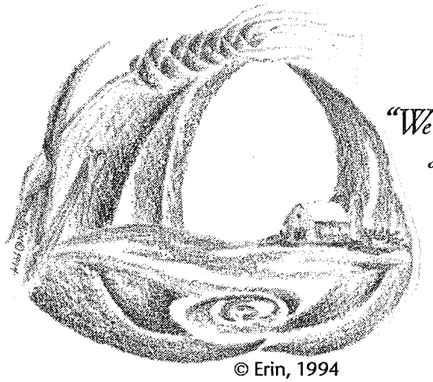

© Erin, 1994

"We must realize that a given area of farmland — together with what's beneath the soil — forms an individuality that also exists in time, and that the life of the soil is especially strong in winter, while in a certain sense it tends to die down in summer."

— Rudolf Steiner, *Agriculture,* Bio-Dynamic Farming and Gardening Assoc., translated by C. E. Creeger and M. Gardner, 1993, pp.33-34.

SO THAT THE EARTH MAY BE HEALED

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

Applied BIODYNAMICS©

WINTER 1994 *A Quarterly Newsletter of the Josephine Porter Institute • Woolwine, Virginia* ISSUE Nº 10

CHRISTMAS

Deep in the ground of the human soul,
Of victory assured,
The Spirit-Sun is living.
All through the winter of the inner life
The faithful heart divines it.
Now the heart's spring of hope beholds
The Sun, His coming glory
In Christmas' light of blessing —
Token of highest life
In winter's deepest night.

— Rudolf Steiner. *Verses and Meditations,* Rudolf Steiner Press, 1993, p.69.

LETTER FROM THE EDITOR

Dear Reader,

This issue provides you with hands on experience and pertinent knowledge about potting soil recipes, farming, growing the best and largest tomatoes, reflections on keeping warm during the winter season, more on biodynamic composting, and a report on a Georgia biodynamic conference. All food for winter reflection and spring planning.

Please remember that the purpose of this quarterly newsletter is to serve you, the biodynamic practitioner. We would be delighted to hear about your own experiences and observations regarding the biodynamic preparations. We also remind you to consider renewing your Associative Contract, which will ensure the continuation of your *Applied Biodynamics* subscription. Or, if you're not ready for a contract we do appreciate your subscription.

May the enlivening forces of the Earth's winter in-breathing rekindle your spirits and renew your enthusiasm for healing the Earth. On behalf of the Board of Directors and staff of the Josephine Porter Institute we extend warm holiday wishes to you.

Very truly yours,
Candace Coffin
Candace Coffin
Editor

Biodynamic Preparations Legend

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

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

BD #508 – Horsetail
(Equisetum arvense)

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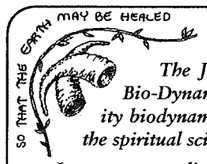
Editor: Candace Coffin *Artwork by:* Erin



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.

PLEASE NOTE:

We need your 1995 ASSOCIATIVE CONTRACT . . . please take the time to let us know what your needs are for 1995!

Handling Charge to Increase: The U.S. Postal Service will be increasing their rates after the first of the year. Unfortunately we will need to pass this increase on to our customers. Thus, be advised that our handling charge will be increasing.

ATTENTION READERS

The following six titles are highly recommended reading. The author, Manfred Klett, has been a biodynamic farmer for more than thirty years and speaks out of his own experience. These titles form a unity of Dr. Klett's lectures delivered at the International English Speaking Conferences for Those Involved with Biodynamic Agriculture.

(Dr. Manfred Klett is one of the founding members of the Dottenfelderhof farming community near Frankfurt, West Germany, and is the Head of the Department of Agriculture at the School of Spiritual Science, Dornach, Switzerland.)

The Biodynamic Spray Preparations $5.00

Agriculture as an Art: The Meaning of Man's Work on the Soil $5.00

Dying and Becoming: Man's Path to a New Communion with Nature $4.50

Growing Together . . . Why Should We Bother? $4.50

Building Stones for Meeting the Challenges $4.50

Tomorrow's Agriculture . . . Are We Meeting the Challenges? $3.50

WARMTH *(continued from page 12)*

Above all, drink warmed liquids instead of cold ones.

Herbs of the labiate family, including rosemary, marjoram, thyme, and sage, have a particular link with the warmth process. Other seasonings to use are curries, garlic, mustard, and horseradish, and modest amounts of salt. Hot peppers may induce internal heat initially but then lead to a cooling reaction. Watery fruits and vegetables, especially melons, cucumbers, summer squash, fresh tomatoes, and other summer fruits, will tend to cool you down, as will citrus fruits (especially juices) in significant quantities.

