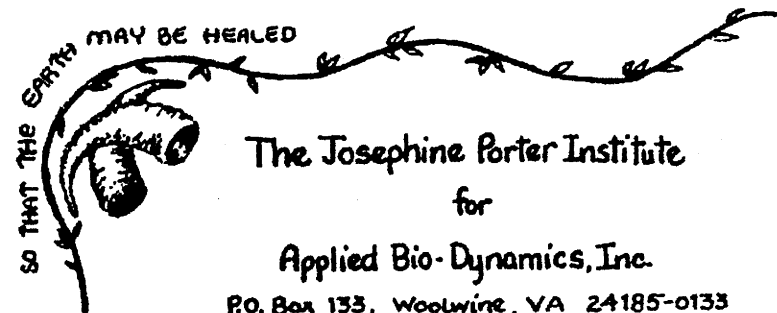




“But the greater part of what we daily eat is not there to be received as substance into the body to be deposited in the body substantially. By far the greater part is there to give the body the forces which it contains, and so to call forth in the body inner mobility, activity. . . .Therefore the important question in the metabolic process is not the proportion of weights, but it is this: Are the foodstuffs providing us with the proper living quality of forces?”

Rudolf Steiner *Agriculture*, Lecture 4



SPRING 1993

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ISSUE Nº 3

THE LENTEN, EASTER, SPRING SEASON

by Candace Coffin



In the past, the American farmer was supported by seasonal festivals, traditions, and folklore. Many sound ecological truths underlie peasant wisdom and folk tradition. For example, “Lent, a traditional, socially proscribed fast, appropriately occurred when the quality and quantity of the food supply was diminishing. Winter symbolically ended with Easter. The Easter feast wisely featured newborn livestock that the farmer knew his pasture and fodder crops could not support” (“The Bountiful Yeoman,” J. Anderson, *Smithsonian Magazine*, 1984, p.48). These seasonal festivals and traditions continue to support the farmer/gardener and they coincide with the Earth’s yearly cycle, a cycle that the biodynamic practitioner will find helpful as s/he weaves together the festivals and cycles. Becoming a weaver means becoming observant of the Earth’s changes and this can serve to gain a deeper understanding of the use of the biodynamic preparations.

Rudolf Steiner describes the Earth’s yearly cycle as “a mighty breathing process of the Earth . . . not a breathing of air . . . but the in and out breathing of forces, of which we can get a partial idea if we notice the plant growth during the course of the year” (*The Cycle of the Year*, Rudolf Steiner, p. 2). As the Spring equinox approaches (end of March) the days are lengthening, the Earth is exhaling, breathing out her soul element, and the plant world starts to grow, expressing the exhaling forces. To carry this cycle through the year, by the summer solstice (end of June) the Earth has completely exhaled, the plants are peaking, some at full bloom, the days are at their longest, and there is the St. John’s Day festival. The Fall equinox (end of September) witnesses the shortening of the days, the Earth begins to inhale, the plants are dying and there is the Michaelmas celebration. Then, during the time of the Winter solstice (end of December), when the birth of Jesus is celebrated, the Earth has completely inhaled and is holding her soul element, her life forces, within. Though the plant growth is nil, the Earth is most alive. (It is during these winter months that the biodynamic preparations #500, 502, 503, 504, 505 and 506 are buried, when the forces are being held within the Earth.) If we take note of the plant growth throughout the year “we must indeed observe that the surface

A “FARM REPORT”

by Nick Franceschelli

Originally I had hoped that a commercial biodynamic farmer would contribute something for this issue, but the person who was asked wanted more time to make observations before putting anything down on paper. So I shall walk “where angels fear to tread” and report on preparations use here in Woolwine on our 50 acres of meadow and hay land. I shall count year one as summer of ’89, which is when I arrived here. Some spraying had been done for many years prior, but I cannot say to what extent on any given field. The farm at the Josephine Porter Institute had four head of cattle in ’89 and at this writing there are fifteen. In June of ’89 I started spraying #500 and #501 on the fields, but I imagine that the effect was minimal, because the hay crop was already

FARM REPORT (continued on page 5)

of the Earth is a kind of organ in that organism which reveals itself throughout the growth of Nature” (*Agriculture*, Rudolf Steiner, p. 30).

