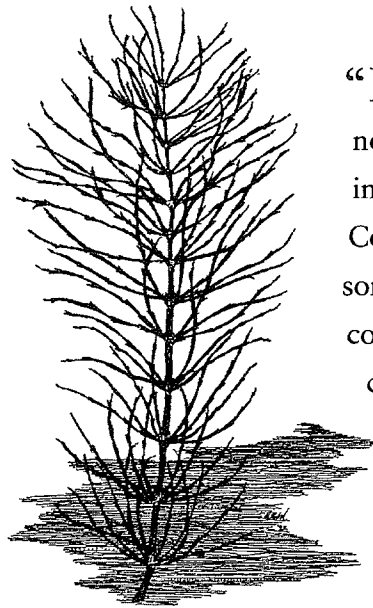




“People talk about a combustion process going on inside the body, but this is nonsense, of course. When some substance or other combines with oxygen inside an organism, that process is totally different from a combustion process. Combustion is a process in non-living nature. Just as a living organism is something different than a quartz crystal, so too is what is designated as combustion within the organism something different than the dead process of combustion that takes place outside; in the organism it is something alive and even sentient.”

— Rudolf Steiner. *Agriculture*, Bio-Dynamic Farming and Gardening Assoc., translated by C.E. Creeger and M. Gardner, 1993, pg. 153.



SO THAT THE EARTH MAY BE HEALED

The Josephine Porter Institute
for
Applied Bio-Dynamics, Inc.
P.O. Box 133, Woolwine, VA 24185-0133



Applied BIODYNAMICS®



SUMMER 1994

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ISSUE Nº 8

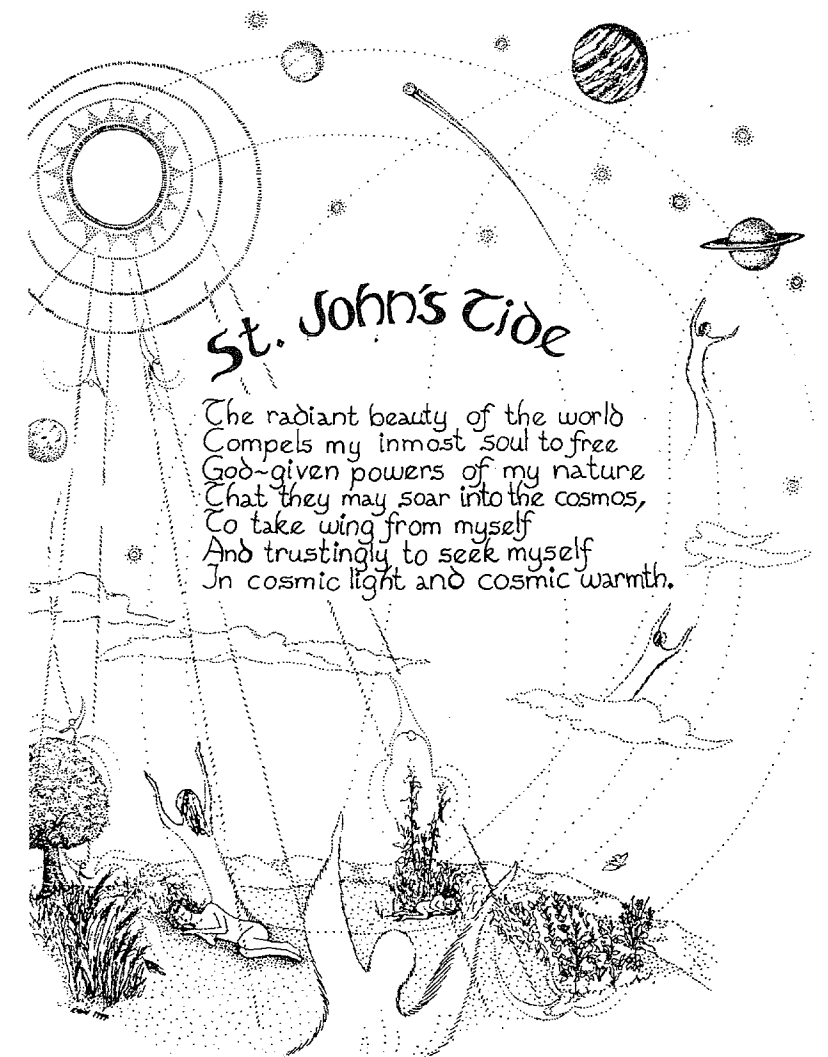
SUMMER IN THE BIODYNAMIC GARDEN

by Hugh J. Courtney

To continue the article “Spring in the Biodynamic Garden”, *Applied Biodynamics*, Issue #7, we want to share what biodynamics looks like in the summer gardens of biodynamic growers as gleaned from our Spring survey. Summer in the biodynamic garden entails the use of the BD #501, horn silica, as well as the use of BD #508, Horsetail herb, and perhaps various and sundry recipes for dealing with pests. Specialized use of other of the biodynamic preparations, in particular the individual compost preparations #502 -507, may also have their place in the summer biodynamic garden.

A quote from one of the biodynamic gardeners we surveyed clearly addresses a problem that many biodynamic gardeners experience: “If there’s one prep that suffers the most as the season progresses, it’s BD #501, and I feel really bad about it. The thing about BD #501 is that you really have to do it several different times. When it’s optimum (time to spray) for one crop, it’s not optimum for another crop. That’s where it really starts to suffer.”† How frequently have I learned that the units of BD #501 mailed out in the Spring are still sitting around unused at the end of a gardening season. It is my hope that this article might serve as an encouragement for the use of this important but so often neglected biodynamic preparation.

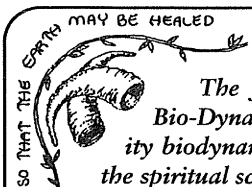
Horn silica, BD #501, is quartz crystal (usually, but not necessarily) that has been ground to a fine powder. It is buried in a cow horn throughout the summer. Half a teaspoon of it, stirred biodynamically in approximately 2½ gallons of water, is sprayed onto the foliage of growing plants. (One unit, ½ teaspoon, will cover up to one acre.) It is sprayed as a fine mist in the very early morning when a warm and at least partly sunny day may be expected. If applied when the sun is too high, it has been known to cause burns or “sun-scald” on foliage. BD #501 acts as a supplement to BD #500, horn manure. “If you apply this (BD #501) as a fine spray on the plants themselves — especially on vegetables and things



Rudolf Steiner. *The Calendar of the Soul*, The Anthroposophic Press, 1992, p.25.

like that — you will soon notice how its effect complements and supports the influence coming from the other side, from the soil, as a result of the cow-horn manure.” (R. Steiner, *Agriculture, Bio-Dynamic Farming & Gardening*, 1993, p. 74.) BD #501 helps to bring sunlight to the leaves, enhancing the light metabolism in the plant. It influences the color, aroma, flavor, and keeping qualities of crops. The potentized spray is applied at the proper growth stage, which is the time

SUMMER (continued on page 3)



MISSION

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

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

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

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

REALIZING THE MISSION — AN UPDATE

We received final determination from IRS on our not-for-profit 501 (c) (3) status, which we were awaiting prior to our efforts on moving forward on the planning and solicitation of monies for building funds. An official letter from IRS, dated April 19th, 1994, is now in our file and we feel a real sense of accomplishment, as you might suspect, after several years of filling out forms, writing narratives and setting up files to meet audit regulations.

