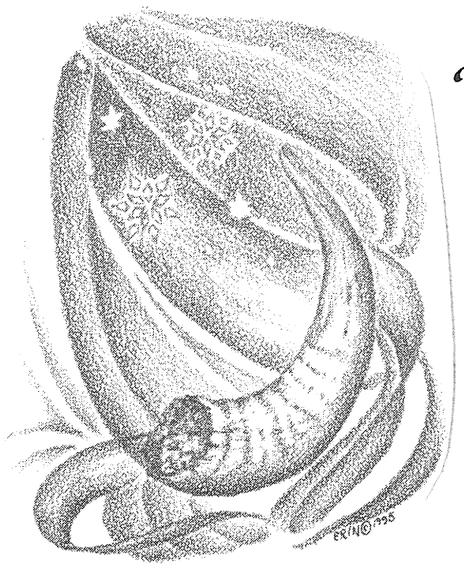

"Once the winter is over, we can dig up the cow horn and take the manure out of it. . . . After spending the winter underground, the cow horn contains an immense astral and etheric energy, which you can now use . . ."

— Rudolf Steiner, *Agriculture,* Bio-Dynamic Farming and Gardening Association translated by C. E. Creeger and M. Gardner, 1993, p.73.

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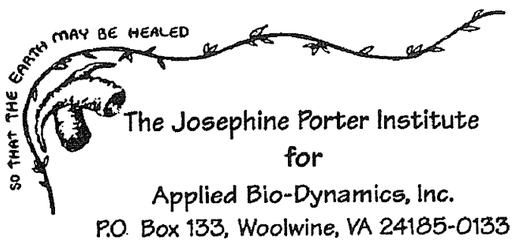

The Josephine Porter Institute
for
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DIRECT SEEDING

by Charlie Townsend and Rick Walker with editorial assistance from Candace Coffin

Editor's Note: *The following information on direct seeding was obtained through telephone interviews with Charlie Townsend and Rick Walker. Charlie is a biodynamic market gardener in Whitney, Texas, farming 7 acres, and an officer of the Texas Organic Growers. Rick Walker is a biodynamic market gardener in Mooresville, North Carolina, farming 1 acre. The following five questions were asked during the interview to ascertain information for the article:*

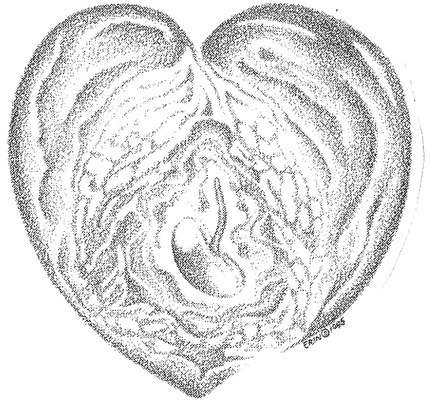
1) What is direct seeding?
2) Do you use biodynamic seeds?
3) Do you use any seed soaks?
4) Do you use biodynamic compost; biodynamic preparations?
5) Do you use the planting calendar?

Charlie Townsend

By direct seeding, Charlie means that he goes right out into the garden and puts the seeds directly into the ground. He puts seeds in the planter, hooks it up behind the tractor and runs out through his beds until he runs out of seeds. Charlie says, "I plant the seed where it's going to be. I'm farming like an old time farmer with the tractor and all that. I direct seed about 7½ acres. In the Fall I break up the land, and I plow under my cover crop and then I bed it up. They call that ridge tilling, but it used to be called bedding up. I use a cultivator and just throw soil up and create rows and beds as I go. In the Spring I plow the beds a time or two to kill the winter weeds and then I plant directly on top of the bed. I'll make a sweep that will skim the top of the bed and provide me with fresh dirt . I run the planter up behind the sweep, at the same time. The sweep is mounted on the planter."

In preparing the beds, Charlie does not use compost. Due to the fact that he does not own a front end loader he is unable to make compost. He explains how he does prepare the garden beds: "I spray the BD #500 (Horn manure) and the Barrel Compost at least twice during the winter, and then I spray Barrel Compost about once a month during the summer, as long as I can get my spray rig in the fields. Once my melon vines get across the rows I can no longer get out there. I depend on cover crops, the Barrel Compost and BD #500 since I don't use compost. I double disk the garden in the Fall and that gets everything, even the weeds, so everything is underground where it will rot. One third of the garden that has the cover crop on it I'll break up in the Spring when the crop is high and green. Then I'll plant another summer cover crop, like Sudan grass or field peas, that will grow in the summer. Then I repeat the procedure in the Fall with the disk and at the same time I'm turning under the two thirds that had the market crop on it.

SEEDING *(continued on page 11)*



The plant-seeds spring in the womb of Earth
And waters rain from Heaven's heights.
So does Love spring in human hearts
And Wisdom water the thoughts of men.

— Rudolf Steiner. *Verses and Meditations,* Rudolf Steiner Press, 1993, p.99

JPI Board of Directors Hold Annual Meeting

by Candace Coffin

The annual meeting of the Board of Directors of the Josephine Porter Institute for Applied Bio-Dynamics, Inc., took place December 8th and 9th, 1994, at JPI in Woolwine, Virginia. This past meeting provided the framework upon which several initiatives were approved that will allow for JPI to expand so as to better meet the present and future needs.

The word 'framework' is an appropriate one, in that one of the major tasks facing JPI is that of building. Anthroposophical architect Jorge Sanz Cardona has provided a preliminary building plan; a Receiving Fund is in the process of being established with the Rudolf Steiner Foundation in Chatham, New York; and fund raising efforts have begun.

After a review of the 1994 year end fiscal report and presentation of the proposed 1995 expense and income items, the Board approved the 1995 budgets. These budgets included increases in both expenses and income, reflecting the 1995 initiatives of staff increases and building.

A significant aspect of this Board meeting was the Directors' unanimous approval to hire William Christopher Stearn (Chris) as Assistant Director of the Josephine Porter Institute, effective April 1, 1995. (See *"Reflections on the Past and Prospects for the Future"* by Hugh J. Courtney, in this issue.)

Initiative is the theme that the Anthroposophical Society has given to this year. It is a most appropriate theme for JPI. New beginnings are an act of hope. It is the sincere hope of the Board of Directors of the Josephine Porter Institute that the future of biodynamic agriculture will have a firm foundation out of which to continue to grow. It is for this reason that the Board has approved the building of a permanent facility that will allow for this foundation and future growth.