During this time of spring, the farmer/gardener might consider the Lenten observance and Easter celebration (which takes place the first Sunday after the full moon following the spring equinox) as a time to reflect upon the Earth’s cycle and the resurrection of new life; to observe and regard the Earth’s exhalation of forces through the new plant growth. The biodynamic practitioner might at this time reaffirm his/her spiritual task of using the biodynamic preparations so that the Earth, a living being, can be healed and the plants nourished with forces.

Like the farmer/gardener of the past, the BD practitioner can be nourished and supported by the seasonal festivals and traditions. The celebration of Easter can inspire us with new life. The rhythms of the seasons and the Earth’s yearly cycle can fill us with encouragement and enthusiasm as we become more keenly aware that “from one aspect or another, all interests of human life belong to Agriculture” (*Agriculture*, Rudolf Steiner, p. 18).

THE VEGETABLE GARDENS AT JPI by Gisela Franceschelli

We started the year with a seed inventory, a New Years Day occupation that put us back into the gardening mood that had been dormant for the whole month of December. Last year's seeds, seeds that we had gathered from our own crops in '92 (lettuce), new varieties from seed catalogs, and seed exchanges with local gardeners will make gardening exciting for 1993.

The calendars *Stella Natura* and *Working With The Stars* are very helpful sources of information concerning soil preparation and starting the plants.

POTTING SOIL MIX Each gardener and greenhouse-gardener has her/his special mix. We use 1/3 vermiculite 1/3 perlite 1/3 peat moss or Promix (the purist can find this an objectionable product, but we compromised for the convenience and a lack of peat moss.) Before we put the mix into trays and cells, we moisten the whole mixture with either rain water or well water and chamomile tea:

- bring to a boil 2 quarts (rain) water; in a separate stainless steel bowl, put 3 Tbs dried chamomile flowers; pour hot water over flowers, let steep for 20 minutes; strain liquid into spritz bottles that you will use to moisten the potting soil mix.

The chamomile tea helps to prevent damping off.

GARDEN BEDS We rotate our vegetable beds and cultivate lightly (approx. 2"). It brings air into the soil and the cover crop gets turned under (vetch, rye, mustard...). Then we use the Barrel Compost spray on the soil before planting anything.

SOIL PREPARATION also includes an application of preparation #500 and, if time permits and the season promises to be wet, an application of preparation #508, (fermented recipe).

Depending on the kind of vegetable we want to grow, we consider looking at the planting advice in the *Stella Natura* and *Working With The Stars*, for example, Spinach and Cabbage to be sown on a Leaf day.

SEED BATHS before planting gives the seeds a good biodynamic start. For example: Stirring preparation #505 (oak bark) in one gallon of warm rain water for one hour; preparing individual containers with seeds; adding 505 solution to each pot just so that seeds are covered; soaking for 15-30 minutes; taking seeds out and planting them in prepared flats or trays; firming seeds down; covering with more soil mix; smoothing out cover layer; covering flat/tray with plastic wrap or glass so moisture condenses underneath; once sprouted: taking off plastic or glass, watering seedlings from underneath and spritzing the seedlings with chamomile tea mornings being careful not to wet too much.

DIRECT SOWING in the garden bed: Spray the 505 solution on the seeds when already laid in the furrow or broadcasted; firm the seeds down lightly and cover them with soil, sand or compost. (We use sand to cover the carrot seeds and a mix of compost + sand for swiss chard and beets). We keep the seed bed moist by using up the 505 solution and chamomile tea or rain water.

The oak bark preparation bears a relationship to calcium and provides healing forces to combat plant diseases.



Please note that oak bark preparation #505 is generally recommended for leaf crops whereas chamomile preparation #503 pertains to leguminous crops. Various other preparations are suggested for other varieties.

More about seed soaks can be found in *Life To The Land* by Katherine Castelliz.†

TRANSPLANTING the seedlings from trays into cells: we fill the bottom of cells with sifted biodynamic compost (just 1/3 full), add potting soil mix (fill up to top, tamp down) and moisten the cells with rain water and chamomile tea. We use nit pickers or the stubby end of tablespoon to transfer each seedling into an individual cell, as the roots are very sensitive. To choose the transplanting day for the different plants we mostly go according to *Stella Natura* or *Working With The Stars*, choosing leaf days for lettuces, spinach etc.; root days for beets, onions, carrots...; fruit days for tomatoes, peppers...; and flower days for ornamental and edible flowers.

We here at JPI have not undertaken any scientifically acceptable experiments. We observe, try out, take notes, keep records on what we do concerning using the field sprays or using the individual preparations as sprays or soaks. Please, share your experiences with us if significant results have been interesting for you. Make suggestions for improvements on what we do!