In conjunction with our plans for building, Executive Director Hugh J. Courtney, met with Jose Sanz Cardona, an anthroposophical architect. During this preliminary meeting, a tone and direction was set regarding the planning process. We recognize that a study of the land usage and building needs will take some time, but the process has begun.

The implementation of a computer accounting system began in March and it is our hope to be fully on line by the end of July. During this transition time we are working with both paper and computer, doing double duty, to assure that all needed information and reports can be accessed prior to going 100% on computer. The new system will provide all kinds of reports (i.e. inventory, income, expense, mailing lists, etc.) which have previously taken us many hours to prepare. Thus, we hope to work with gratitude and in a healthy relationship to the new accounting system. The program will also generate invoices, so you may soon receive computer generated invoices with your orders. Please know that we gave much thought to relying on the computer, as most of us prefer the personal touch of hand written to that produced by a computer. However, our judgment is that the mission can be best fulfilled if we become computerized. All orders are hand prepared and packaged, and we will always strive to keep a personal connection to you and your order.

The Board of Directors will be meeting during St. John's Tide to assist with digging up horn pits and helping with BD prep making. The Directors will also gather inside to review short and long range planning and the status of project tasks.

The staff and Board members send you warm summer greetings and wishes for luscious harvests! ~~~~~

LETTER FROM THE EDITOR

Dear Reader,

It is important to keep in mind the bigger picture. The interconnectedness and interdependence of all of life, the macroscopic view, can get lost as we focus on our specific tasks, the microscopic. In this issue it is our hope that we raise your awareness of the macro in all that we present.

For example, when Betsy Cashen writes about taste in her article "In Good Taste" she provides a macroscopic view: Taste begins with our thoughts! Hugh Williams highlights the interconnectedness of equisetum arvense (horsetail herb) to balancing and managing the water household in farm and garden. He offers his recipe for BD #508. Hugh Courtney offers other BD #508 recipes confirming that biodynamics offers the diversity necessary to meet the individuality of each garden/farm.

Summer in the Biodynamic Garden describes the many ways successful biodynamic gardeners/farmers interact with the soil and plants during the summer months. At times, with the excuse of not enough time, those in biodynamics neglect the BD #501 and BD #508 sprayings of the summer season. This article encourages the usage of these preparations through the positive results realized.

Let us not forget why we grow biodynamic foods. The life forces and quality of such foods provide the strength necessary for manifesting the spiritual in physical life. Biodynamic food thus can provide the bridge from thinking to will and action. During this season when the Earth has exhaled, let us keep in mind the larger picture and see ourselves 'soaring into the cosmos.'

Macroscopically yours,
Candace Coffin, *Editor*

BIODYNAMIC PREPARATIONS LEGEND			
BD #500 – Horn Manure			
BD #501 – Horn Silica			
BD #502 – Yarrow	}	C	
BD #503 – Chamomile			O P
BD #504 – Stinging Nettle	}	M R	
BD #505 – Oak Bark			P E
BD #506 – Dandelion	}	O P	
BD #507 – Valerian			S S
			T
BD #508 – Horsetail			
(Equisetum arvense)			



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The subscription price of \$35/yr. helps subsidize JPI research and development.

Editor: Candace Coffin

Artwork by: Erin

SIDEBAR #3

Lily Kolisko's Recipe for BD #508 (Fermented Version)

To Make: The following is a slightly modified recipe of the one developed by L. Kolisko. Take one unit of shredded horsetail, which is about 10 oz. by volume and 1½ oz. by weight. Bring to boil in approximately one gallon of water and simmer for one hour. Let cool and transfer to a crock or other storage container with a loose fitting lid. Store this in a cool place, e.g. basement, and allow to ferment 10 to 14 days, until the "characteristic smell,"† mentioned by Kolisko, develops. Thereafter, strain the remaining herb particles out, fill the tea in a glass jug, and store it in a cool dark place until ready to use. It can be stored 6 or more months without losing effectiveness.

To Use: Add ½ gallon of the fermented tea to 4½ gallons water, stir 20 minutes in the biodynamic fashion, and use to treat up to 1½ acres‡. One unit of horsetail can thereby treat up to 3 acres with as powerful effect as can be achieved by the fresh tea recipe on only one acre.

†Again, smell has a sulfurous character.

‡ If tea (base liquid) is regarded as DØ, this application is at D1 potency.

Editor's Note: To continue to assist biodynamic farmers/gardeners in differentiating and explaining biodynamics, we share Steve Moore's version.

Gardener/Farmer Steve Moore (Moore Ranch, Carpinteria, CA) provides the following explanation "About Biodynamics" in his Moore Ranch CSA brochure.

About Biodynamics

Biodynamic farming methods, which are used on a majority of the more than 70 CSAs now in America, improve the quality of the soil, water, and air, and enhance ecological diversity, facilitate recycling, and maximize the self-sufficiency of the farm. The ideal Biodynamic farm is an individually unique, self-sufficient, sustainable ecosystem. The farmer establishes, maintains, and builds soil fertility and health through the use of specially prepared composts made with farm-produced and/or carefully selected imported manures and plant materials. Through a balanced crop rotation and application of the Biodynamic preparations to the compost, the soil, and the growing plants, the farmer regulates and stimulates the life activity thereof. Synthetic chemical pesticides and fertilizers are not used on certified Biodynamic farms. Biodynamics requires a new way of understanding Nature in its widest sense. The farmer is called upon to recognize and cooperate with the life-giving forces and natural rhythms that actively regulate the growing processes in the plant, animal, and soil itself. The result is produce with high nutrition, flavor, and "shelf life."

This approach to agriculture was first brought forward in 1924 by the late Austrian philosopher, Dr. Rudolf Steiner, and has since been taken up throughout the world.

Potentization and the Biodynamic Preparations

All of the biodynamic preparations can be applied at a potentized level which *can yield an enhanced effectiveness. However*, each preparation has its *own* level of potency for such enhanced effectiveness. See *Kolisko Agriculture of Tomorrow*. We will hope to address again the question of potentization in future issues of *Applied Biodynamics*.

– Notice –

Agriculture of Tomorrow by E. and L. Kolisko has recently gone through a reprinting and is expected to be available very soon. It will be expensive since it will be coming from overseas and has many charts and pictures. It is well worth being in anyone's library who has any claim of being a student of biodynamics. (Save your money!)

New Release . . .

A Biodynamic Farm, for Growing Wholesome Food

by *Hugh Lovel*

Acres, U.S.A., 1994. \$20.00

An exceptionally well written and most understandable book on biodynamics. Hugh Lovel provides us with everything needed to become knowledgeable about biodynamics and to feel confident regarding the practical aspects and the application. Lovel also provides the reader with the bigger picture, and in a most readable style, offers insights necessary to comprehending the political and economic aspects of agriculture. This is a hard book to put down once you've begun reading. One last reason to purchase this book: there is a marvelous glossary at the beginning of the book giving the reader all necessary definitions.