The cereal grains which ripen in the warmth of the summer sun and become contracted in the kernel of the plant make an ideal staple food. Try especially oats and barley. An initial toasting or sauteing of the grain prior to cooking with liquid, brings out flavor. Nuts and seeds are also concentrated sources of energy. When they are consumed in their unprocessed state, they bring the necessary oils in a healthy form.

Become conscious of what works for your situation. The ultimate aim is to allow this sense of warmth to penetrate into the soul and spiritual life. It is here that we can experience meaning and enthusiasm in the life we lead.

---

[1]*Nutrition,* Rudolf Hauschka.

RECIPES *(continued from page 11)*

⅓ vermiculite

⅓ peat moss

The above recipe is mixed and screened and then made up into soil blocks. Then all the blocks are sprayed with BD 500 on planting day.

Hugh Lovel's Recipe: (Map #8)

Hugh direct seeds into bedding rows which have had old composted BD cow manure that's nice and crumbly worked into them. He feels this is inexpensive and labor saving. He then transplants from these beds.

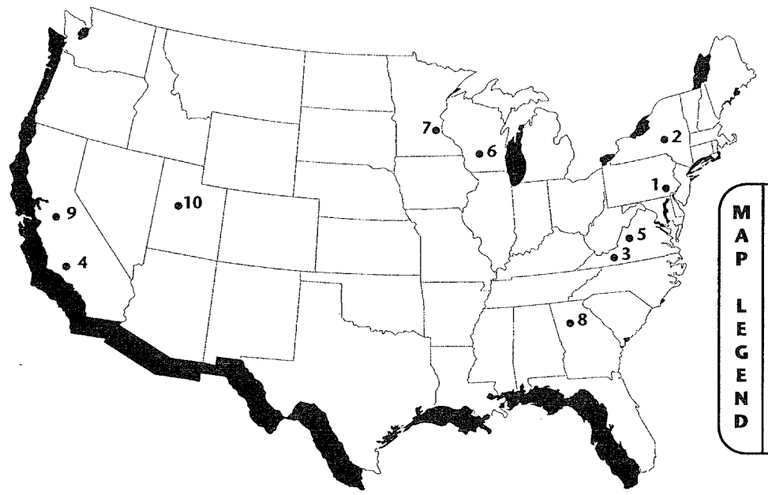
Harald Hoven's Recipe: (Map #9)

For his potting soil needs Harald uses BD compost that is three years old. It is mainly plant compost with a little bit of manure compost mixed in. He experiences no damping off problems and attributes this to the quality of the compost, which is "very mild and old enough so that there are no fungal forces in there." For transplanting, Harald uses a compost that is stronger, that has more manure compost in it and that is only one year old. He spreads 1-2 inches of this over the whole bed and sprays BD 508.

Jenny Erickson's Recipe: (Map #10)

The mixture Jenny uses is ½ aged compost (cow manure and weeds) ¼ good top soil, ⅛ builder's sand and ⅛ perlite. She makes up this mixture in the Fall and allows it to sit outside all winter. Jenny has no damping off problems but has had such problems when she makes the recipe in the Spring rather than the Fall. If she needs more potting soil than she's made in the Fall, Jenny makes it up in the Spring and then uses BD #508 and chamomile tea to counteract damping off.

The above recipes certainly highlight individual approaches to potting soils. The common thread amongst all of them is the use of the Biodynamic preparations. Those gardeners who did not share recipes are those who direct seed. The above information should give our readers good resources and ideas for their own Spring preparation.



MAP LEGEND

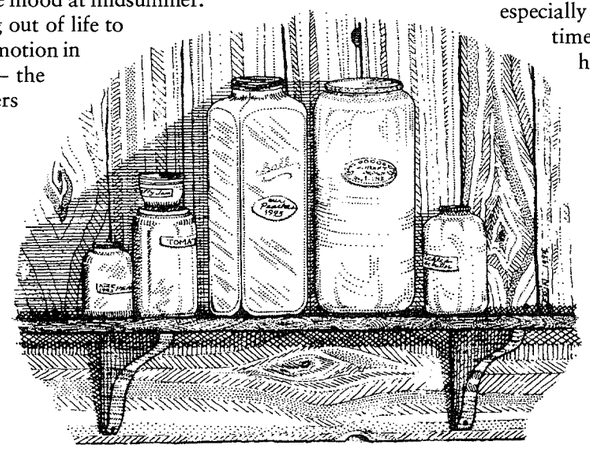
1. *Pennsylvania;* KERRY SULLIVAN
2. *New York;* JEAN PAUL COURTENS
3. *Virginia;* POLLY HIESER
4. *California;* STEVE MOORE
5. *Virginia;* ALLEN CLEEK
6. *Wisconsin;* RUTH ZINNIKER
7. *Minnesota;* CLAIRE HALL
8. *Georgia;* HUGH LOVEL
9. *California;* HARALD HOVEN
10. *Utah;* JENNIFER ERICKSON

Winter Warmth *by Betsy Cashen, R.D.*

Betsy is presently enrolled in Dennis Klocek's Goethean Science program at the Rudolf Steiner College in Fair Oaks, CA.