†See our publication catalog.



MISSION

The Josephine Porter Institute for Applied Biodynamics, 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.

RESEARCH . . . (continued from page 6)

Applying this potentization technique to BD #500 may also permit a reduced stirring time. In actual use, the #(X)500, when stirred for 20 minutes, appear to give a BD #500 effect.

Research Parameters: Once again, 3 plot treatments would be needed: a control (stirred water only) plot, a BD#500 plot, and an #(X)500 plot. Other parameters as above also apply (i.e., crop organ and identical treatment).



QUESTION #3: Does the pre-potentized version of BD #500 labeled #(X)500 retain its effectiveness for a longer time than the 4 hours viability which is thought to apply to regular BD #500?

Background: M. Thun contends that BD#500 must be used within 4 hours of stirring in order to be effective, whereas the pre-potentizing process permits B.C. to retain its effectiveness for up to 4 days after stirring even though it is only stirred for 20 minutes. Should this be true of

the pre-potentized #(X)500 version, the farmer would have much greater flexibility in managing his spray schedule. Such a factor could be of far greater value to biodynamic agriculture than the reduced stirring time.

Research Parameters: At this moment, no immediate research technique suggests itself for this question. One can only state that research parameters are still to be determined.

QUESTION #4: Does a rhythmic potentization and dilution process for BD#501 result in an effective and more readily usable (i.e. shorter stirring time) #501 effect as in the JPI #501(5x) product?

Background: Following a lead suggested by the research of Lilly Kolisko (*Agriculture of Tomorrow*), JPI has obtained a series of homeopathic dilutions of BD#501 and will be experimenting with application of the 6x potency which is accomplished by dissolving the 5th potency in 2 1/2 to 3 gallons water and stirring for 20 minutes.

It may be possible to obtain an effective result with as little as a 1 to 3 minute "succussion" process, but for now we will recommend the 20 minutes stirring time. Such a product would be extremely useful in intensive growing and greenhouse situations, and would not be intended to replace application of the regular form of BD#501.

Research Parameters: Similar to the parameters for Question #2, but involving regular BD#501 and the JPI #501(5x).

QUESTION #5: Does the use of the sequential spraying technique actually provide drought relief or encourage precipitation?

Background: In over 100 different applications of a sequential spraying technique (mentioned elsewhere in this newsletter), significant rainfall occurred in more than 90% of the instances. Cosmic and especially moon rhythms seemed to be a

significant factor in determining the nature and quantity of precipitation. Statistics for this phenomenon have not been accurately recorded for all applications. Procedures and quality of preparations involved may have varied significantly. As a result, nothing but remarkable "coincidence" may be claimed for this phenomenon up to this point.

Research Parameters: Anyone experiencing a drought situation who wishes to apply the sequential spraying technique is asked to record exact times and dates of each application in the sequence plus appropriate weather data before and after. Such data and results, if any, should be provided to JPI so we may tabulate it and thereby learn more about the viability of this technique. A form for reporting use of this technique is available from JPI.



While any number of other questions for research may warrant future interest, the above five questions represent a substantial research task for 1993 and beyond. We do welcome other research questions for the future and will be hoping here at JPI to do some seed bath research on lettuces using BD#505 and various homeopathic dilutions of BD #505. Should we obtain data on any one of the 5 questions enumerated above from a dozen different BD practitioners, we will be well-launched on our 1993 Research Program.

WORDS OF ENCOURAGEMENT

by Candace Coffin



In the first *Applied Biodynamics* newsletter (September 1992), Hugh Courtney wrote an article entitled "A JPI Perspective on Biodynamics" in which he stated that the practice of biodynamic agriculture takes a commitment, "and one really needs to put one's hands to the plow with no looking back. . . . To motivate one's will to carry through with this work it is recommended that one become knowledgeable on the subject." This can be overwhelming for many of us. There is so much to know, so much to learn, and we might think that we will never be knowledgeable enough. In reading the latest issue of *The Threefold Review*,* I was encouraged when reading an article by Herbert Hahn ("How the Waldorf School Arose from the Threefold Social Movement"). Mr. Hahn referred to a time when he was feeling inadequate for the task at hand and when he expressed such to Rudolf Steiner the reply was "Yes, but you may also be sure that the spiritual world accepts enthusiasm as a substitute for maturity." These are words that can serve as encouragement for those of us embarking on biodynamic farming and gardening. On days when we feel inadequate we can remember the warm words that Rudolf Steiner spoke to Herbert Hahn.