The Josephine Porter Institute is offering this book at a 25% discount. Thus you may purchase this book for \$15.00 plus \$2.00 postage. Send your orders to JPI, P.O. Box 133, Woolwine, VA 24185.

Due to the discount being offered, purchasers are invited to determine for themselves whether they think the author deserves full royalty. For those who wish to do so, a \$5.00 royalty fee may be sent to:

Hugh Lovel
c/o Union Agricultural Institute
Rt. 4, Box 4635
Blairsville, GA 30512

SIDEBAR #2

Hugh Courtney's Recipe for BD #508 (Fermented Version)

Take 10 oz. by volume of shredded Horsetail (*Equisetum arvense*) herb (1½ oz. by weight) to 90 oz. by volume of water and bring to a boil, then let simmer for up to 60 minutes.

Strain resultant liquid and allow to age or ferment for 10 days to 2 weeks or *until characteristic smell develops*.† Result is 3 quarts ½ cup of the base (or DØ) liquid. (If all of this liquid were carried to the desired D5 potency, there would be enough for 3,875+ acres at a spray rate of 20 gallons per acre.)‡

For your spraying situation where total liquid needed is 120 gallons of a D5 potency, you require 12 gallons of the D4 potency (one part in ten).

To arrive at that quantity, the following steps are recommended:

- For D1** Take 1 cup (8 oz.) DØ liquid, add 9 cups (2 quarts 1 cup or 72 oz.) water and stir for 20 minutes in the usual BD manner, or succuss⁴ for 3 minutes. Result is about 2½ quarts D1 liquid. Bottle and label for future use as needed.
- For D2** Take 1 cup (8 oz.) D1 liquid, add 9 cups (2 quarts 1 cup or 72 oz.) water and stir for 20 minutes in the usual BD manner, or succuss*** for 3 minutes. Result is about 2½ quarts D2 liquid. Bottle and label for future use as needed.
- For D3** Take 3 cups (24 oz.) D2 liquid, add 6 quarts and 3 cups (27 cups or 216 oz.) water and stir for 20 minutes in the usual BD manner. Result is about 7½ quarts D3 liquid.
- For D4** Take 5 quarts D3 liquid and add 11 gallons and 1 quart (45 quarts) water and stir for 20 minutes in the usual BD manner. Result is about 12½ gallons D4 liquid.
- For D5** Take 12 gallons D4 liquid and add 108 gallons water giving 120 gallons for actual spraying needs. Stir for 20 minutes in the usual BD manner.

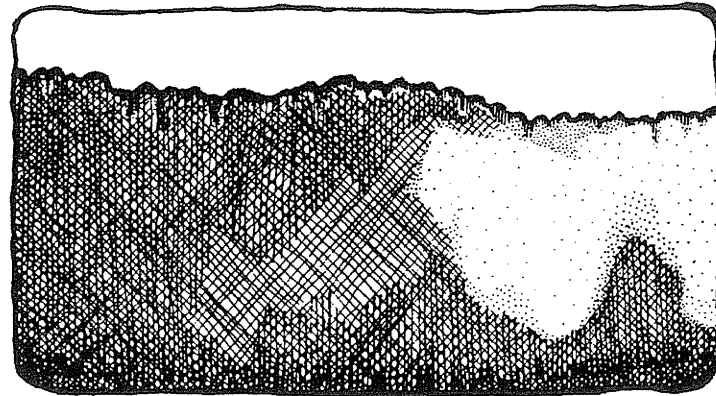
†In this recipe, "characteristic smell" is quite sulfurous in nature.

‡To arrive at proper quantities to work with, one must know the calibration of spray equipment involved. In this example, sprayer needs 20 gallons to cover one acre. In other examples in this newsletter, as little as 3 to 5 gallons may be all that is needed to cover one acre. To calculate the formula needed for your situation you must know the final quantity and work backwards, always keeping in mind the desirability of working with manageable quantities at each step. Each step should maintain the one in ten or 1 part to 9 ratio.

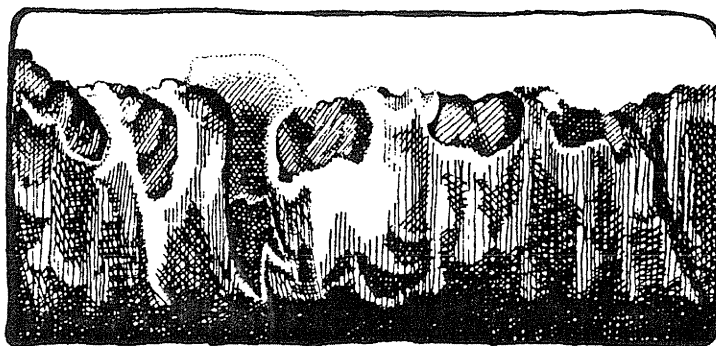
⁴Succuss: to shake vigorously by pounding container with liquid against the palm of the hand or against a resilient but still firm surface.

For any of the above potencies, more or less liquid may be used so long as sufficient liquid is available at the D4 stage to allow you to obtain the quantity needed to arrive at a one part in ten (or one part to nine parts) for the final D5 liquid. It becomes a matter of being able to store the quantities of unused liquid, with storage of the lower potencies being substantially easier to handle.

Capillary Dynamolysis[†] of Fresh & Fermented Horsetail (*Equisetum arvense*) Tea



Fresh Horsetail (*Equisetum*) Tea



Fermented Horsetail (*Equisetum*) Tea

†The capillary dynamolitical test is a method which enables a visualization of various forces hidden in substance

Recipe for Fresh Tea Version of BD #508[†]

Take one unit (10 oz. by volume 1½ oz. by weight) of shredded horsetail and place in cooking vessel with 1 quart of water. Cook slowly in covered vessel for 20 minutes. Strain and dilute with 2 gallons of water. Stir in the biodynamic fashion for 15 minutes. With a clean sprayer, use a fine mist spray. (Use within a few days once cooked and diluted.)

†Again, if tea (base liquid) is regarded as DØ, this recipe is application at D1 potency.

Conversion Table

Need:	Begin with:	
	Fermented Equisetum	Water
120 gal. D5	1 cup	9 cups
60 gal. D5	½ cup	4½ cups
30 gal. D5	¼ cup	2¼ cups
15 gal. D5	⅛ cup	1⅛ cups
7½ gal. D5	1 Tablespoon	½ cup + 1 T.

SUMMER (continued from page 1)

when the organ of the plant one wants to harvest has begun to form. It stimulates fruit and seed formation and also makes crops more resistant to disease and insects. While morning application is the general rule, there are exceptions, with root crops requiring a final spray in the evening for optimum results.

Ideally, carrots should be sprayed on a root day, spinach on a leaf day, and so on according to the desired result. Small grains receive BD #501 after tilling, when the stalk starts to elongate, with subsequent applications being made to help prevent lodging.