The Board of Directors will be meeting again in June.

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Candace Coffin, Editor
Josephine Porter Institute for Applied Bio-Dynamics, Inc.
P.O. Box 133
Woolwine, Virginia 24185-0133
(703) 930-2463

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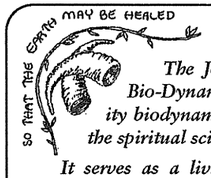
Editor: Candace Coffin *Artwork by:* Erin



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.

LETTER RECEIVED

Dear Nick,

I'm writing to tell you how much I appreciate reading your farm manager interviews. How much? A WHOLE LOT!

They are great to read. You must be a good interviewer to allow people to tell what goes poorly, mistakes made, as well as what's going well. Your readership is understanding, wants to learn, and is not into critical fault finding. I, for one, want to hear it all.

I wish the interviews were longer and sometimes more specific. Hay tonnage an acre? Hay quality assessments? Storage? Herd management for milking times? Mastitis — frequency, treatment modes? (A local, conventional, but attentive farm *loses* 4 milkers a year average when the mastitis strain is virulent and goes systemic. Plus other cases of dumping the milk.) Fly controls? And so on: more work.

A bunch of your interviews is going to make a great book (booklet).

Best wishes,
Jim Silverthorne
Three Hills Farm, Stroudsburg, PA

REPLY TO READER

Thanks for your letter, Jim, and for your suggestions to Nick. We'll do our best here to provide more of the information our readership is looking for. The key component of ALL articles is the aspect of biodynamics, since the purpose of this Quarterly is to provide biodynamic practitioners with information pertaining to various aspects of biodynamics. Yes, it would be of great help to know how, for instance, biodynamic farmers treat mastitis. It would be tremendously informative to know what biodynamic preparations farmers used on their hay fields and their observations and results with regard to quality, quantity, keeping quality, etc. We hope future articles and interviews will provide more detail for you.

We invite our readership to share their biodynamic practices on farms and in gardens.

Candace Coffin, Editor

Biodynamic Preparations Legend

BD #500– Horn Manure
BD #501– Horn Silica

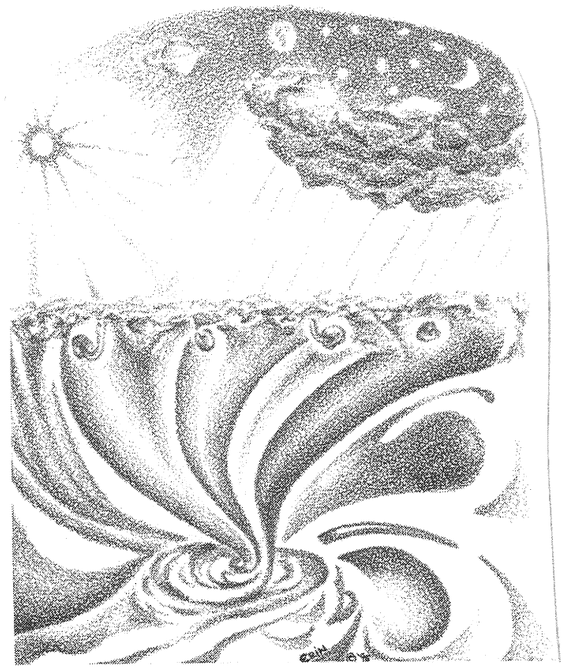
COMPOST:
BD #502 – Yarrow
BD #503 – Chamomile
BD #504 – Stinging Nettle
BD #505 – Oak Bark
BD #506 – Dandelion
BD #507 – Valerian

PREPS:
BD #508 – Horsetail (Equisetum arvense)

SEEDING *(continued from page 12)*

seed soaks, he says "I can recommend seed soaks for all seeds, both saved and bought in. I don't think it hurts to put as much energy into your seeds as you possibly can. I'm also intrigued with the idea of powdering my seeds after I've soaked them with either clay, limestone, or silica, or a combination of all three." Last Fall Rick soaked his carrot seeds before planting. He was unable to get the seed dried out enough in the time he had for planting. "I was doing it in the afternoon," he said, "and I could hear thunder in the distance. I knew we were going to get a storm. The seeds were sticking together and I couldn't broadcast them and I couldn't get them through the Earthway. So, I took some high calcium limestone and I dusted the seed. I shook it and sort of pelletized the seeds. They separated and turned into these little pellets; these nice little white pellets. I put them in my little shaker and I could see the seeds very well on the brown earth. It was quite a surprise." Rick says he actually got the idea from reading Masanobu Fukuoka's *One Straw Revolution*.

After sharing many of his observations on the use of biodynamic preparations during this interview, (which will be used in future articles on observations), Rick closed the conversation by saying that he found direct seeding to be less labor intensive than transplants. "I've raised my Spring transplants in a cold frame. I don't have a greenhouse, and I do think direct seeding is less labor intensive."



REFLECTIONS *(continued from page 8)*

We each stuffed 80 horns that had been marked in order to determine who could make quality preps. That is, each of us will either "pass" or "fail" when we dig up the horns at the end of the Spring season. The elementals will determine our grade, as Hugh Courtney says. The horns were marked with colored tape and each of us chose the color of the 80 horns we each stuffed. Mine were marked with a dark gray tape and I believe that when the pit is dug up that these horns will be filled with beautiful BD #500. I think everyone will get a "passing" grade, but we need to wait until the horns are dug up for this to be confirmed.

Approximately sixteen people stuffed 1,313 horns, which filled the pit that was about 8 feet in diameter. All those horns lying side by side in a circular pattern was a sight to behold.

All participants gathered around the pit and held hands as we blessed the horns. A layer of peat moss was sprinkled over the horns. Then many shovels went into motion as we filled the pit to encase the horns for the winter.

It had been a long day, a very spiritual and fulfilling time. People involved in and with biodynamic agriculture and anthroposophy are in a minority. We swim against the current so that the Earth may be healed.

SEEDING *(continued from page 11)*

year he hopes to add a few more markets and get some other people to help him sell. Rick gardens intensively on a little less than one acre. He has a total of 15 beds; each is 4 feet wide; 10 of them are 195 feet long and 5 are 100 feet long. His limiting factor has been the amount he can harvest on Friday to sell on Saturday since he has no cooler or storage facility.

