

“In equisetum the cosmic is present, so to speak, in very great excess, yet in such a way that it does not go upward and reveal itself in the flower but betrays its presence in the growth of the lower parts.”

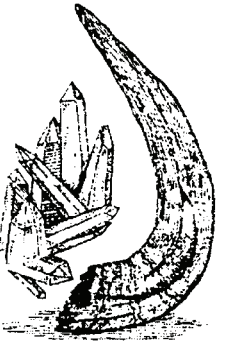
Rudolf Steiner – *Agriculture*, p. 38 (Adams translation)

SO THAT THE EARTH MAY BE HEALED
The Josephine Porter Institute
for
Applied Bio-Dynamics, Inc.
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Issue No. 67

Equisetum arvense (Horsetail)



Equisetum arvense (Horsetail) prefers moist areas such as stream banks, bogs and marsh lands with partial to full sun. Whorls of long, slender leaves at the nodes of jointed hollow stems. Height ranges from two to twenty-four inches. A non-seed plant, Equisetum is usually spread by spores. However, transplanting is possible by division and to wet ground. (Photo by Jason Martin)

Editor’s Note

Welcome to the Winter 2009–2010 issue! Patricia Smith has done a thorough job compiling data and useful information about *Equisetum arvense* and BD #508, one of the lesser explored of the biodynamic preparations mentioned by Rudolf Steiner in *Agriculture*. In the Spring 2010 issue, we will continue with the theme of *Equisetum* and present a lengthy essay by Hugh Courtney, who will share insights gleaned from decades of experience with the preparations, and particularly, he will share with us the reasons behind his interest in seeing BD #508 more widely used alongside the other eight biodynamic preparations.

The two articles in this issue which focus on farm-scale applications of BD #508, profile farmers who are in commercial production. Not only is it inspiring to see how these farmers manage to create time to spray many times throughout the season, both stories are examples of the potential creativity that can be employed when working with the preparations: combining the preparations in new ways, deciding which dates to spray, and why to spray. I believe the more we work with the preparations, the more will we be inspired and “receive” ideas of new ways to apply them. There is much untapped potential to go beyond routine applications of BD #500 and BD #501 in the spring and

fall, and placing compost preparations in the compost pile. If you are trying out some new combinations of preparations, or using them in specific ways to address imbalances in plant growth or soil health, please write and tell us about it, so that we can share your research and ideas with others!

As I was preparing to write this note, researching the horsetail herb, I learned that the lineage of the genus *Equisetum* dates back 350 million years, and some species grew as tall as sixty feet. I invite you, as we observe *Equisetum arvense*, and attempt to better understand and become acquainted with the gesture of this plant, to also imagine its history.

—Christy Korrow

Save the Date

JPI will host The Ninth Annual Fellowship of Preparation Makers Conference from February 19–21, 2010. The event will focus on the horsetail herb, *Equisetum arvense* (BD #508). For details or to register, contact Florence Rewinski at <info@jpibiodynamics.org> or (276)930-2463.

Thank You for the Dandelion Blossoms!

Would you like to harvest dandelion or other preparation plant materials for JPI? If so, contact us for harvest details.

- Lenna Keefer – Linville, VA
- Thanksgiving Farm – Harris, NY
- Hawthorne Valley Farm – Ghent, NY
- Roxbury Farm – Kinderhook, NY
- Paul Hess and Kelly O’Hern – Kinderhook, NY

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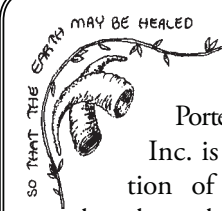
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The Editor, *Applied Biodynamics*
P.O. Box 133, Woolwine, VA 24185, U.S.A.
Phone: (276) 930-2463; Fax: (276) 930-2475
<info@jpibiodynamics.org>
<www.jpibiodynamics.org>

Managing Editor – Christy Korrow
Co-Editors – Hunter Francis and Patricia Smith
Layout – Bruce Bumbarger

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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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For more information about BD #508, please refer to the following issues pertaining to the uses of this most versatile biodynamic preparation.