Corn is treated when the stalk starts to elongate and when one can easily drive through the field. Alfalfa, other hayfields, and permanent grasses receive the treatment not too long after strong growth has started. Provided there is enough moisture in the ground and one is not in a dry spell, further applications can be made after cuttings have been taken off the field, or a grazing period is finished.

Lettuces and spinach should receive only one application in the morning; but to prevent them from bolting, another application can be made in the afternoon tending to drive the forces back toward the roots, as happens normally in that part of the day. Flowers, tomatoes, strawberries, and fruit should be treated when the flower buds are visible and ready to open.

Potatoes are ready for BD #501 when the flower formation starts. Cabbages of all kinds, and cauliflower, broccoli, and other leafy vegetables that grow much bulk, should respond to repeated applications by growing a finer tissue, developing good taste and keeping quality.

Kitchen herbs, soft fruit, tomatoes, melons, and so on, should have their taste improved by repeated applications.

Apple trees get applications during the late stage of flower buds, then again when the fruit is being developed. Spraying BD #501 on apple trees can be combined with a stinging-nettle spray.

For greenhouses, where such plants as cucumbers, tomatoes, lettuces produce large amounts of plant matter within a short period of time, repeated applications of BD #501 are recommended.

My answer to the gardener I quoted above who found that BD #501 suffered the most was this: "When I relate the preparations to various things, I perceive the BD #501 and the BD #508 as the polarity needed to strengthen the will forces, so if you use those you might have a little bit better luck at it."

Although we were unable to obtain information regarding the usage of BD #501 and other summer biodynamic practices

from all of the gardeners' we surveyed, we do share with you the following gardeners practices.

Kerry Sullivan (Map #1) waits until after transplanting and then everything gets sprayed with BD #501 at least once. Fruiting crops he sprays 4-5 times. Sometimes he tries to spray in conjunction with the calendar but that is not always possible. Kerry sprays BD #508 prophylactically throughout the entire growing season. He also sprays BD #505, oak bark preparation, on tomatoes and sprays the BD #508 on the soil around the tomatoes early in the growing season for the prevention of disease.

Allen Cleek (Map #2) sprays BD #501 or 501(5x)‡ 4-5 times during the season.

Being a market gardener, he especially uses it on lettuce and leaf crops for the keeping quality it fosters. Allen applies Barrel Compost as a foliar spray and uses BD #507, Valerian, for insect problems, including slugs.

Polly Hieser (Map #3) begins the application of BD #501 in June and sprays twice during the growing season. She sprays BD #508 every other week throughout the growing season on tomatoes and has no late blight. She employs BD #508 on tomatoes and squash for powdery mildew. During the summer, if a drought occurs, Polly utilizes the sequential spray (see *Applied Biodynamics*, Issue #6, "Sequential Spraying" p.3).

Hugh Lovel (Map #4) sprays BD #501 as part of his regular spraying schedule. He also sprays BD #501 and BD #508 on corn for pests. He too employs the sequential spraying technique and claims to have never failed with it; he has always gotten about 4" of rain.

Claire Hall (Map #5) begins her spraying of BD #501 mid to late May starting with asparagus. She uses Barrel Compost on all cover crops before plowing them down to help them, in her words, "melt in."

Charlie Townsend (Map #6) sprays BD #501 once things are up and also sprays Barrel Compost. He begins spraying BD #508 in June.

Jenny Erickson (Map #7) sprays BD #501 in July, but with the strong Utah sun she worries about spraying it twice. In August she sprays Barrel Compost when tilling under and she too sprays Barrel Compost whenever turning in a cover crop. If a frost looks like it might be severe, (in 1993 there was frost every 10 days, even throughout the summer), Jenny sprays BD #507, Valerian, for protection.

Harold Hoven (Map #8) sprays BD #501 on sunny days. He begins before sunrise and sprays with the nozzle up, spraying more into the atmosphere with a very fine mist. He applies the

spray wherever there are plants. He utilizes BD #501 for any seed crop, especially just about harvest time. His spraying schedule includes BD #501 for all crops at least twice. Like Jenny, Harold uses BD #507, Valerian, when there is danger of frost.

Steve Moore (Map #9) follows BD #500 with BD #501. He sprays his gardens and his lemon and avocado orchards. He sprays BD #508 routinely in late Winter and early Spring and other times when fungus is a problem.

The horn silica preparation, BD #501, is related to all the processes of growth which go on above-ground. "This preparation has a kind of 'balancing' effect. It preserves a nice balance in growth. It speeds up slow or retarded growth and assimilation and slows down growth that is too rapid." (E. Pfeiffer. "Practical Guide to the use of the Bio-Dynamic Preparations, *Bio-Dynamic Farming and Gardening*, 1984, p.46.)

Open House at JPI by Chuck Roden

On Saturday, April 30th, the Josephine Porter Institute welcomed over 25 guests to the second annual Open House. The group consisted of travelers from as far away as Maine, Pennsylvania, and Tennessee. Visitors also arrived from as close as North Carolina, Floyd, Virginia, and yes, our own Woolwine, Virginia.

Thankfully, the sun shone brightly and the blue sky danced with quickly moving clouds. Add a refreshing breeze and the combination totaled a beautiful day with temperatures in the 80's.

The day began with coffee and tea, and a brief orientation talk under the shade of a 20' x 20' canvas tent. Attendees were assigned to small groups with each group taking a turn at each of the several activities scheduled. First on the schedule was a stirring demonstration of BD #501. All who were willing and able participated in the one hour long stirring.

Also underway at this a time, was a hands on demonstration of inserting the compost preparations BD #502-506 into, and the spraying of the compost preparation BD #507 onto several newly built compost piles. Last, but not least, a compost pile was being built that very morning by several JPI staffers so that the Pfeiffer BD Compost Starter, which generally is sprayed as the compost pile is built, could be demonstrated. The staffers utilized the layering techniques as described by Dr. Ehrenfried Pfeiffer.

The small groups rotated from activity to activity until the BD #501 stirring was finished. The BD #501 was then placed in stainless steel knapsack sprayers and a hands on demonstration of spraying a meadow commenced. Several people participated in the somewhat arduous task of wielding a knapsack sprayer and applying the BD #501 in a fine mist over our hilly meadows.

Just before the lunch break a demonstration of the tea making process for the Horsetail herb, *Equisetum arvense*, BD #508, was given. Also, the fermented version was available for the participant's curiosity and investigation.

At this stage in our awareness of all the possibilities opened up by use of BD #501, it would appear that we have barely scratched the surface. Much, much more needs to be learned about this preparation, and we hope our readers will forward their experiences and observations on BD #501 for future sharing with our readers. ~

†JPI has attempted to remedy this problem by developing a "potentized" form of BD #501 which we label as #501(5x). 5x equals the 5th potency (according to our present understanding), and is applied at the level of a "6th" or at least a higher potency by adding a unit of the 5x to 2½ gallons water and stirring for 20 minutes in the usual biodynamic manner. Initial practical use by several experienced biodynamic growers suggests equivalent or even enhanced effectiveness in comparison to regular or "orthodox" BD #501.

‡See above footnote.

An extended lunch was scheduled to provide people with the opportunity to explore the JPI book table and sample our delicious homemade ice cream and lemonade. (The ice cream was made from the milk of a JPI cow and the lemonade was made from Steve Moore's biodynamic lemons.) It was a good time to network and talk with fellow BD enthusiasts.