A one person operation, Rick finds direct seeding a labor saving technique. He described his methodology during this interview. "I use a push seeder, an Earthway Seeder. You can buy blank disks for the Earthway and drill them yourself, and that's what I have done, because some of the seed germination rate is so high (using saved seeds) that I'd be sowing them too thickly and I don't have the time to hand thin. Thus, I try to sow very precisely. I made my own seed plates, particularly for radish and spinach. Along with the Earthway, I have an old baking powder can and six or seven plastic lids into which I have punched different sized holes. I put seeds into the can and place whatever size hole lid I need onto the can and use it like a salt shaker. I lay a string down to mark the row and then just shake over the soil and rake it in a bit. That's how I do my direct seeding."

Seemingly an easy method, the real work, Rick explained, is in preparing the beds prior to seeding. He performs a method of subsoiling. "I have a good quality spading fork; the tines are 12 inches long. I begin at one end of the bed, stick the fork in and jump on it until it's all the way in and then I pry back at a 45 degree angle. The spade goes down a foot and lifts the soil, opens and loosens it, but I don't turn the soil. I leave the topsoil on the top and the subsoil on the bottom. This does not have to be done before every seeding. It takes about a year or so before the bed sinks and then it needs to be spaded again. This is part of my bed preparation. For example, I did this in September for my Fall carrot crop. Now that crop is out and I may fork the bed if it needs it. I fork in the Spring and the Fall depending on whether the soil is dry enough. You can't fork the bed if the soil is wet. The soil moisture has to be low enough so that you can do this type of tillage without doing damage to the soil." Rick says it takes him about 4 hours to fork through one bed.

Rick applies biodynamic compost in late winter. Each of his 10 beds is approximately 750 square feet. Rick puts an estimated 12 wheelbarrow loads on each bed, or 30 five gallon buckets of compost. He uses his Troy Built rototiller to run across the top of the compost pile which is 60 feet long, 8 feet wide, and 4 feet high. He says that this helps to mix and break up the compost, and then it can be easily forked into five gallon buckets. Regarding composting, Rick said, "Generally, the beds get a light composting 2-3xs/year, once for each crop."

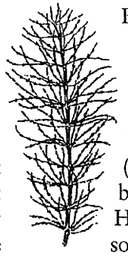
The beds are thus forked, compost is applied, and then Rick rakes the bed, tilling it lightly if the soil is dry enough. "I wait until it's dry enough, and then I till about 1-2 inches deep, just as lightly as I can. I then apply Barrel Compost and X500. I stir these together for 20 minutes, spray the beds, and then rake them lightly again. When time allows, I spray and rake three times. This is the bed preparation work prior to seeding. I try to seed the beds within a few days of spraying."

If he feels the beds need it, Rick says he might also put some rock dust, (granite that is available free from a local quarry), on the beds.

Once the beds are ready, direct seeding can take place. Rick stretches a string for each row because he likes to keep his rows as straight as possible. He explained that it is much easier to get in and cultivate with his hoe if the rows are straight. Then the seeder is run down the row. The Earthway covers the seeds and the back wheel firms the soil over them. With the baking powder can, the seeds are shaken out onto the surface, with the sower monitoring the thickness of the planting. After shaking the seeds onto the beds, Rick uses a small four tined fork, like a potato fork, to rake across the rows lightly. Once the seeds are planted a very important procedure occurs for Rick. He says, "After I finish planting the seeds I stand back and visualize what I'd like to see happen. I like to stand back and in my mind's eye see the plants growing. It doesn't always turn out the way I visualize it, but I have a moment in communion with nature. It's a nice time when I'm getting the seeds in the ground. It's the most important time to me."

Rick saves most of his own seeds, though he hasn't saved seeds like carrot yet. He said, "It was a real surprise to me to find out how well my own seeds do. I started out saving lettuce seed. They tend to cross a little bit but they are always hardy and seem to resist all the things that can happen to plants. I have a couple of generations of lettuce. I can definitely recommend saving your own seed because I know it does much better than anything you can buy. With my own seed I basically have a high (95%+) germination rate, and vigorous and healthy plants that seem to resist things like low moisture, insects, and things like that. I get a sturdier plant from saved seed." After reading in the BDA journal *Biodynamics* about the availability of biodynamic seeds, Rick plans to order biodynamic seeds when he's unable to save his own.

Barring harvest time and rare exceptions, Rick uses the planting calendar for sowing, spraying, and cultivation. He doesn't use it for harvesting because he has to harvest on Fridays for the Saturday market. He goes back and forth each year between Maria Thun's *Working with the Stars* calendar, and the *Stella Natura* calendar.



Regarding his use of the biodynamic preparations, Rick uses everything. As highlighted above, he uses X500 and Barrel Compost before sowing, all the Biodynamic Compost Preparations, #502-507, in his compost piles, and BD #501 when the plants are old enough. He applies BD #508 2-3xs a season. This year Rick says he will be using a lot more BD #508. His brother bought land in New York and it has a lot of horsetail (Equisetum arvense) growing on it. Rick harvested a bushel this past summer that he will use generously. He has also used biodynamic preparations for seed soaks.

Rick has used seed soaks for beets, radishes, turnips, mustard, carrots, and lettuces. For what he's seen so far with

SEEDING *(continued on page 13)*

REFLECTIONS ON THE PAST AND PROSPECTS FOR THE FUTURE AT JPI

by Hugh J. Courtney

At this point in the biography of JPI, we face some very significant changes not only in the staff working here, but also in the role we will be playing in the future of biodynamic agriculture in this country. Accordingly, it would be of some significance and perhaps of some interest to our readers to review and reflect on the past efforts and growth of the Institute. Before doing so, however, I would like to announce the pending changes in staff we are expecting during the first few months of 1995.

First of all, Nicholas Franceschelli will be leaving JPI effective March 31, 1995 after some 5 years and 10 months of diligent service to the efforts here. For some time, Nick has expressed to the Board of Directors at JPI that he did not wish to be viewed as the "replacement preparations maker" at such time as Hugh Courtney could no longer undertake the task, or even as an Assistant Director here at JPI. To emphasize that concern, Nick indicated a willingness to step aside in order to "make room" (especially fiscal room) should either a replacement preparations maker or a likely candidate as Assistant Director appear on the scene. Such an individual has shown up, which brings me to my next announcement.