*For an even better understanding of the threefold concept, the interested reader may wish to subscribe to *The Threefold Review*, P.O. Box 6, Philmont, NY 12565.

PRACTICAL BIODYNAMIC RESEARCH by Hugh Courtney

One of the hopes here at JPI is to focus on research questions which will widen our understanding of the biodynamic preparations and, at the same time, provide practical solutions to farming and gardening problems. In particular, I would seek to understand the preparations in the same sense we are called on by Steiner in the *Agriculture* course (p. 67) when he says, "For all the different spheres of farming life we must gain insight into the working of the substances and forces, and of the Spiritual, too." A most difficult task! In our use of the preparations, we generally do not deviate from the ways we were originally taught or shown. We often depend upon some particular authority in our procedure for using the preparations, even when that authority provides neither data nor reasons for such procedure. The first example of this that comes to mind is the admonition not to combine Barrel Compost (Thun recipe) and BD#500 at the same time in stirring and spraying applications. Despite this admonition, many practitioners have used such a combination of BC and #500 as a matter of expediency. They are often able to claim good results and no apparent negative effects. More on this particular question as a subject for research later.

The few scientists interested in biodynamics are not necessarily able to take up questions which are purely of interest within the narrow world of biodynamic agriculture. In the first place, the financial support for such research is essentially not available. In the second place, a substantial amount of "biodynamic research" is still aimed at "proving" biodynamics to the scientific establishment, which, for the time being, is probably a very necessary task.

Thus, it is mostly up to those within biodynamic agriculture to look into the practical research questions that sooner or later need to be answered in order to further our understanding of the preparations. Those seriously interested in practical biodynamic research are asked to participate in the Josephine Porter Institute (JPI) Research program starting in 1993 with one of the research questions to be outlined subsequently. Before any specifics on research questions or methods are

covered, I would like to request that "our researchers" not attempt to cover too broad a spectrum of a particular research question. For subsequent tabulation of data, it will also be very important to record exact time and date when a preparation is stirred and sprayed. It will also be important to know the plant organ (i.e., LEAF, FRUIT, ROOT, FLOWER) receiving treatment either directly or via the soil. Lastly, it will be important to record your "subtle" observations or impressions, even though such observations may not be amenable to statistical analysis.

Following are some of the research questions that I would like to see tackled first. Choose the question that has the greatest appeal for you and, once again, "don't let your eyes get bigger than your stomach". Once you have made a choice, contact us in writing to indicate your interest, and we will furnish you the necessary research report forms. For the most part, JPI will furnish without charge any preparations beyond your customary biodynamic practice which are needed in order to conduct the research project. We would appreciate if the researcher could cover the \$5.00 handling charge for each separate preparations shipment.

QUESTION #1: Can BD#500 and Barrel Compost (Thun recipe) be stirred and sprayed together with as good effect as when applied separately and without negative results?

Background: Indicated earlier. It should be noted that both Ehrenfried Pfeiffer and Alex Podolinsky have formulated effective products that combine BD#500 and the biodynamic compost preparations BD#502 - #507.

My own suggestion to the practitioner is that a field receiving treatment for the first time probably should have separate application of the BC and #500, but that thereafter, if time constraints dictate, the two could be combined. This is based on my perception that although you are dealing with different forces in the different preparations, they are not incompatible with each other especially in a situation where they are already all at work together.

Research Parameters: For purposes of simplifying the question, we will suggest that the BD#500 and Barrel Compost (Thun recipe) be stirred together for the full hour normally used for the #500 alone, rather than including the question of adding the BC for the last 20 minutes of stirring time. A control plot (stirred water only), a plot for separate application of #500 and BC, and a plot for the combined application of #500 and BC will be needed. The same crop should be involved with each plot, and through different researchers it is hoped that the four major plant organ groups could also be involved. All other treatment of the plots should be identical.

QUESTION #2: Is the pre-potentized version of BD#500 which we label JPI #(X)500, as effective as regular BD#500 even though it is stirred for only 20 minutes rather than the one hour used for BD#500?

Background: The pre-potentiizing process involved in making Barrel Compost (Thun recipe), according to the originator, allows one to reduce the stirring time in water to 20 minutes.