After lunch several activities began, including stirring Barrel Compost and X500, both of which involve 20 minutes of stirring. A seed soak demonstration with the preparations was given and the Barrel Compost and X500 preparations were applied and raked into several beds in the JPI south garden.

Barrel Compost was also made, using Maria Thun's recipe, which involves "stirring" the manure for one hour. A special thanks goes out to all those who got involved with the Barrel Compost making. It was and is definitely a task involving lots of physical energy!

The day came to a close with a little more time for the book table, questions, and visiting. All in all, it was an action packed day.

Throughout the day the feedback that I received about our Open House was remarkably positive. Several people expressed thankfulness for the opportunity to experience some hands on BD work. For many it was their first encounter with spraying and stirring the preparations, "prepping" a compost pile, and making Barrel Compost.

From others more familiar with BD work, there was talk of the importance of healing the Earth and the importance of the work done at the Josephine Porter Institute. Thank you for the affirmations.

Our Open House happened to fall on a "fruit day" according to the Working with the Stars calendar. It only seemed fitting to me because my overall impression of the Open House was that it was fruitful for all those that attended, including all of us here at JPI. ~

SIDEBAR #1

Hugh Williams' Recipe for BD #508 (Fermented Version)

It seems I hit upon a true variant of this preparation: it is a *sweet* rather than a *sulfurous* ferment. Yet my experience conforms to that of Hugh Courtney: this is an extremely potent preparation. Because of the radically different outer appearance of our two products, Hugh Courtney has asked me (repeatedly) to give my recipe. Here it is:

Ingredients: Horsetail (*Equisetum arvense*) fresh or chopped dry herb, best drinking quality water, large stainless, enamel or glass cooking vessel with cover or lid, coarse and fine strainers or cheesecloth, a room temperature storage space where the ferment can be monitored away from direct light, glass jars with good sealed lids, such as canning jars.

Method: Put the herb and water in the pot in a proportion of 1:10 by volume.† Bring to a rolling boil (watch it!) without boiling over, then reduce to a fast simmer. Maintain this until the characteristic aroma appears. This I find is quite sudden and unmistakable and takes about 10-20 minutes. Turn it off. At this point, the first cell breakdown has occurred. Time can do the rest. Cover the vessel (after taking a few deep inhalations of the vapors!) and set it somewhere safe at room temperature and, if in glass, out of direct light. The preparation is judged finished, again by smell, after 7-14 days, depending on the ambient temperature. A truly delightful, fresh lemony 'clean' fragrance will be detected. At this point, all the herb must be strained off with strainers and/or cheesecloth. If this is not done, a sulfurous ferment will result as the herb begins to putrefy. The tea is now poured into the jars to the very top and capped. Store in a dark place as for the other preparations (i.e. in a box filled with peat moss). In this form it is very stable and will keep without deteriorating for months or even longer.

Diluting Materials: in addition to a sprayer, you will need a 5 gallon bucket and 2 canning jars with water-tight lids: one small, one 2 litre; a good stirring stick capable of vigorously agitating the last two steps.

Method of homeopathic dilution to obtain Equisetum D5, BD #508: Calculate the amount of material you want to spray (or water) with. For convenience, let us suppose this is 100 litres. D5 = 100 litres (this is unity). Put 100L of water into sprayer or barrel. Take out precisely 10 L. and put into the bucket. (This is for D4) From the 10L. bucket take out 1 L. This is for D3. From the 1 L. take out 100 ml. This is for D2. From the 100 ml. remove precisely 10 ml. of water and discard. Using a dry measuring device or pipette, take precisely 10 ml. of the horsetail preparation and add it in one motion to the small jar with 90 ml. of water, close the lid and shake firmly for 3 full minutes. Let it sit for a few seconds. Now add this in one motion to the 900 ml. of water (without spilling), close and shake, again for just 3 minutes. At this size it is good to use a vigorous "dropping" motion which divides and combines the fluid in a special way. Theodor Schwenk designed special vessels to enhance this effect. With experience, you will know when 3 minutes is up, because you will feel the water "drop." In the meantime use a clock. Now you have 1 litre D3 equisetum. Add this, as before, to the 9 litres of water. Stir vigorously for 3 minutes without losing any. Spirals are best.

You are now ready to make the final dilution. Add the 10 litres of D4 to the barrel or sprayer containing 90 litres of water; stir or agitate for 3 full minutes. (If your sprayer has mechanical agitation, switch it off to rest for a few moments until you are ready to spray.)

As you make the dilutions, notice at which stage the characteristic aroma vanishes. It may vary, but my experience is that it

soon as proper contact is made with the soil, the whole field or bed is "done." As a rule of thumb, apply as for Barrel Compost, around 20-40 litres per acre. In addition, this version of the prep is a suitable tonic for drenching, washing, soaking or misting any plant or crop where fungus problems are suspected: that is, preventively. Volume is no obstacle. I am planning experiments with post harvest baths for fruit such as apples and storage squash. But the key use is on the soil. I strongly suggest routine rhythmic applications to the soil in spring, at least 3 times for orchard, greenhouse, and in fact, many farm situations. The spray takes me about 15 minutes to prepare. ~

Footnote: A personal kind of confirmation of the efficacy of this recipe came late last spring, in the Hudson Valley, New York area. It was a real 'dry spell' and having just got really caught up with my sowings and cultivations, I felt ready to invite the preparations into the field. I decided on a rhythmic application of Barrel Compost in the evening of June 20, and again early in the morning of the 21st, followed by equisetum, BD #508, D5 at 11 a.m. I planned to spray Horn manure BD #500 that same evening at 5 p.m.

There was no rain in the forecast as I began to stir BD #500 at 3 minutes to 4 p.m. on June 21st. At 5 p.m. I began to spray. At 5:15 p.m. the first thunder began in a ravine just west of the field. At 5:35 p.m. the first sprinkles came. By 5:50 p.m. only the wind shadows of the baby fruit trees were still dry enough to spray. At 6:00 p.m. sharp true rain was falling, and 3 minutes later I had to jump in the truck or I would not have got it out of the field. In all just over half an inch of rain fell. Exactly one week later just under half an inch fell again. One week later again brought a light shower. For friends who respect and use the preparations but are accustomed to their effects staying below the threshold of the sense perceptible, a rhythmic spraying like this might be a reasonable next step — it will certainly change the 'climate' of your soil.

Editor's Note: The above footnote could be described as sequential spraying. See *Applied Biodynamics*, Winter 1993, Issue #6.

pervades the air until the last step, and then becomes highly attenuated or disappears. And that, my friends, is what we want — now it's the *dynamic potential* of the original substance that is at work. At D5 we have a concentration of 1 part equisetum to 100,000 parts water. With each dilution, the dynamic potency is enhanced.

†The preparation can also be used at D2 or D3, which may be more practical in a small garden. On the other hand plants can be watered with the D5. It is good to try different things, as long as we remember — if we are not getting the effect, we still don't have it right. The preparations work differently from what we are used to, and we can develop a sense for that.