We are pleased to announce that effective April 1, 1995, William Christopher Stearn, Ph.D. will assume the position of Assistant Director at JPI. Presently, "Chris", as he is usually known, is Production Manager at Weleda Pharmacy in Congers, New York. Prior to that, he worked for The Pfeiffer Foundation in Spring Valley, NY. Chris has continued to serve as a composting consultant for clients of The Foundation. Most of our readers will recognize The Pfeiffer Foundation as the producers of the Pfeiffer Biodynamic Compost Starter and the Pfeiffer Biodynamic Field Spray. In a future issue, we will ask Chris to give us a more detailed biography as well as an indication of his hopes in furthering the work here.

So that no one will make inappropriate assumptions, I want to emphasize that Nick's departure from JPI is with mutual respect and friendliness and that there is neither animosity nor acrimony on anyone's part. Should he and his wife, Gisela, remain in the area, as is their present hope, Nick expects to continue to spend time volunteering here, and perhaps Gisela as well. On our part, we will welcome any such contributions by them.

We are also supported by various members of the Cranberry Creek Community (CCC) who reside in Dugspur, Virginia, some 45 minutes driving time from Woolwine. Over the years, beginning in 1990, they have been able to spend one day a week, and as our workload has increased they have arranged their schedules to accommodate more and more hours, in service to the work here at JPI. With Nick's scheduled departure, we have asked them to increase their hours substantially under the contract we have with CCC for their services. Principal CCC members who serve as JPI staff will now be Josh Coffin and Drew Roden, with substantial back up from Duke and Candy Coffin, and a very important artistic contribution from Erin Coffin which graces the pages of *Applied Biodynamics*. To sort out the relationships, Duke and Candy are parents to Josh and Erin, who is married to Drew. In any case, when you happen to phone us here at JPI over the coming weeks and months, one of these very important JPI staff members may take your call.

Additionally, as a part of the staff at JPI, I must also mention Liz Courtney and Gisela Franceschelli whose roles are especially important when we are conducting activities such as workshops or preparation making days which involve serving refreshments or meals. Their efforts in support of the JPI Quarterly are also substantial, and Gisela has made a particularly welcomed and significant contribution to the gardening work here.

When I look back at my own involvement with the preparations, and the circumstances that prompted the founding of the Josephine Porter Institute for Applied Bio-Dynamics, Inc., I can only admit my amazement that things have grown to the present extent. From 1976 to May of 1984, I spent a number of days each year, Spring and Fall, when possible, but especially during the Fall, learning about making the preparations from Josephine Porter, at her farm in Stroudsburg, Pennsylvania. When she died in May 1984, and it appeared that no one else was interested in carrying on her work, I reluctantly agreed to do so. Fortunately, blissful ignorance of what the future held in store allowed me to take up the preparations effort she had carried for so many years.

As I increasingly understood the nature of the work in all its ramifications, and as I recalled the many conversations with Josephine about her hopes for the preparations work in the future, it became clear that a non-profit tax-exempt entity was required. Accordingly, I began the necessary paper work, and on October 22, 1985, the State Corporation Commission of Virginia issued a charter of incorporation to the Josephine Porter Institute of Applied Bio-Dynamics, Inc. In assigning her name to the organization, I felt it could serve as a living memorial to one who devoted many years of selfless, often thankless, service to the biodynamic effort in this country. In the meantime, as of April 1986, The Bio-Dynamic Farming & Gardening Association, Inc. agreed to a more direct and supportive role in so far as the preparations work was concerned, and Biodynamic Preparations was established as an agency of the BDA. JPI's efforts were concentrated on obtaining the necessary sheath materials for making the preparations, most especially cow horns.

By 1992, it become evident that another arrangement for the preparations work was necessary when it was realized that the income side of the preparations work was accruing mostly to Bio-Dynamic Preparations, whereas the expense side fell mostly to JPI. Thus, as of October 1, 1992, in mutual agreement between JPI and the BDA, JPI began carrying the preparations work directly and Biodynamic Preparations ceased operation.

FUTURE *(continued on page 4)*

FUTURE *(continued from page 3)*

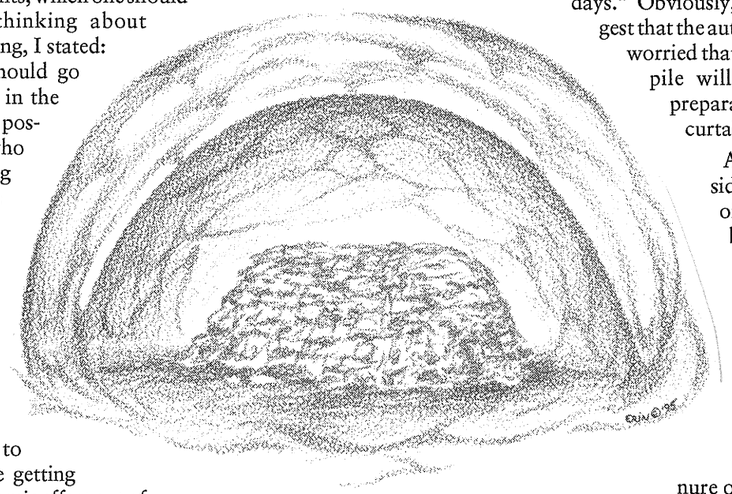
In the more than two and one half years of operation since October 1992, it has become increasingly apparent that the work being done here requires more permanent facilities. It has also become evident to an ever greater extent that there is a very definite need for more education in the basic use of the preparations. Finally, our own work with the preparations reveals a definite requirement for research into the preparations in ways that presently hold little or no interest for the few individuals now willing to do any research along biodynamic lines. For all of the above reasons,as well as the fact that the basement of our home is less and less adequate space-wise, we will begin in the next 12 months to construct a building to house JPI. This building will include not only facilities for the preparations making and distribution, which is our major function at this time, but also facilities for educating the public in the making and use of the preparations and for conducting the kind of research we believe is being called for by our awareness of the preparations themselves.

Our hope is to do much of the building ourselves, and in a way that can involve many of those who support the work here. In other words, we hope to sponsor several "barn raising" parties as part of the process of developing the necessary facilities. We will be calling on most of you for financial support as well as participation in "work party" days whenever possible. We would like to think of our work as taking place within a greater biodynamic community which chooses to associate with and support a "permanent home" for the work with the biodynamic preparations.

MORE ON BIODYNAMIC COMPOSTING – II

by Hugh J. Courtney

In continuing the discussion on biodynamic composting, I would like to start with one of the points I made in closing the article *"More on Biodynamic Composting"* (*Applied Biodynamics*, Winter 1994, Issue #10). Specifically, in the first of two key points, which one should keep foremost in thinking about biodynamic composting, I stated: "The preparations should go into the pile as early in the composting process as possible." Many people who have been practicing biodynamics for years are still of a mind to have the compost pile go through an initial heat build-up and subsequent cooling process *before* they place the preparations in the pile. For a variety of reasons, I would like to suggest that they are getting much *less* of a biodynamic effect out of their compost when they do this.