As much as I enjoy the cold winter months, I also know this time of year presents the great challenge of keeping warm. There is nothing like curling up by a woodstove, or basking in the blaze of sun coming through a south facing window at midday. When it comes time to move on from these cozy spots you can take much of the unwanted chill out of winter by knowing how to dress appropriately to face the cold. Some people, however, myself included, have to work quite diligently to avoid the cold hands – cold feet trap. So, in addition to the sound advice from mom — dress in layers, wear wool and especially a wool vest to warm your core, keep your head covered — I'd like to add some thoughts on warming winter foods.

At this time of year I have the picture of the Earth as an organism moving toward the point of its greatest contraction. The life is concentrated in the depths, below the soil surface. This is just the opposite of the mood at midsummer. There, we meet the breathing out of life to the periphery. There, all is in motion in the atmosphere around us — the buzzing of the bees, the flowers radiating out color and fragrance, the rapid growth of plants in the garden.



By mid to late fall, I notice that the bed of Swiss Chard produces leaves that have a stronger salt taste than the leaves from that same bed during the summer. The image of salts precipitating out of solution comes to mind. The typical greens that thrive in the cold are of a hardy nature. They have less water content. Compare a tender Boston lettuce leaf with the tough-textured kale. Crops like carrots, beets, and rutabagas are ideally suited to bring into matter this densifying process. The roots, especially, make a connection with the minerals of the earth. Through the plant the inorganic minerals are brought to life, joining with the living plant proteins. The root is the storage organ of these enlivened minerals; it is where the sugars are stored in the form of starch. With the maturing of the roots we are led into winter.

For many people, winter is truly winter only when as an individual one can mirror this same dynamic from periphery to center. By this I mean that it is the time when the outer activities relinquish some of their hold over our forces of attention and we can seek greater clarity on the questions and riches that lie within. In the event that you live in a place where your inner experience can be anywhere from cool and chilly to downright freezing, seek out the foods that can sustain your own warmth, or you may be too cold and uncomfortable to reap the benefits of this time.

There are basic considerations about the choice of specific foods, the temperature of the food, and methods of cooking. For example, I might choose to slice a mixture of carrots, parsnips, celeriac, and onions, place them in a baking pan, drizzle olive oil over the vegetables, sprinkle with dried thyme, and bake at a moderate temperature for over an hour. In general, a foundation of cooked foods is best because the body is relieved of some of the inner work of "cooking" in digestion. Less warmth is expended in breaking down the foods and more is at the disposal of body warmth. Heating over a period of time at a low to moderate temperature, such as baking, roasting, and simmering, enhances the warmth potential of the food even more so than cooking for a short time with high heat, such as stir-frying, quick-steaming, or boiling.

Cooking is akin to a ripening process, and the element of time is essential here. Personally, I lack experience with the use of a pressure cooker, but I am inclined to think that exposure to high pressures can disturb the integrity of form and forces in the food. Heating by microwave has many drawbacks: especially in that it is touted as the ultimate time saver, and that it spreads the heat through the food via a friction of sorts, and no true ripening or warming results.

The various fuels used in heating have been tested according to their influence on the food's nourishing value. From most to least favorable effect, they were rated as follows: straw, wood, coal, gas and electric.[1] These different qualities of heat are even more directly experienced when given a choice of warming up in front of a woodstove or an electric heater. The temperature of something that has been heated describes just one aspect of its warmth nature.

Slowly simmered soups and stews made with the vegetables of winter, including those already mentioned plus winter squash, leeks, turnips, daikon, celery, collards, cabbage, brussel sprouts, escarole, and endive, can be a steady companion during winter. I find a world of difference when using home-made vegetable stock as the base for soups.

Collect the stems, skins, pulp, seeds, and tougher vegetable parts. Cover these with water, bring to a boil and let simmer for 20-30 minutes. Strain off the liquid and reserve this for soups and for grains. Stock gives a depth of flavor and warmth that you won't want to miss.