(NB: 1 litre = 4½ cups or 1 quart 2 ounces)

In this recipe, the finished tea (base liquid) is regarded as D1. (See other recipes pages 10 & 11.) Thus, in comparison to those other recipes, this one yields a finished product at a D4 potency, or conversely, those other recipes yield a finished product at a D6 potency.

HORSETAIL HERB *EQUISETUM ARVENSE* – BD #508

by Hugh Williams

Rudolf Steiner indicated that horn manure could, if necessary, be made with horse manure by wrapping the cow horns with the mane of a horse. Could Horsetail, the old name for equisetum, carry more than a mere morphological analog? I support Hugh Courtney's finding that equisetum is transformed into the ninth preparation by, in addition to boiling, fermentation and homeopathic extension. These steps transform it from an herbal tea into an instrument of specific dynamic activity.

In Australia we used She-oak (*casuarina littoralis*) for the same purpose. It is a tree up to 60 feet tall, and grows as a relic of ancient silica forests — one can well picture dinosaurs wading around and ripping huge masses of them down into sulfurous wallows to eat, together with all other manner of algal slime. (Somehow this talk of water and slime calls to my imagination another preparation, BD #505, oak bark.)

The Australian Aborigines believe that powerful creation spirits called Wandjina, give the rain. The people's *Dreaming* must nurture and watch over the spirits' well being. If this is not done, and conditions decline too far, art is used: the people are inspired to paint the Wandjina.

"I don't know what has happened to you, but all your spirit has gone out of you. No men or women watch over you, for the people who belong to this place — my aunts, sisters, fathers and grannies — they are all dead now. Only I, that belong to another place, came to visit you, but you were lonely for all those people who died and your spirit has gone away now.

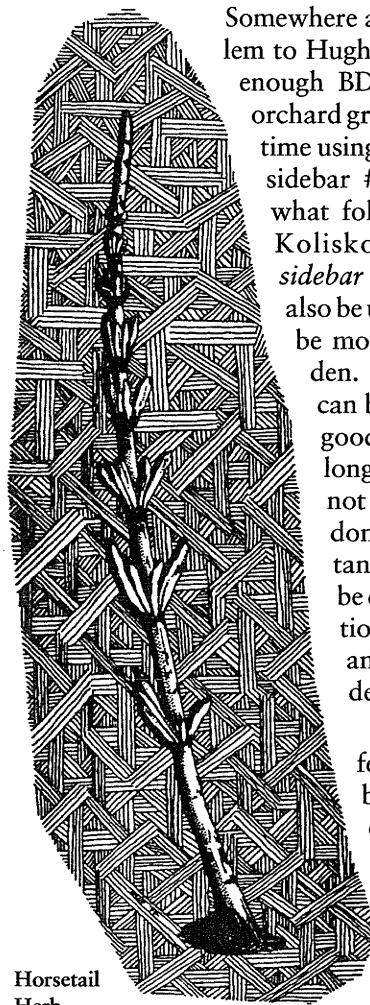
Because you are looking all dull — you're not looking bright — I'll try and draw you. I'll try and put new paint on you people . . . don't get wild, don't send rain! . . . You must be very glad that I'm going to make you new — don't try and get wild and don't send the rain to me . . . I made you very good now — I don't know how I did it.

Very good! . . . you must be very glad, because I made your eyes like new. That eye, you know, like this my eye . . . I made them new for you people. My eye has life, and your eye has life too, because I made it new . . .

Don't try to bring rain, my wife might drown with rain. The rain might drown her." (Jennifer Issacs. *Australian Dreaming*, Lansdowne Press, Sydney. p. 71)

We read in *Australian Dreaming* — 40,000 Years of Aboriginal History, that a most powerful Wandjina, Wodjin, "was able to bring heavy rain by stroking his beard." This is a magnificent picture of the wind combing the She-oaks before a typical Australian deluge. Like many Australian plants, it is extremely tough and requires drastic measures to release its dynamic potency. In America, with equisetum, we have to get down on our hands and knees to get a similar picture. In ancient times these were also large silica trees. Still, the sporulating form, early in spring, gives an equally if not more so, vivid picture of something ancient.

I must admit that my belief in the efficacy of BD #508 rested on faith until I began fermenting it and extending it homeopathically. At that point, I experienced BD #508.



Horsetail Herb (*Equisetum arvense*). A "new shoot," produced May-June.

Somewhere around 1987 I put the problem to Hugh Courtney: "How can I get enough BD #508 to treat my whole orchard ground?" He suggested at that time using Lily Kolisko's formula (see sidebar #3) for a D5 dilution. So, what follows is my version of the Kolisko-Courtney version (see sidebar #1). This preparation can also be used at D2 or D3, which may be more practical in a small garden. On the other hand, plants can be watered with the D5. It is good to try different things, as long as we remember — if we are not getting the effect, we still don't have it right. It is important to remember that there can be different uses of the preparations than we may be used to, and it is important that we develop a sense for that.

Regarding the application, I feel that the material should be used promptly, except in certain special applications. Such fine dilutions can be unwittingly neutralized, for instance, by the introduction of any other water at any stage. If the directions are followed carefully, it is a dependable and powerful instrument in managing the

water household in farm and garden, especially preventing fungal outbreaks due to wet conditions, when the moon/earth (limestone) forces are working too strongly. The horsetail embodies silica in an idealized form.

"We should be able to experience lime as a creature of many desires who wants to grab and take possession of everything, and silica as a noble aristocrat who carries everything wrested from the clutches of lime into the atmosphere and there gives shape to the plants. Silica lives either as if in a castle, as in the horsetail plant, or spread out over everything, sometimes in very homeopathic amounts. It is responsible for wresting away from the lime what must be wrested away. Here again we are confronted with extremely subtle processes in nature." (Rudolf Steiner. "Agriculture," *Bio-Dynamic Farming & Gardening*, 1993, pg. 60.)

The equisetum prep (BD #508) is really a kind of liquid manure to be sprinkled or sprayed on the earth. I prefer to apply it in the mid to late morning when some freshly worked earth is exposed: that is in conjunction with cultivation. That is the ideal. The amounts are not critical. As with BD #501 (horn silica) on the leaves, I often have the impression that as

HORSETAIL (continued on page 9)