First, I would like to refer to some other voices on the subject. I wish to begin by quoting from *Bio-dynamic Farming Practice* by Sattler & Wistinghausen, the chapter entitled *"Farmyard Manure"*. This is one of the best chapters I have ever seen on the subject. On page 59 the authors state, "The basic rule in processing manure is: Biodynamic compost preparations should be added at the earliest possible stage, so that chemical conversion is channelled in the right direction. They are added immediately on stacking the daily manure in the composting site, with one portion to every 2 or 3 tonnes of long dung. Once all six preparations have been added, you start again from the beginning.

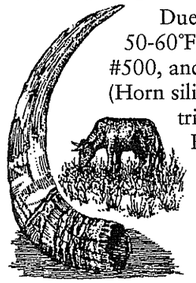
"If manure has to be put in a temporary heap by the animal houses, it is important to make sure that the preparations are added to newly produced manure within three days." Obviously, such indications suggest that the authors are not in any way worried that the heat of the manure pile will somehow harm the preparations or in any way curtail their effectiveness.

Another voice to consider on this topic is that of Maria Thun. In her book *Work on the Land and the Constellations*, pages 28 and 29, she discusses 'The Manure Process' as follows: "In organic farming manure is applied in the main directly into the soil. This means that either the fresh manure or the manure in combination with a green manure is worked into the soil and left there to rot. With skill one may achieve good results with this. Now the farmyard manure can only be applied at times when there are no crops growing on the soils and so it is necessary to look after it in the meantime. It is sufficiently well known that there is much loss of valuable substances in the big heaps of manure. For this reason there is a very direct treatment of the manure in the bio-dynamic method. In many cases this already begins in the stable or cow shed. One can sprinkle small amounts of powdered basalt or add preparations to encourage decomposition or add a compost starter [biodynamic] to guide the fresh manure in the

COMPOSTING *(continued on page 5)*

SEEDING *(continued from page 1)*

So some of the ground gets turned twice. I plant the summer crops on the one third that I turned in the Fall and left bedded up all winter. The other two thirds then get winter cover crops. My summer crops are melons and peas. I have a little garden for my own use, but just melons and peas for the market. So, preparing the garden is really a year's cycle."



Due to the mild winter season, temperatures 50-60°F, in Texas, Charley is able to spray BD #500, and then in the Spring he sprays BD #501 (Horn silica), and BD #508 (Horsetail herb). He tries to spray Barrel Compost once a month. His Texas climate is brutal: "a swamp in the winter and a desert in the summer." Charley says, "You can't get in the field in the winter and it quits raining about the first of July. The peas and melons do pretty well in this kind of climate."

Through the use of cover crops, cultivation, the Biodynamic Preparation BD #500, and the use of Barrel Compost, Charlie prepares his garden soil for direct seeding. Barrel Compost is continued on a monthly basis, and BD #501 and BD #508 are sprayed once the crops are up. Charlie stirs the preparations by hand in a barrel. He then strains it into his spray barrel. He explained, "I rigged up a sprayer to put on my tractor. I rigged a barrel and I have a 7 row boom. I can spray my whole field in less than an hour. I make up no more than I can spray in an hour."

Charlie says he does not use seed soaks, (i.e. using the appropriate Biodynamic Preparation as a seed bath prior to planting), mainly because he doesn't know enough about it and because he didn't think it was practical because he uses a planter and the wet seeds would stick together. It was suggested that he could allow the seeds to dry after soaking. *(See **Applied Biodynamics**, Issue #7, Spring 1994, "Seed Soaks with the Biodynamic Preparations," by Hugh J. Courtney.)*

When asked about using biodynamic seeds, Charley said he saves seed from his peas, black-eyed and purple hull, and his melons. Regarding the planting calendar, he said he goes by it religiously for planting, weather permitting. However, he finds that cultivation and harvesting are a 'catch as catch can' proposition. He expressed it this way: "When it's time to harvest I harvest. Melons are harvested over a two week period and peas maybe over a month. I start picking when they start ripening and I quit when they're all gone. It's not practical to even look at the calendar for me. Cultivation is also the same. When the weeds get the right height for cultivating you have to go and do it. The only thing I depend on the planting calendar for is the planting."

Even without the use of compost, Charlie has found that his soil has gotten better each year. Although the ideal would be to use compost, he is unable to do so. He employs the combination of cover cropping and spraying BD #500 and Barrel Compost. This has worked well for him. Charlie reports, "My soil tests are better now than they were when I started. My crops grow well and there is no indication that I'm losing fertility and, in fact, I think the soil has been enhanced. My soil tests that A & M University does for me are better now than they were in 1987 when I sent in my first soil sampling. The biodynamic preparations definitely work and I think it would work even better if I was able to do more spraying than I do."

When asked if there was anything he would like to comment on regarding direct seeding or about biodynamics in general Charlie replied that he recently has been using the X500, a JPI preparation that is prepotentized and thus requires only 20 minutes of stirring. In Charlie's words,"The X500 works the same as the BD #500". He also said, "There's so much about it all (biodynamics) that I don't know that I'm not sure if I can be of much help, but the one thing I can tell you is that the whole thing (biodynamics) works. I would really like to see someone come and make biodynamic compost out of all the dairy manure and chicken manure that we've got around here. People here don't compost it because it has antibiotics and bad stuff in it, but I think the Biodynamic Compost Preparations would take care of that. I haven't been able to talk anyone into making biodynamic compost because the compost experts say you don't need the preparations, that you can make compost without them. You can, but you can't make biodynamic compost without them. I know from working with the preparations on my fields that there's more to the preparations than what the chemical tests can show. My soil tests are showing improvement even without compost."

Rick Walker

A market gardener, Rick Walker sells his produce at the Charlotte Farmers Market every Saturday. He begins selling at 8:00 a.m. and is usually finished by noon or 1:00 p.m. This

SEEDING *(continued on page 12)*

Introductory Biodynamic Workshop
Saturday, April 29th, 1995
Josephine Porter Institute
Woolwine, Virginia

A one day workshop, 9:00 a.m. – 4:00 p.m., for persons interested in learning about biodynamics and how to use the biodynamic preparations on a garden or small farm scale.