BIODYNAMIC PREPARATIONS

by Hugh Courtney

Editor's Note: This is the continuation of the article *Biodynamic Preparations*, an adaptation of a lecture given by Hugh Courtney at the ACRES, USA conference in Dec. 1991. This is the second of a three part article. The third and final segment will be presented in the June issue. (These articles reflect the personal views, understandings, and experiences of Hugh Courtney.)

In my attempt to understand the preparations as forces, rather than substance, I gained a great deal of insight from two of Steiner's lectures entitled "*Geographic Medicine*" (see Figure 3). At the one extreme is the #501, #508 and at the other is the #500. Steiner gives us a picture of geographic forces in the earth indicating the more earthly forces are those in the Western hemisphere, North America and South America. The mediating, or balancing forces, are in the Eastern hemi-

The BD Preparations Related to Geographic, Mineral, and Other Forces in the Earth		
EARTHLY	MEDIATING BALANCING	COSMIC
Western Hemisphere	Eastern Hemisphere	
North America South America	Europe Africa (?)	Asia Australia
Limestone	Clay (Clay/Humus)	Silica
#500/#505 #503 #502 #504 #506 #507/#508		

Figure 3

sphere, but specifically in Africa and Europe. He does say Europe; he doesn't really refer to Africa, but in my conclusion, he means Africa too. The more cosmic forces are those also in the Eastern hemisphere, but more specifically in far Asia and Australia. In the *Agriculture* course, Steiner speaks of other forces in the earth, which I will call the mineral forces. These are not the mineral substances, but the forces or processes behind the mineral, behind limestone, specifically, which would include calcium, potassium, magnesium, sodium, perhaps others, but he doesn't quite tell us.

Now let us consider the silica. Most people in agriculture give no credence whatsoever to silica as needful. Steiner says that a plant grows between the polarities of silica and limestone. Balancing things are the clay forces, or the clay humus forces, as I might term it. If you relate the preparations to those geographic and mineral forces on one side, you have #500, the horn manure, as being much more earthly. Then you have the compost preparations mediating things in the middle. On the other side you have the silica preparations, #501 and #508, bringing the silica force into the picture.

In biodynamics, the European point of view is that compost made with preparations #502-507 is the first requirement for the soil. We have been heavily influenced in this hemisphere

by that European point of view, mostly through Dr. Ehrenfried Pfeiffer. In Australia, where the success has been so tremendous, the emphasis is on something else: the BD #500, the horn manure. However, it's mainly a "prepared" #500; that is, after the horn manure is made, it goes through another operation where it's put into 30 gallon copper containers to which the compost preparations have been added. Subsequently, this prepared #500 is then stirred and sprayed on the field. So, what Australia has managed to do is use the #500 as the major carrier both of the #500 force, i.e. the limestone/earthly force, combined with the mediating forces of the compost preparations. And they have done marvels in Australia with the BD#500 and the prepared #500. Why? Because they are bringing the earthly force into a continent or an agricultural situation where it is very, very weak. Now, what I postulate for myself, is that the task for North America is exactly the reverse. We have to use more #501 and #508 because those preparations are the cosmic force carriers. We have a great need within this earthly hemisphere, the North American continent, to bring in those cosmic forces. That's my interpretation of the picture that Steiner gives us of geographic forces, and my understanding of how the biodynamic preparations relate to that picture.

When I took over, upon Josephine Porter's death in 1984, making and distributing the biodynamic preparations, I found out that people were ordering the compost preparations, making compost, and ordering and using the BD 500, but not BD 501 or BD 508. In the literature you see suggestions that the #501 should be applied three or four or more times during a growing season. Almost no one was using the #501, and the few people that did order it, I came to find out later, just ordered the #501 and allowed it to sit in storage, sometimes on top of the refrigerator, or whatever, for many months, even years, and sometimes they even sent it back to me. Thank you, I didn't need a preparation that had not been properly cared for after I had shipped it out. That is a factor for you to consider if you decide to do anything biodynamically you must provide the proper storage. That's one of the things that Alex Podolinsky emphasizes in Australia. It is very important. It also came to my attention that, other than a few greenhouse operations, and an occasional fungal attack in a crop, almost no one was using the *Equisetum arvense* or the #508. And so, one of the reasons that biodynamic agriculture is so weak in this country, in my opinion, is that we haven't learned what we must do with these preparations. In my view we have neglected using precisely those preparations that we should most be using in this Western hemisphere. It's no secret that the biodynamic impulse in this hemisphere is weak, one only has to talk with Mr. Podolinsky to find that out.