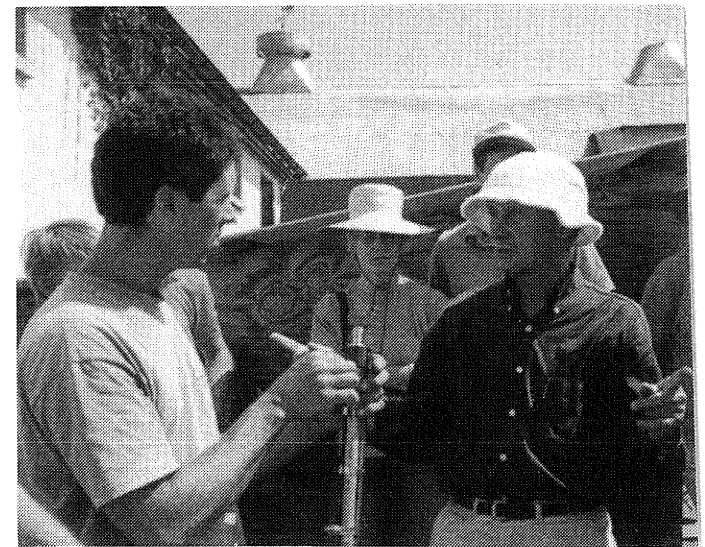
ALEX PODOLINSKY BIODYNAMIC PIONEER

by Nick Franceschelli

Alex Podolinsky is one of the outstanding pioneering individuals in biodynamics. He is mainly responsible for the widespread and highly successful application of BD farming in Australia. There, biodynamics is practiced in situations from the small market gardens on up to 8000 acre wheat farms; every conceivable crop is raised biodynamically. Alex (as he asks to be called) will brag shamelessly of the achievements of the BD work "down under," so much so that I have wanted to go and have a look for myself, to see if it is all really true. Thanks to Hugh Williams of Sag Harbor, NY, I am able to write this report with some degree of confidence. Hugh visited Alex in the winter of '92/'93. From my conversation with him, it now seems possible that Alex doesn't brag enough.

On June 26th, 27th, and 28th of 1992, Alex Podolinsky gave a workshop in Kimberton, PA at which I was present. As a result, the editors of *Applied Biodynamics* asked me to write about the "spiritual atmosphere" at this workshop. An observation I can make in retrospect is that this workshop came hard on the heels of *St. John's Tide*, which falls on the 24th of June, three days after the summer solstice. St. John the Baptist's birthday is observed on this day, mainly in Europe. It certainly would be tempting to draw a parallel between St. John, who came out of the desert and was harsh and forward-looking, and Alex Podolinsky, who certainly has these qualities about him. Rather, I thought of another great biblical "John," St. John the Divine, who is the author of the fourth gospel and the Book of Revelations. There, in Chapter 21, are found the words, "Behold, I make all things new." One could say that these words sum up Alex's message about the biodynamic work in Australia. In many parts of that continent, conventional farming practices have all but turned large areas into wasteland, where literally nothing more will grow. Through biodynamics, an entirely new agriculture has come about on this largely ruined land. Virtually every aspect of farming has had to be reinvented by the biodynamic growers, due to the fragile state of the denatured soils, the harshness of the climate, and the ruinous economic conditions, which are characterized by surpluses and the absence of price supports. BD farmers on larger farms have had to fashion the technological means to till, plant, and spray out the preparations on thousands of acres in a narrow window of time. This ability, to literally "make all things new," has resulted in a new culture of farming that is able to create biologically active soils of highest quality out of the most hostile conditions imaginable. As Alex put it, "Biodynamics gives a chance for total redemption of soils."

Alex is an older man now; in his words merely "three fourths of a man," but when he stood before us representing biodynamics, he was full of fire, animated and inspired by his subject. When he walked over field and garden, he seemed tireless and spry, his small, wiry frame full of quickness and ease. His observing, which he calls "active perception," was unceasingly in practice. He was constantly on the lookout for some aspect of cultivation or management that could be improved by more careful application of the biodynamic method. When the real farmers and gardeners among us spoke, his conversations were brief, to the point, and profes-



Alex Podolinsky speaking at the Kimberton, PA, Conference 1992

sional. He knew they knew. With others of us, he was most always patient and charming, but I knew that it was wearing him out to have to explain and justify himself to those who couldn't really understand agriculture on a practical level.

Even though Alex was "preaching to the converted" about BD, it was clearly an eye-opener to many who were present to hear his fiery words. He was harshly uncompromising in his insistence of highest professional standards in BD, and rock solid in his understanding of how biodynamics works. I know from participants that many went home with a renewed sense of what biodynamics is.

Soil — the Earth — is what Alex is about. No doubt, he is a renaissance man. He has a degree in graphology, is an accomplished musician and musicologist as well as an educator, architect, and lecturer, has a strong sense for world history, and is also a successful dairyman, crop farmer, and orchardist. Nevertheless, it is the soil, the life of the earth itself, which is of deepest concern to Alex. "I am an advocate of soil" he told us.

I was overcome with awe and shame at the time of the workshop. The very high level of biodynamic achievement that is evident in Australia, which can be traced back directly to Alex's efforts, makes it clear that biodynamics truly does have enormous potential for world agriculture. These achievements are certainly awe-inspiring. At the same time, I experienced shame when I came to the realization that we still have a long, long way to go before we in the States can speak as boldly about what we have achieved in BD. Alex Podolinsky has blazed a trail in biodynamics that is worthy of following. He is a biodynamic pioneer.

In this report, very little of the actual content of Alex's message was covered. There are two excellent titles out, which give a clear picture of the Australian biodynamic work. These are: *Biodynamic Agriculture Introductory Lectures*, *Biodynamic Agriculture Introductory Lectures Volume 2*. Both titles are collections of talks by Alex Podolinsky and are available for \$12.95 each from JPI.

In his book *Active Perception*, (available from JPI @ \$14.00), Alex outlines the means to train oneself to better observe living phenomena.

The *Bio-Dynamic Association* has a number of videos available on different aspects of the biodynamic work in Australia. The only one I've seen is about soil cultivation. I found it enormously helpful.

IN GOOD TASTE

by Betsy Cashen, R.D.

Editor's Note: It is important to remember why we grow biodynamic food. We bring health to ourselves through healthy foods which have been grown in healthy environments. Rudolf Steiner's aim in agriculture, after all, was to work with the soil as the true foundation of human health. This article focuses on the totality of taste and the digestion process, but let us not forget that the food we put into our mouths is connected to the soil from whence it came and the soil is connected to the environment in which it is found (including the gardener/farmer), which is, of course, connected to the cosmos. (This is beginning to sound like the old song "... _____ is connected to the _____, and the _____ is connected to ...".) Please note that the tomato referred to in this article is, of course, biodynamic.

You have just received the first tomato of the summer garden. Admiring the plump, red specimen in your hand you can almost taste its sweet juices, and feel the soft pulp between your teeth. Before your first bite, saliva has already begun to flow in your mouth. Our bodies become engaged in the work of digestion with the initial thoughts, smells, sights, and sounds of our food. The senses of smell and touch are linked with our ability to taste. Who can appreciate a good meal when you've got a stuffy head cold? The word taste has its origins in the Latin word *taxare*, which means to touch. Chewing, the movements of the tongue, and the breaking down action of the salivary enzymes all contribute to our taste sensation. We have more taste buds as children than as adults, and as we grow older many of the taste buds degenerate and our tasting becomes less acute.

What we know as the experience of tasting in the mouth — that which may give us an intense feeling of pleasure or of disgust or of anything in-between — is what we continue to do throughout the length of the digestive tract. The "tasting" continues but our awareness of it is diminished as is our conscious involvement in it. I have to will myself to chew that piece of tomato, but I don't exercise that same kind of control over the mixing motions of my stomach. This digestive activity goes on without our fully conscious experience of it, unless we have any disease. In this case you become well aware of the ache in your stomach or the rumbling in your intestines.