Registration deadline: April 22, 1995
Cost: $20

To register: Send $20 to JPI, P.O. Box 133, Woolwine, Virginia 24185. A confirmation with travel directions will be sent.

For further information call:
(703) 930-2463

WORKING *(continued from page 9)*

some sort of inorganic nitrogen has been applied. It is a bit like the luminous glow of a meadow in early Spring in the evening sun. At that moment, I felt that with the help of the stark contrast of the poorly treated land nearby, I had seen something of the biodynamic preparations at work. [See *"Direct Seeding"* article in this issue for a more indepth report on Rick Walker's operation.] Such encounters with the biodynamic influences are valuable, I believe, but they are not yet useful in conveying the essence of the biodynamic work to the "man in the street."

Some of the people who work with the biodynamic preparations have a much more conscious, steady relationship to the them. Clearly, some people have applied themselves much more effectively to learning the secrets of the preparations than I have. I know people who have a healthy, intuitive knowledge of preparations, based on practical experience along with a strong, enthusiastic faith in the operative qualities of these substances. These people are not stopped by "the paralysis of analysis" from doing the work that needs to be done. Then there are the few, like an Alex Podolinsky, who have been able to make a distinct success story out of practical biodynamic work, *while at the same time bringing the biodynamic principles to the public in fully conscious, modern, accessible terms.*

In twenty years of working in biodynamics, the last five of these spent here, I have learned a few hard lessons. For what they are worth, here they are:

Preparations have to be struggled for. A lot of work, and a lot of thought, goes into producing and using the preparations. Diane Gonthier has developed a kind of meditative illustration of the preparations work during a whole year's cycle. It is worth a look. At JPI, a big task is keeping an active overview of all that goes into making preparations. *Many other* compelling jobs compete for our attention. In my case, I have always had to struggle to make so-called quality time for the preparations. Even here, at JPI.

Preparations need a professional attitude. Although anybody should be allowed to apply them, and everybody must be given time to make mistakes and to learn, preparations must be *used effectively*. Otherwise, why are we bothering? If we don't have a professional attitude, even towards our occasional backyard garden plot, biodynamics will become a plaything, and I don't see that we will get to the essential task of healing, regenerating, and enhancing agriculture.

Preparations belong with biologically sound farming and gardening practices. We need to get our places "in shape," so that we have them in a condition worthy of receiving the preparations. A *lot* of Steiner's lectures on agriculture consists of hints, broad or subtle, that point towards regulating and strengthening biological activity (this is often overlooked). Biological enhancement is not necessarily some miraculous side effect of using preparations. Biological work is often good farming, good stewardship, *creative action*. Any good grower needs to spend a lot of time creating the *physical* conditions that make it possible for nature to thrive and be healthy (e.g building compost piles, applying compost, rotational grazing, etc.). The natural conditions in which agriculture is carried out are in many places far worse than they were at the time Steiner gave his indications on farming. One way to make this point would be to say, "We need to pull a drowning man out of water before we can offer him some oxygen." There is plenty of know-how out there, plenty of supportive technology, and good success stories to build on if you want to get things into shape biologically. But it is still lots of hard work.

Preparations demand growth. Hugh Courtney likes to say that using preparations will change the spiritual atmosphere of the place where they're used, hence they will change the user. Here is how I look at it: Because, in my experience, the effects of preparations are subtle to begin with, any one with an ounce of natural curiosity will start research towards better understanding and will, sooner or later, become aware of some of the remarkable background out of which these substances spring. More or less directly, preparations often tug us along a kind of inner path, which we can either stray off of or stay on for the steeper sections, but it seems hard to stand still on it. By the way, climbing on steep paths can be quite strenuous, painful, and certainly not entirely safe. (So what else is new?)

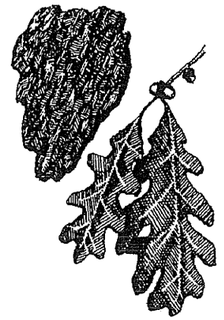
Preparations build community. Of course, people build communities. The point here is that if you stay with the preparations, and it can be a lonely stay at first, sooner or later you will meet V.I.P.s connected with this work. Certainly that has been true for me at JPI. In five short years we have joined with a strong regional group of dedicated BD growers to form a loose, but reliable, network of individuals. Just for an example: Two of the JPI board members I *hadn't even heard of* when I came here in '89. I count some of my most respected and trusted friends among the people I have met since coming here to JPI. Words fail to express the admiration I have for these people.

Preparations give the opportunity to serve. The point of JPI is to serve growers. It is easy for me to talk about serving, especially working here at a comfortable salary. Yet, anyone who uses the preparations effectively is serving. At least trying to, if nothing else. Bringing healing and vitality back to the land is an *urgent* task. If we can begin to do it, it can be a source of enjoyment and satisfaction. It is a job that benefits everyone, costs very little, and pulls us out into Nature, into field and garden with the intent of giving something back. Read Steiner's *Agriculture,* please don't take it from me.

It would surprise me to hear that no one else has come to similar thoughts and conclusions. Being this close to preparations work certainly keeps me wondering about it. I probably will be for a long time to come, even if I am not quite as near to the center of activity any more.

COMPOSTING *(continued from page 4)*

right direction so that these losses of substances can be avoided as much as possible. After the shed or stable has been cleared the manure is placed in compost heaps, kept moist so that bacterial and fungal organisms can soon begin their work. Once the heap has reached the required size the compost preparations are added with a final covering of peat. We have experimented with manures from different animals. We made heaps of comparable sizes, some without adding the compost preparations, others with them. It became evident even after a few days that there were marked differences. The prepared heaps warmed up during the week up to 26-30°{C} depending on the kind of manure and after about ten days they showed a good amount of bacterial activity on the surface. They did not collapse but retained their shape. The heaps which had not been prepared heated up to 60-70°{C} according to the type of manure. They emitted quite a lot of steam and one could tell by the smell that some volatile substances were escaping and that the heaps were sinking quite visibly. The remaining material was analyzed and two months later new samples were taken for tests. It became clear that the prepared heaps were permeated right through with fungi showing that favorable processes of decomposition were under way whereas the unprepared heaps showed a dry mould. We know that it takes many months for this to rot properly when it is worked into the soil. The tests demonstrated that the prepared heaps had a much better balance of materials. Two months later further samples were taken. In the meantime the prepared heaps were permeated through and through with red compost worms. Only at the end of one year did the unprepared heaps achieve a similar condition. The high temperatures at the beginning delayed the process of decomposition quite markedly and encouraged loss of substances."



