. For detail contact Rev. Carol Kelly at (845) 803-2071 or carolkelly.cc@gmail.com

**June 2–4: Sustainable Biodynamic Beekeeper Training**
The most in-depth and comprehensive training in beekeeping at Spikenard Bee Sanctuary! This class presents a unique learning opportunity for all who would like to immerse themselves into a holistic understanding of the sacred bee. It is this knowledge that inspires and guides our practice of keeping and caring for the bees and for working with the earth. Runs over four weekends spaced throughout the coming year. Cost is $1,280 for the total series. Visit www.spikenardfarm.org for registration and more information.

**June 4: The Role of the Horse in the Farm Organism**
Rudolf Steiner taught that every farm should aspire to be a self-contained individuality, or organism, a condition that requires having the appropriate kinds and number of livestock on the farm. Among all the farm animals, the horse excels at generating fertilizer, while its usefulness as an energy-independent, nonpolluting source of work energy is greater than ever. In this one-day workshop, farmer Mac Mead will present a comprehensive picture of the role of the horse in the farm organism. Attendees will get hands-on instruction and practice in the tasks of grooming and harnessing. In the field, attendees will try their hands at several practical tasks, such as ground-driving, plowing, discing and working raised beds. At the Pfeiffer Center in Chestnut Ridge, NY. Fee is $95. To register, visit: www.pfeiffercenter.org/workshops_and_events/register.aspx

**June 8–12: JPI Spring Workshops in Floyd, VA (see above)**

**June 10–19: Learn–Work–Share Summer Internship Program**
A Youth Conference for ages 18–30. Participants will be introduced to anthroposophical medical, nursing, therapeutic,

# JPI Workshops – Spring 2016

## June 8–12 at the JPI Farm in Floyd, VA

**Spring Preparation Making With JPI Board & Staff**
June 8, 2:00 pm–June 9, 12:30 pm
Making Silica (BD #501), Valerian (BD #507), Yarrow (BD #502) and Barrel Compost.

**Practices and Insights of Biodynamic Composting: Developing Dynamic Ways of Seeing and Working with Compost and Ehrenfried Pfeiffer's Chromatography**
June 9, 2:00 PM–June 12, 12:30 PM
With guest presenter Bruno Follador of the Nature Institute, this workshop will include hands-on activities with the composting process such as: how to mix materials, how to understand compost by C/N ratio, how to compose a windrow or compost pile, when and how to turn a compost pile, and how to recognize the signs of the different composting phases. Learning to interpret Ehrenfried Pfeiffer's chromatography will also be part of the activities.

Bruno Follador is a Brazilian geographer and biodynamic researcher with a deep commitment to the Goethean approach to science and has been working with biodynamic composting methods and Ehrenfried Pfeiffer's chromatography for several years. Since the Fall of 2014, he has been the director of the Living Soils Project at the The Nature Institute in Ghent, New York, where he continues to work with chromatography and farm-scale composting projects.

For more information on Bruno Follador and his work, visit: www.natureinstitute.org/soil/index.htm or www.natureinstitute.org/about/staff/bfollador.htm. Partial scholarships may be available through the Biodynamic Association. Apply before April 30 at: www.biodynamics.com/node/1943/

For more information, see our E-News and website: www.jpibiodynamics.org or call the office at (540) 745-7030 with any questions.

and biodynamic principles while building a community of anthroposophically-oriented youth. They will have an opportunity for hands on work experience in an anthroposophical setting. The youth program is free and is now accepting participant applications.

For details, please visit: www.steinerhealth.org/events/youthconference

**June 18–19: Biodynamic Prep 2-day Intensive Workshop**

At Sustainable Settings in Carbondale, CO. Workshop will cover the following preparations: 500, 501, 503, 504, 505, 506, Barrel Compost, Equisetum, and harvest, storage and use of the preps. $375 includes breakfast, lunch and dinner. For more information or to register call 970-963-6107 or email rose@sustainablesettings.org

**July 4–8 & August 1–5: One-Week Intensive Program at Spikenard Bee Sanctuary**

This five-day program is a great opportunity for all those who wish to learn and work at the Sanctuary. Build a vital environment for the honey bee to thrive that includes supporting a dynamic farm ecosystem, with flower and herb gardens, an orchard, a pollinator plant nursery, woodlands and large fields for cultivation. Workshop participants will have the opportunity to experience much of what goes into building a honeybee sanctuary. The social aspects of this class will provide a unique dynamic for the growth and exchange of ideas between classmates and instructors. Cost: $395. For more info, visit: www.spikenardfarm.org

## ONGOING

**Chesapeake Biodynamic Network (CBDN), College Park, MD**

Meetings, networking, Agriculture Course study and biodynamic workshops held monthly on Saturdays at the Christian Community Garden Grounds next to the University of Maryland at 4221 Metzerott Rd in College Park, MD. Contact Michael Judge for the schedule at mjudge2000@gmail.com.

**White Rose Farm, Taneytown, MD**

Educational food and farm events, festivals, celebrations and biodynamic farm days. For details, please visit www.whiterosefarm.com

**Spikenard Farm Honeybee Sanctuary, Floyd, VA**

Classes in sustainable beekeeping and biodynamics. Apprenticeship/internship opportunities. Please visit www.spikenardfarm.org

# New at JPI

**Kits for BC–Biodynamic Compound Preparation (Barrel Compost)**

Kit #1 for Single batch – $31 plus $10 shipping. Includes directions and one set of biodynamic compost preparations (BD #502–BD #507) and 500 grams of basalt (you provide 100 grams of finely crushed eggshells and 12.5 gallons of cow manure, preferably biodynamic or organic from pastured cattle)

Kit #2 for Double Batch – $62 plus $10 shipping. Includes directions and two sets of biodynamic compost preparations (BD #502–BD #507) and one kilogram of basalt (you provide 200 grams of finely crushed eggshells and 25 gallons of cow manure, preferably biodynamic or organic from pastured cattle)

**For Your Bookshelf**

*Muck and Mind: Encountering Biodynamic Agriculture ~ An Alchemical Journey,* Jonathan Michael Code – $25.00

*"Nature is a unity, with forces working in from all sides. Those whose eyes are open to these manifest forces will be able to understand nature."*

Rudolf Steiner, *Spiritual Foundations for the Renewal of Agriculture,* p. 129

SO THAT THE EARTH MAY BE HEALED

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