The surface of the digestive tract functions like an inner barrier just as our outer skin provides a physical boundary between us and the outside world. Until the foodstuffs have been absorbed through the surface of this canal they remain part of the external world. Most important is that our digestion of food is complete to the extent that the food has been neutralized or divested of its foreign nature. A healthy digestion of food allows us to maintain our physiological integrity. In the case of an allergic reaction, the body attempts to throw off a foreign substance that can not be incorporated. Many food-related allergies can be traced to insufficient digestion of proteins followed by their absorption in a more or less whole form.

Digestion is a model for how we retain our individuality without being overwhelmed by outside influences. We have a need to analyze, to process what we hear, see or experience (concepts and ideas too) before it can be integrated into our whole being.

We rely on our senses to keep us informed and in touch with the world around us. I might step out of my front door to check on the outside temperature before deciding if I need an extra layer of clothing or not. I act in response to what I perceive. In the process of digestion there is also this play between perceiving and responding. The effects of eating a rich, four course meal versus snacking on a carrot are quite different. The innate wisdom and intelligence of the body demonstrates this dialogue in several ways. In response to the physical presence of food the complex system of nerves present along the digestive canal will cause a specific secretion of saliva from the mouth (up to one quart a day), hydrochloric acid from the stomach, or mucus from glands all along the gastro-intestinal tract (as a lubricating and protecting factor. Hormones are the great regulators in this process and they trigger the secretion of enzymes as needed in accordance with the types of food present.

In a course given to medical doctors, Rudolf Steiner said: "In tracing the metamorphosis of the process of taste downwards, we find the digestive function. ... It is not possible to understand the more intimate activities of our organism, in so far as they focus in the digestion process, unless you visualize that entire process as follows: good digestion is founded on capacity to taste with the whole alimentary tract, and bad digestion results from an incapacity of the whole tract to carry out this function of tasting." (R. Steiner. *Spiritual Science and Medicine*)

Steiner described that after absorption into the bloodstream, "the whole organism tastes again what the digestive organs have prepared for it ... one can speak of differentiated tastes ... each organ has its own specific experience of taste, the stomach ... the liver ... the lungs, the heart ... These differentiated tastes of the organs are subconscious, and yet they are of tremendous importance, because the normal development of human life altogether depends on the normal development of these tastes of the organs ..." (R. Steiner. "How Does One Bring Reality of Being Into the World of Ideas?", lecture on December 13, 1914.)

What we call aging has in part to do with a decline in our tasting experience because this process is what penetrates through and has a stimulating and vitalizing influence on our etheric (or life), and physical bodies. By developing a "vivid relationship" to the various foods we eat and being "fully alive to the differentiations in the plant world, as apparent in salad and spinach" (Ibid.), (for example), we can receive the full nourishing effects from this food.

TASTE (continued on page 7)

TASTE (continued from page 6)

Our sense of taste is a true gift. We have the responsibility to cultivate it and the opportunity to be guided by it. Take the time and space to taste, to become acquainted with and savor the products of the farm and fruits of the harvest, that luscious tomato! A discriminating palate is all that is needed to judge for ourselves the quality of the foods we eat. In the words of writer Alice Walker:

"The United States should have closed down and examined

On the Preservation of Foods

by E. Courtney & C. Coffin

Since we are growing biodynamic foods so that we can be nourished in our totality, taking in the physical, etheric, astral and ego bodies, it would seem prudent to consider how we might continue eating our summer biodynamic produce through the winter. Biodynamic food has great lasting qualities. Hugh and Liz Courtney have kept biodynamic cabbage in the refrigerator for up to 5 months, with seemingly little loss of flavor or freshness! However, no matter how great the lasting qualities some foods just won't last through the winter and early spring months. Finding ways to preserve foods seems the best answer. There is research beginning in the areas of preservation and preparation of foods, but to date no truly definitive answers are apparent. There are statements to the effect that microwaves and pressure cookers might actually destroy cell structure and life forces. Hard core evidence may not be available as yet, but thinking about how we prepare and store foods is important. In biodynamic agriculture, sowing and harvesting on the correct days (i.e. lettuce on a leaf day, beets on a root day, corn on a fruit day, etc.) is seen as an ideal. Ideally too, it seems that one could eat fresh produce during the summer months and rely on the root vegetables (from the root cellar of course) and grains when the growing season is over. Westerners have gotten used to eating produce all year long and, if you wish to do so, preservation is important. One will need an expedient plan in place so that the freshly harvested produce can be attended to as quickly as possible.

Presently, many of us have the luxury (either by growing our own or as members of a biodynamic CSA) of eating biodynamic foods during these summer months. But how can we continue to nourish ourselves biodynamically during the winter and early spring months? It is our hope that many of you will share your preservation recipes and food storage tips with us so that Applied Biodynamics can offer such to its readership. We were able to procure a few tips and preservation ideas from a few local biodynamic food growers/eaters!

Tips and Preservation Ideas

- Wash canning jars and let air dry thoroughly. Then place a new lid upside down over jar opening and hold down with screw top. This keeps the jars clean until you're ready to can.
- Freeze fruits on cookie sheets; once frozen place in containers or zip lock bags and they won't stick together.
- Use an old car to dry fruit, keeping a window cracked for air circulation. Lay fruit out on screening or trays. (Bread dough rises very quickly in a warm car too!)

its every institution and laws on the very first day a black woman observed that the collard greens tasted like water. Or when the first person of any color observed that store-bought tomatoes tasted more like unripened avocados than tomatoes. The flavor of food is one of the clearest messages the Universe ever sends to human beings and by now we have eaten poisoned warnings by the ton." (Alice Walker. *Living by the Word*, Harcourt Brace, 1988.)

- Chop fresh tomatoes and place in freezer containers or zip lock bags. These can be placed in soups or cooked down for sauce during the winter months. (Skins can be skimmed off or tomatoes can be put through a food processor before freezing.)
- Fresh vegetables can be sauteed and rolled in bread dough. Once the bread has been baked the loaves can be frozen.
- Chop fresh peppers and place on cookie sheets and freeze. Once frozen place in zip lock bags and throw handfuls into soups, casseroles, etc.
- Herbs can be dried and placed in glass jars for storage or fresh herbs can be placed in zip lock bags, frozen, and chopped as needed for soups, casseroles, etc.
- Cored apples can be dried on dowels in the oven on low heat; on cheese cloth or screening in the attic or a car. Apples can be stored in a root cellar by wrapping each in newspaper or separated with straw and placed in barrels, buckets or crates. Apples can be made into applesauce. If you cook the applesauce you can freeze or can it. One person told us to just core the apple, place in a food processor, skin and all, add seasoning and sweetener if desired, and freeze in containers. There is also the making of cider and apple juice as a preservation method.
- Steam pumpkin and/or butternut squash; when cooled freeze in quantities to make pies or serve as a vegetable side dish.

As you can see from the artwork, drying and then braiding garlic, onions, and corn can be most attractive. An article on drying indicated that

the Colonists would cube pumpkin and then string the cubes and dry them. String beans can be strung and dried too.

Send us your tips, ideas, recipes, thoughts, comments!