It is particularly worth noting the finding of lower initial temperatures in compost treated with the preparations and the greater benefit such lower temperatures have for the final results. Thus, not only does the high initial heat of a compost pile *not* harm the preparations, but the preparations themselves can significantly influence the temperature of a compost pile towards a cooler level.

Now, I would like to summarize my own viewpoint regarding the reasons for placing the preparations in the pile as early in the process as possible. I would, however like to acknowledge the ideas of Karl Koenig as expressed in a marvelous book of which little notice is taken. Namely, my views owe much to Koenig's book, *Earth and Man*. He brings his finely honed observational skills and knowledge as a medical doctor, gained in Camphill community settings, into the understanding of Nature. Koenig's insights from both animal and human embryology and his study of Steiner's *Agriculture* are extremely valuable to the serious student of the biodynamic preparations. Bolstered by Koenig's thinking on the subject and my own work with the preparations, I offer for your consideration that in the creation of a compost or manure pile, we are creating an organism, a living entity. Until we place the biodynamic preparations in the pile, however, this organism exists only in its potentiality for livingness. When the biodynamic compost preparations are placed in the pile, we then, and only then, supply the necessary *organs* to make of the compost pile a living organism.

One can look at the preparations and associate each to this or that particular *organ,* analogous to a sentient being. For instance, the oak bark preparation, BD #505, can be seen as the brain or thought organ for the compost. The nettle preparation, BD #504, is easily equated to the heart, and the chamomile preparation, BD #503, can be identified as an organ of digestion. Careful thought as to the other preparations can readily assign their function to other organs relating to those in the human being. While your assignment may not be identical to mine, that does not change the value derived from this kind of thought process.

Now, if we are indeed supplying through the preparations the stimulus to create an organ or organs, to an entity capable of life, we really should not delay the process. To do so leaves the door open for less desirable forms of decay or rotting , leading to material with little more value than present day mineral/chemical fertilizer. The earlier that this compost or manure material receives organs of life, the healthier vitality will this substance take into itself. The more life force we bring into the pile by our prompt implanting of the biodynamic preparations, the more life will our soils take on. The more life our soils possess, the more life will the plants growing from those soils contain. The enlivened plants lead to more cosmically connected and healthier animals, and also to healthier and more spiritually aware human beings. Indeed, Steiner's comment that mankind's spiritual weakness was a matter of nutrition is only more thoroughly confirmed when we truly examine how modern day agriculture has created death in our foods.

Karl Koenig compared what Steiner gave in the agriculture course to the time in the ancient Persian Epoch when mankind was taught the knowledge of wine and wheat. I endorse that view with total enthusiasm. We are at the threshold of a complete revolution/revelation in agriculture and must learn to understand and learn to use more completely these marvelous gifts of the biodynamic preparations. Part of that understanding and proper use is to place these preparations in a compost or manure pile sooner rather than later.

Offerings for the Spring Table

by Betsy Cashen, R.D.

Spring stresses sudden and surprising emergence
especially after a period of concealed existence.
— Noah Webster

Spring comes in on a palpable wave of warmth and refreshing scent, marking the time for pushing out of bud and leaf that follows on the heels of winter. If you take the practice of Spring cleaning to heart, and are looking to ally yourself with the regenerative forces at work in Nature, there is a pair of edible plants that lend themselves as Spring tonics par excellence! Two biodynamic preparations that will be familiar to biodynamic practitioners are the biodynamic compost preparations *stinging nettle* (Urtica dioica), BD #504, and *dandelion* (Taraxacum officinale), BD #506. Along with the value of these plants as compost preparations is their value as freshly harvested foods to eat at this time of year.

In his *Agriculture Course*, Lecture Five, Rudolf Steiner speaks of stinging nettle as the "greatest benefactor of plant growth in general"; a "jack-of-all trades"; a carrier of sulfur, calcium, and potassium; with radiations of iron that it carries into the whole course of Nature similar to the iron radiating through our whole blood system. "In the world outside it is wonderfully similar to what the heart is in the human organism." Its effect in the compost pile and for the earth "is like a permeation of reason and intelligence." This is the picture given for nettle's relationship to the soil of the farm and garden.

The image given by Steiner for nettle's sphere of activity is wide and applies as well to its role in human health. Recognizing the functions of nettle throughout the body — in metabolic, rhythmic, and nerve-sense systems — is one of the ways we can read its basic signature, and its essence as a restorative tonic.

Nettle provides iron, magnesium, and other minerals for blood building and treatment of anemia. The minerals present have been taken up into the living plant substance and are lifted out of the pure mineral sphere; they are enlivened. They form part of the organic matrix we know as the plant, and because of this process, these minerals are better absorbed and utilized by the body in such plant form.

In its astringent qualities, nettle helps to tone the digestive tract — healing irritated mucus membranes. Its action is to bind and tighten tissues and it has uses in wound healing, and where there is bleeding. Nettle enhances excretion by the kidneys, it has a diuretic effect, which can help to understand its uses in the treatment of acne and eczema. In supporting kidney excretion, the organ of the skin is relieved of an excretory process that belongs primarily to the kidneys. In addition, nettle is beneficial for rheumatism, pregnancy, and lactation. If you sense some sluggishness lingering from the winter months, look to nettle to cleanse and invigorate.

Look for this perennial plant growing in rich, wet soil, often near barnyard, garden, greenhouse and along the banks of streams. Stinging nettle will grow to a height of three feet or more. The small nettle (Urtica urens) also carries the above healing qualities and is an annual plant that reaches a height of 6-10 inches. Both have hairs that deliver their infamous stinging and tingling sensation. Harvest can be done up until late spring and before the plants form their little flowers. Early in the day, head out with scissors and gloves or a cloth to grasp the prickly stems. Cut the tender tops of the plants and head back to the kitchen. From here you have a few options:

1.) Cook the greens and enjoy them as a vegetable, soup or sauce. Once cooked, the fresh nettle spoils rapidly, so plan to eat it promptly.
2.) Make tea from the fresh leaves.
3.) Refrigerate the fresh leaves in a plastic bag and they will keep for up to a month.
4.) Bunch the stems and hang in a shaded, dry place for a few weeks. Store the dried leaves in a sealed container, protected from sunlight, and use for tea or as a seasoning herb.