Winter 1993, Issue No. 6

- Sequential Spraying – Illusion, Remarkable Coincidence, or Reality? (H. Courtney)
- Description of a Sequential Spraying Technique Using the Biodynamic Preparations to Balance Forces of Plant Growth

Summer 1994, Issue No. 8

- Horsetail Herb *Equisetum arvense* – BD #508 (H. Williams)
- Hugh Williams’ Recipe for BD #508 (Fermented Version)
- Hugh Courtney’s Recipe for BD #508 (Fermented Version)
- Capillary Dynamolysis of Fresh & Fermented Horsetail Tea
- Recipe for Fresh Tea Version of BD #508
- Lilly Kolisko’s Recipe for BD #508 (Fermented Version)

Winter 1997–1998, Issue No. 22

- Observations and Experiments: Horsetail Tea and Bees (E. Lunquist)

Winter 1998–1999, Issue No. 25

- Sequential Spraying—An Interim Analysis (M. Gardner)
- Personal Experiences with Sequential Spraying (C. Hall, J. McLeroy, L. Marks)

Fall 2002, Issue No. 38

- Biodynamics Brought to the Vine (P. Smith)

Winter 2003–2004, Issue No. 43

- Anecdotes and Antidotes – Biodynamics at Work: Use of Preps 500, 507 and 508 Help to Save Grape Harvest (P. Damery)
Fungus Remedy Doubles as Frost Protection (P. Smith)

Spring 2004, Issue No. 44

- Report from the Philippines: Effects of the Milk and Honey Spray and Other Major Breakthroughs in Biodynamic Rice Production (M. H. B. Ruizo-Gamela)

Fall 2004, Issue No. 46

- A Healing and Protective Treatment – The Biodynamic Tree Paste (E. Pfeiffer)
- Biodynamic Tree Paste – A Simplified Recipe for Beginners (H. Courtney)

Summer 2005, Issue No. 49

- Biodynamic Flower Production: Demystifying the Method (P. Sansone)
- Seven Essential Elements of the Biodynamic (BD) Method (P. Sansone)

Sign-Up Now For *Agriculture of Tomorrow*

Plans are being made for the long awaited reprinting of Lilly Kolisko’s *Agriculture of Tomorrow*. Next to Rudolf Steiner’s *Agriculture* (Adams translation) or *Spiritual Foundations for the Renewal of Agriculture* (Creeger-Gardner translation), it is considered a must have for the biodynamic practitioner. The print run is planned to be a limited quantity of only four hundred books. Of that number, JPI is reserving fifty to one hundred. Because of the small quantity being printed, the price is expected to be around \$80.00 each. With some college textbooks costing as much

as \$150.00 or more, this is well worth the price to pay for such a valuable resource. The last reprinting of *Agriculture of Tomorrow* was 1978. If you would like to reserve a copy, specify how many, and contact JPI at: (276)930-2463; fax (276)930-2475; email <info@jpibiodynamics.org> or mail to P.O. Box 133, Woolwine, VA 24185. Please note: No deposit is required. Reservations are requested to give the publisher an idea of the interest and actual number of orders for this indispensable book.

four hundred fifty acres in the spring and in the fall. There are also fifty acres of small food plots for wildlife that are prepped once a year by hand with brush and bucket, hand sprayer, or a four-wheeler sprayer.

Making a Large Quantity

Philip uses the fermented version of the BD #508 exclusively, since, as he says, “You get more than three times as much BD #508 as the fresh tea version.”

For a large operation such as this, thirty pounds² of *Equisetum arvense* is brewed in a ninety-gallon cast iron round bottom kettle. It is left to ferment in the kettle for about fourteen days, until the telltale “rotten egg smell” is significant. The fermented tea is strained out and stored in a two hundred fifty gallon tote [tank]. The remains of the *Equisetum* are added to compost.

Additional Ingredients for Making BC

The Maria Thun recipe for making Barrel Compost is modified at the Lyvers farm. Philip explains, “We make BC by adding a pound of dried *Equisetum* and five gallons of fresh stinging nettle plus egg shells, basalt powder, two cups of soft rock phosphate, two cups of a humate product made from coal, and eight to ten sets of compost preps (BD #502-507) to a forty-gallon batch of cow manure, from three milk cows on the farm.”