In addition to this geographic picture, Steiner gives us several other pictures. He gives us a picture of the archetypal plant (see Figure 5). It has everything, a fruit, a flower, a leaf, a root. Steiner describes the archetypal plant as having these organs of development . . . fruit, flower, leaf, root. If you've

ATTENTION

Anyone having a problem with snails, JPI can provide a possible antidote. One quart liquid pokeberry ferment to be further diluted 1:10; available for \$5 plus \$5 s/h. This quantity should be sufficient for 1-5 acres. To be applied to soils, not to food crops.

A complete list of publications carried by the Josephine Porter Institute is now available. It includes a brief description of each title and recommended reading. To order list send \$1.00 (refundable with subsequent book order) and a SASE to:

JPI, P.O. Box 133,
Woolwine, VA 24185.

ever done any work with the *Farmer's Almanac* in planting, you at least know that certain constellations or moon signs relate to those organs. Those organs also relate to the forces of fire, or warmth, the forces of air, or light, the forces of water, and the earthly forces. Steiner also presents a picture of the agricultural individuality or farm organism, as though it were a person standing with his/her head in the soil. When we relate this picture of the farm organism as human being to the archetypal plant, we have the forces of fire, air, water and earth. Anthroposophical medicine, developed by Steiner, is largely based on providing the right remedy out of the plant root system to treat a problem in the nerve/senses system. The plant leaf is the source for a remedy to treat the human rhythmic organism, while the fruit or the flower serve the metabolic system.

Now in the plant, we have a fourfold process, the fire, air, water, earth; or, the fruit, flower, leaf, root, and when you reach humankind, you have that fourfoldness turning into the threefoldness of these three systems: the nerve/senses, the metabolic, the rhythmic. These systems are expressed within the human being as the forces of thinking, willing and feeling. The willing forces are also related to the earthly forces, the feeling forces are the mediating forces, and the thinking forces have to do with the cosmic cerebral forces. And if you will allow me to go back to the threefold social order picture (Figure 1, Winter Issue, *Applied Biodynamics*, 1992), you have the thinking, the feeling, the willing, related to these various

spheres. The willing is related to the economics sphere. The willing forces are terribly strong in America. We certainly have the economic sphere quite strong in North America, much more so than in other parts of the world. One can continue to draw these parallels or analogies. And so, we have the fourfoldness of forces (Figures 4 & 5) that transmute through mankind to the threefold social order (Figure 1). Things are badly amiss because we're not doing very well with either equality in law, or in liberty with things spiritual and cultural, or in fraternity (brotherhood) in economics. We have dropped the ball, folks. One of the reasons that biodynamic agriculture is so important today is that with the use of the preparations, we stimulate in our food the possibility to straighten out this mal-aligned social order. I'm not suggesting that each and every one of us run out and become anthroposophists, far from it. Carry a spiritual torch in your heart, that's all that is required. I will not define it for you, you must define it for yourself. You have complete liberty to do that. But our food today is immensely lacking in spiritual forces. This is found in the preface to the *Agriculture* course; it's the first line that I read in that course, when Steiner is telling Pfeiffer, in a conversation, that one of the reasons that spiritual concepts cannot come to fruition in humanity today is that the food no longer carries enough spiritual forces to permit us to think, to feel, to will.

To be continued; the third, and final segment of this presentation will be in the next issue (June 1993).