The formic acid that gives the plant its sting does not survive the heat of cooking. Try simmering the leaves in water or vegetable stock for 10-15 minutes, until they are tender enough to eat. Enhance flavor with the addition of garlic, onion or salt. Or, drain the cooked greens and blend with yogurt to make a sauce for rice or vegetables. Another option is to add carrots or other greens to the cooking liquid and end up with a tasty Spring soup.

Tea can be made by simply pouring boiling water over a handful of fresh nettle and letting it steep. For dried leaves, use 1-3 teaspoons per cup of water. Drink a cup or two of nettle tea on a daily basis to reap its benefits.

One of my first tastings of nettle greens was on an oppressively hot and humid day in early summer when my energy for doing anything was at a low. Friends had prepared nettle soup for lunch and by the time I left their home I felt like I had been reactivated on the inside. A pulse of energy was coursing through my blood. My experiences with nettle since then have not always been so dramatic, but you only need to witness its potent effect once to develop an appreciation for nettle.

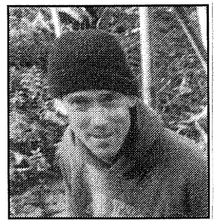
Rudolf Steiner offered dandelion to the biodynamic practitioner for making a preparation that enables the plant to draw just what it needs from both the immediate soil surroundings and the larger area in which it grows, through the mediating and transmitting functions of silica. The flower of the dandelion is specifically used for the biodynamic compost preparation, but in the case of a Spring tonic, it is the leaves and roots to which we turn.

Out of a consideration of the dandelion, I find myself overcome with awe. First, at the wealth of nutrients present,

Spring Table *(continued on page 8)*

Reflections on Working with the Preparations

by Nick Franceschelli



Editor's Note: *After almost six years of dedication to the work at the Josephine Porter Institute, Nick will be leaving "officially" the end of March. In this article, he reflects on his time at JPI and his relationship to the preparations.*

Fifteen years after Rudolf Steiner gave the Agriculture Course, Lilly Kolisko published her *Agriculture of Tomorrow*. It summarizes a staggering amount of research. Kolisko set out to show that the content of Steiner's lectures could indeed be demonstrated scientifically through careful research. She carried out thousands upon thousands of controlled experiments in order to make visible the regenerative and healing forces at work in nature as well as those in the biodynamic preparations. Insofar as these forces can leave a certain lawful imprint on matter, this remarkable scientist was able to give us a "handle" on the invisible etheric, or life forces that bring about and maintain the world of visible nature. Her contribution to biodynamics cannot be overstated. The amount of work accomplished in so short a period of time is simply uncanny.

Now in contrast to L. Kolisko, I began my "career" in biodynamics *twenty* years ago, in 1975. It has taken me almost that long to figure out that BD #503 refers to the chamomile preparation and that BD #506 is dandelion! Over time, biodynamic agriculture, especially the preparations, have become more and more of a mystery to me. From my experience I have decided that this form of agriculture, above all, requires patience, a virtue that has not always blessed me abundantly. During the last five years of my life I have been helping to make and distribute preparations here at the Josephine Porter Institute, a position I shall soon leave, not without some regret and pangs, but certainly with some relief. I have spent some hours of my time here trying to puzzle out a number of critical questions about preparations, and I have come to the sad conclusion that I really don't understand them yet.

Understanding preparations requires an outlook of the kind that is able to know a living plant. In fact, my experience has been that my understanding of the preparations actually grows and dies in plant-like fashion. The kind of knowing that it takes us to learn about some static, physical object, like a hammer, or even a mechanical process, like raking hay, is not sufficient to understanding preparations. The biodynamic preparations are, in a sense, a living, dynamic process, a system that extends through time. Take, for example, the dandelion preparation. We "begin" it at dandelion blossom picking time. Already it starts to get complicated. We feel uneasy about picking just any blossoms at any time. We want the blossoms from buds that have opened for the first time and have been picked on flower days based on the Maria Thun calendar *on biodynamically treated fields* away from the harmful (how harmful are they, please?) effects of civilization. We try to develop similar criteria for the cattle that are to yield the bovine mesentery that will eventually surround the blossoms in the soil once the preparation has been "made." Many stimulating (and thorny!) questions arise all along the process of making this or any preparation. Once the finished dandelion preparation is dug up in Spring, we have, so to speak, an end product that could be compared to some physical object. We have the resultant BD #506 (dandelion preparation). Now, however, we have to ask ourselves if the preparation that we hold in our hands has indeed transformed itself properly while it was in the earth, and if we are at all satisfied with it (I seldom am). Then we want to store and use it wisely. Suppose we get mediocre compost from a pile prepped with our product. Is the preparation impotent? Or did we not get our compost pile-building down right? Supposing we get decent looking compost. Is this stuff really better now that it has had the preparations? Last of all, perhaps most importantly, we want to recognize the footprint of our preparation, the impression that it leaves on the finished compost and then in the soil, plant, and animal life of our farm. When we can begin to answer these questions *for ourselves* then we begin to work with preparations objectively. That is a useful goal, because then we can communicate what we know to anyone else who wants to learn more.

It is not the aim of such questions to sow doubts in the minds of the reader. There are certainly many wonderful answers and possibilities for all these questions which other biodynamic people have worked out. Rather, the point is to show that for me, in my direct experience of the preparations, I have not yet learned these answers. So far, I can only sense that preparations can be understood as such living, dynamic processes over time as well as physical substances. I have thus far been allowed only tiny, fleeting glimpses into the nature of the biodynamic preparations. These glimpses are the moments, all too few, when the impression is there that something delicate and vitally healing is at work. I have to resign myself gratefully to these few moments of grace, as they are the thin thread that connects me to the workings of the preparations.

Here is an example of one such tenuous glimpse, and from my description, it ought to be clear how slight and tender is my knowledge. Rick Walker is a market gardener in Mooresville, NC. I visited him in the Fall of '94. In that part of North Carolina, the soil is very much farmed out as a result of years of intensive cotton and tobacco growing. Often, the soil is either a white sand with hardly any organic matter, or it is a harsh, bright red clay. After a long spring and summer, the plant growth in the Piedmont (that is the name for this particular area) usually looks tired, pale, and lackluster, kind of pooped out. Now when we rounded the bend to Rick Walker's garden, it was as if we had just crossed into another space. The grass around the beds was of a lustrous, vibrant green that seemed to glow quietly in the warm, midday sun. The green I am trying to describe is not the lush, rich, green of a fertile meadow, nor is it the blue green of a hay field where

Working *(continued on page 10)*