Other Uses of BD #508

On the Lyvers farm, BD #508, BD #500 and BC are applied to the gardens, greenhouse and to the fruit trees in the fall and in the spring before fruit set. Once fruit is set, BD #508 is applied several times to help control fungal disease. From Philip’s own

experience, silica products such as BD #501 and BD #508 have reduced fruit set if used during flowering, especially in beans. In a plant such as corn, ear size and rows are determined at sixth leaf stage. Wheat is determined at boot stage (head is fully developed). A peach tree’s number of flowers is determined in September. Philip notes, “I have begun to look at this a lot more. I apply the BD #508 or BD #501 either to the soil, before the crop comes up, or after the fruit is predetermined. There may be a window when the BD #508 or BD #501 can mess with the ear size, number of rows, and quality of the corn.”

A small amount of BD #508 is also added to the hog manure pits which are treated with the compost preps BD #502–507 along with BD #500 and BD #501. The liquid manure is used to fertilize the crops.

Beyond healthier grains and hogs, after several years of biodynamic preparation use, Philip has noticed the antlers of the deer residing on the farm are exhibiting a better symmetry, i.e., equal amount of points on either side, better quality and size; whereas about five years ago, they were non-typical (uneven in number and an abnormal shape) and of poor quality. Philip has begun to think that the deer antler, like a chromatogram, is a picture of the health of the farm. As the farm becomes more alive and healthy, the deer antlers become larger and more beautiful.

Notes

- 1) Rudolf Steiner, *Spiritual Foundations for the Renewal of Agriculture*, Biodynamic Farming and Gardening Association, Kimberton, PA, 1993.
- 2) At this time Philip is growing *Equisetum arvense*, but it is slow to establish, so he orders the dried herb from Blessed Herbs in Oakham, Massachusetts.



Cover crops of vetch and crimson clover at the Lyvers farm. (Photo by Laura Riccardi)

How to Make BD #508 (*Equisetum arvense*) Horsetail Tea

Patricia Smith

The easiest of the biodynamic preparations to make, BD #508 (*Equisetum arvense*) Horsetail, is made into either a fresh or a fermented tea. The following is a modified recipe of the fermented version from researcher Lilly Kolisko that we use here at the Josephine Porter Institute for Applied Biodynamics. This recipe is also more economical to use than the fresh tea version which treats one acre; the fermented version treats up to three acres.



1. Add ten ounces of shredded *Equisetum arvense* (Horsetail herb), by volume, which is about one and a half ounces by weight, to one gallon of boiling water.



2. Reduce heat and let simmer for one hour.

Harvesting *Equisetum*

May through September. Cut the stem, leaving about four inches at base of plant to grow back for future cuttings.

Drying and Storing

Leave them on racks to dry for a few days. They can then be chopped with scissors, cutting into one-quarter to one-inch lengths and stored in glass jars, paper bags or boxes for up to two years away from light and heat before using.



3. Stir occasionally.

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

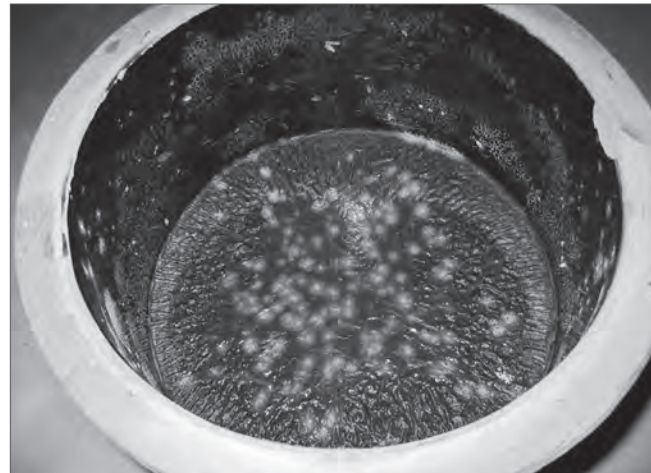
BD #508 – Horsetail (*Equisetum arvense*)



4. Allow to cool. Pour into a crock or other suitable container.



5. Place a loose fitting lid such as a dinner plate over the crock and store in a cool, dark area (basement or cellar) to ferment for about ten to fourteen days.



6. The batch is ready when the notable smell of sulfur, i.e., rotten eggs, will start to develop, and spores will form a skin on top of the surface.