Figure 4

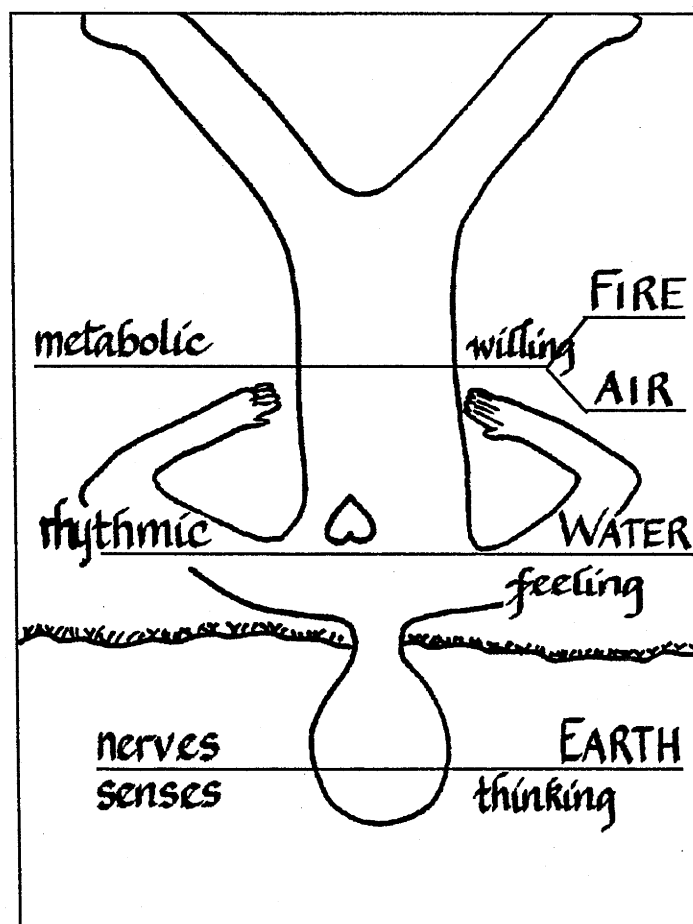
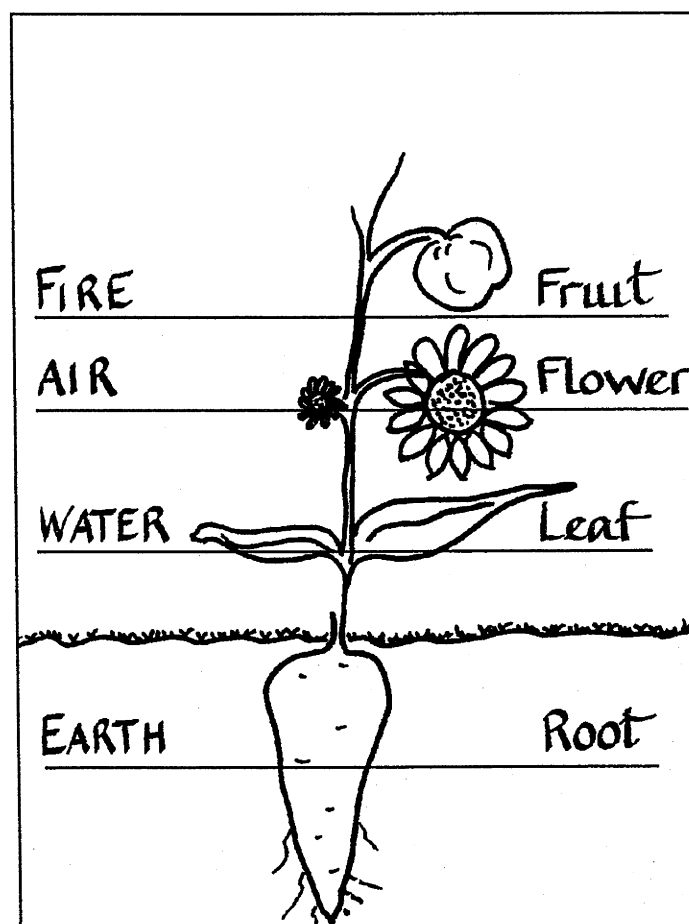
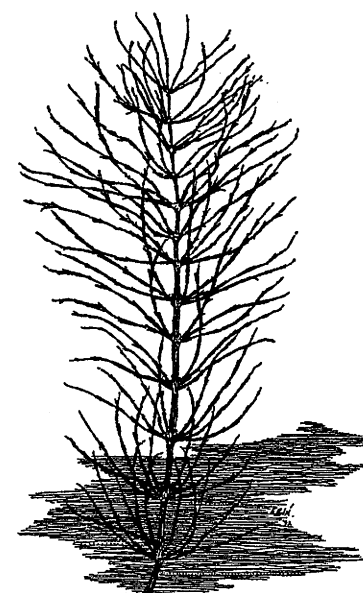


Figure 5



mature. In that year I also undertook several series of "sequential sprays" (these are a brainchild of Hugh Courtney's; Barrel Compost, #500, #501, and the Kolisko version of #508