7. Strain the *Equisetum* remains and pour into a glass container. Store in a cool, dark area. The fermented BD #508 will keep for six months or longer without losing its effectiveness. Alternatively, one may keep a more or less permanent crock of fermented tea, leaving the herb residue and straining out however much tea is needed for the current spray. When a new batch of tea is brewed, it can be added to what remains in the crock, allowing the fermentation of the new batch to proceed very quickly. (Photos by Patricia Smith)

Kentucky Farmer Has Many Uses For BD #508 (*Equisetum arvense*)

Patricia Smith

For the last five years, Philip Lyvers has been making his own biodynamic preparations for his grain and hog farm in Loretto, Kentucky. However, as he explains, "It's a conventional farm using organic and biodynamic concepts, making it a hybrid farm operation." The farm covers two thousand six hundred acres, which is mostly wooded. Considered a rare practice today for farmers to provide their own feed for hog operations, Philip has grown half of his own grain since he began farming in 1968. In using the biodynamic preparations and animal manures (hog and cow), he has to buy very little fertilizer for the crops, thereby saving costs of the overall operation.

Each year Philip Lyvers grows three hundred acres of corn and one hundred fifty acres of winter wheat. He also plants cover crops in the spring to follow the corn of the previous fall, as well as inter-plantings of cover crops with the winter wheat. A blend of two-thirds corn and one-third soft wheat is fed to the hogs.

Making all the biodynamic preparations, including two to four hundred BD #500 horns per year, and twenty-two stag bladders to make BD #502 (Yarrow Preparation) for this year, Philip tries to keep a two-year supply of preparations in stock.

Controlling Fungus Problems

The majority of diseases of corn and wheat come from the family of *Fusarium* fungi, which produce microtoxins (ppm) and aflatoxins (ppb) in the grain. These toxins are stored in the internal organs and joints of an animal consuming infected grain, destroying the animal's immune system.

Having used biodynamic preparations for the last seven years, and extensively for the last five years, Philip says, "Before using biodynamic preparations there were problems controlling *Fusarium* fungi type diseases in the corn and wheat. *Fusarium* is a fungi that normally does not attack the live plant. Its role is to aid in the breakdown of dead matter."

To prevent fungus problems, Philip uses BD #508 (*Equisetum arvense*) for the corn and wheat. The amendment spray is comprised of BD #508 (*Equisetum arvense*), BD #500 (Horn Manure) and Biodynamic Compound Preparation (a. k. a. Barrel Compost or BC). This is applied to the soil in the spring to three hundred acres, before planting corn and also on one hundred fifty acres of wheat before it heads at about eighteen to twenty-four inches. In the fall it is applied to the same four hundred fifty acres

before planting cover crops of crimson clover, vetch and sometimes oats.

The BD #500, BC and BD #508 spray aids in breaking down the crop residue left in the field from the no-till method of cropping. This form of composting in the field is one of three composting techniques used on Philip's farm.

According to Philip, "The traditional rotation when cropping wheat is to plant the field into soybeans when the wheat is harvested. Instead of this we are using red clover, crimson clover and vetch to follow the wheat. We spray the preps and let it stay fallow (in clover and vetch) until the following spring when we plant corn. This practice is based on what Steiner says about nitrogen produced by clovers: nitrogen needs to be produced in November and December for use by the plant in the following year."¹

Fungus Problems of 2009

Because of such a high rainfall year, Philip explained, "There were people who used a fungicide and still had problems with the *Fusarium*. The people that didn't use fungicide or anything else had a really bad quality crop. I didn't use the fungicide and the wheat was good quality with very little damage from *Fusarium*. To me, it worked. I had seventy-one bushels of wheat per acre, which is considered above normal. The cost per bushel was \$1.60 cash cost, quite a bit cheaper than most. We grind the wheat for our household use. The flour is better than anything I can buy."

Fall Harvest for Corn

The challenge of the wet fall this year is described by Philip, "This fall we harvested 117 acres of corn before the rains set in. It yielded 145 bushels per acre with only one to two percent damage, excellent quality. Then it rained for eight days in a row and every week for seven weeks thereafter. There were very few days possible to harvest corn. It sprouted on the ear and started to rot. Corn damage went from one to two percent, to twenty percent. It made me realize the silica preps will work for the living plant, but once the plant dies, the fungus does its job to take it out."

How the 508, 500 and BC are Prepared and Applied

Before spraying, the three preparations of BD #508, #500 and BC are brewed in a compost tea machine for an hour, to remove solids. They then go through a flowform for another hour and twenty minutes. Application is made using a commercial sprayer with a sixty-foot boom, over