(fermented Equisetum tea) are sprayed on the same ground within a 24 or 48 hour period to see if a balancing of moisture can be effected during times of extreme dryness or flooding). In the fall of '89 we set up two large compost piles. In the one case we used chicken manure delivered from an industrialized poultry outfit, and in the other case cattle manure got hauled in from a neighbor's cattle shed. This particular neighbor has been buying surplus hay from us for his cattle for some years. Outside help was used to do the actual piling and, as it turned out, the poultry manure piles were too large. These piles were prepped in the standard biodynamic fashion. Some BD #508 was added to the piles, to see if it might not have some mitigating effect on extreme heaviness of the piles. In the following year I attempted a more timely spraying on the fields and pastures, using the Barrel Compost, 500, and 501 in that order. I was also able to spread much compost in the Fall of '90 (the first time ever on the fields), although from my point of view, the poultry manure had not decomposed nicely even though we mixed at least 50% of rock and saw dust into it by volume. I thought that damage would be done to the "unimproved" grass-legume stands under the poultry manure, but to my surprise, in Spring of '91 there was a tremendous flush of clovers (red, wild white, and hop as well as vetch). However, the poultry manure was still too strong, and heavy Spring rains caused severe lodging in the lush crop that resulted. The cattle manured ground also responded, but less dramatically, that is, less rampantly, and therefore in a healthier manner.

On ground where compost had been spread, I decided not to spray BC until either after the first cutting or until the following year. I have been trying to spray as early as I possibly can, because I feel that BC and #500 should go on grassland just as Spring "green up" starts or right after mowing. It seems to me that these sprays should come out in coarse, large drops and that these drops should find moist soil, not dry, and mature plant tissue. As far as I am concerned, #501 can come soon after (H. Courtney would not hesitate to spray it on the soil!).[‡] My goal is always to empty the sprayer within an hour of finishing stirring. I can come pretty close in most cases if I stir not more than nine or ten gallons at a time. Up till now I have been using a backpack sprayer, so I can get on the land pretty much at will. From time to time, by no means rhythmically, I have been spraying the Kolisko #508 (fermented Equisetum tea) on the fields. In our humid, dank southeastern growing season, the #501 and #508 are an obvious choice.

Sometimes I stir #(X)500, which is only stirred for twenty minutes (similarly to barrel compost), just to save time or just to see if I can tell a difference between it and "straight" #500.

In '91 I also got serious with controlled grazing and composting the winter manure from our own herd. We did a second, far more satisfactory compost trial with poultry wastes in '91. This time we "cut" the chicken sludge with shredded bark, spoiled hay, and local quarry rock dust. Although we have never turned a pile since I have been here, my observation is that the more trouble taken to set the pile up correctly to begin with, the better the chances are that turning will not be necessary. Conversely, an improperly made pile, at least here in Woolwine, does not seem to improve much with time by being ignored. I have been inserting the preps by way of a technique described by Podolinsky. I put well-rotted compost at the bottom of the "prep hole," then I use some of this compost to "ball up" the unit in. This ball I then put into the hole, and finally I plug the hole with more compost. My goal has been to spread compost in late Fall, after several weeks of dry weather, just ahead of light rain. My thinking is that spreading at this time will minimize compaction and volatilization; it will not interfere with growth or harvesting, and the ground is still biologically active enough to digest some compost.

Visitors have been assuring me that the fields look a whole lot better than in '89, although one "expert" had hoped to see more earthworm castings on the soil surface. There is cause for cautious optimism. Careful grazing management, which I am just beginning to implement, some regular spraying of BD sprays, and top-dressing BD compost certainly seem to be producing positive results. I have become enthusiastic about some of the biodynamic principles that Podolinsky espouses, so I want to make some changes that I hope will show improvements. One is that I will dissolve a unit of the spray preparations BC, #500, and #501 in no less than about 3 gallons of water and I shall aim at not boiling some of the stirring water and then cutting it with cold water to arrive at stirring temperature. All that means more work, because up till now I was using much less than three gallons of water per unit per acre, so that I could cover more land with a sprayer full. Further, if I can make or get a hold of a satisfactory drag, I would like to drag down the cowpats in the pastures and also drag fields where compost has been applied. This year I want to use the prepared #500 which is a #500 originally formulated by Podolinsky, that has compost preparations in it. It would save (or so I imagine), having to spray BC ahead of the regular #500. The observant reader already has noted some critical points:

- This farm is not a commercial operation.
- There is relatively small acreage.
- No crops are grown (¼ acre test plots show that some crops would do well here).
- The author cannot be a serious farmer.

I will be the first to admit any or all of these. My hope is that what we do here might be of some practical use to growers.
[‡]Early spraying of 501 on transplants, seedlings, young fruit trees, is not advisable unless you really know what it is you are doing.