When soup is not on the menu, heated broth with grated ginger root makes an excellent appetizer for a meal by warming up the body and getting the digestive juices flowing. As a substitute for broth try hot water with a wedge of lemon.

Warmth *(continued on page 13)*

An Interview with Michael Wildfeuer: The Animal as Part of the Farm Organism

by Nick Franceschelli

Introduction

Lecture II of Steiner's *Agriculture* opens with the remarkable image of the ideal farm as a self-sustaining individuality. A quotation from the second paragraph is given here to introduce the interview that follows. "Whatever you need for agricultural production, you should try to possess it within the farm itself (including in the "farm," needless to say, the due amount of cattle)." Biodynamic farming, understood in the light of Steiner's insights, is unthinkable without including the animal kingdom within the farm. Most especially, the cow is at the heart of the domestic animals on the biodynamic farm. The essential contribution of a dynamic, animal-based ecology runs like a quiet thread through the eight lectures on agriculture which Steiner gave. While a biodynamic farm that is located on exceptionally fertile soil, in a favorable climate, might thrive without any animals, we need only think of the preparations themselves to see the indispensable role that cattle have to play.

Michael Wildfeuer is the dairy farm manager at the Camphill Village farm in Kimberton, PA. His wife, Sherry, is the editor of *Stella Natura*, the Kimberton Hills agricultural calendar. I visited his farm this Fall. The pastures and hayfields looked lush and vibrant. There were also a few grain fields to be seen, but the emphasis is clearly on grass dairying.

The Camphill community, of which the farm is an important part, is dedicated to caring for handicapped adults. Therefore one might be tempted to view Michael's situation as cushy and removed from the harsh realities of farming in general. I think that would be a mistake. Many of us in the biodynamic scene would thereby miss a chance to learn some valuable insights. Living in a Camphill community is both a sacrifice and a challenge that is rarely addressed in this interview with a very modest and self-effacing Michael.

N. What is your basic philosophy, your basic impulse with the animals here?

M. My ideal, my philosophy, is trying to respect the cow for what the cow is. It is actually to try to find out what is the cow, in it's being, and to try to allow the cow to fulfill its being on our farm; to give the cow an opportunity on our farm to come to it's fullest expression. I especially feel it's so important because modern agriculture is doing exactly the opposite. It is denying the cow more and more of what is truly the cow. That goes from cutting off the horns to feeding the cow feather meal, blood meal, or beef tallow. You know the cow is by nature vegetarian. Feeding it meat from its own kind is just disgusting. I feel there is a tendency in conventional agriculture to destroy the image of the cow. Just two recent examples of what's coming into fashion: one is tail docking, where they cut off the

Michael's young stock grazing on frosted summer grass.

tails, so the people who milk don't get swatted by the tails. I read that in *Hoard's Dairyman*. They say that it doesn't matter, because the tail is there to switch the flies. So if you spray them with insecticides, what do they need the tail for? They say it's better for the cows because it makes the milker calmer . . . you know it's all garbage. The other thing, even more shocking, was from a short headline note in *Hoard's Dairyman*, having to do with hay feeding for calves. It said something like "Hay not necessary, but also not harmful for feeding to calves." They are slowly trying to get to the point where hay, or forage, which is what the cow is truly meant to eat, is not necessary (maybe even harmful!?) to the animal. It is such a weird perception. So anyway, for me it is a very important thing to uphold the dignity of the cow; to see the cow's true being. All my farming is kind of geared towards allowing the being of the cow to come to expression. That also has to do with Anthroposophy. There is this image of the group soul. There is actually one being of the cow in the spiritual world, and these individual cows are just part of the group that are incarnating here. I feel there is a desperate need to strengthen the group soul by giving that group soul a place where its members, so to speak, can incarnate in a full and true way. It is as if you, as a being, would go into different situations, and all the time you are kind of bashed down and ridiculed. Then you come to one situation where you are really respected for who you are. That is actually what you need. It's a similar situation with the group soul of the cow. I want to provide a place where animals can incarnate that is true to their nature. All the practical things follow from that, which have to do with — Let them develop their instincts. That means you don't put feed in front of them. You let cows go out to look for their feed, so they use their feet, their noses, their organs to actually gather the feed. Then also you feed them what is appropriate for the cow, namely forage. We

Interview *(continued on page 4)*

INTERVIEW *(continued from page 3)*

feed them very little grain. The amount is maybe comparable to what they would get out in nature through seed heads. It's just a minimal supplement. It's not the focus of their diet. We don't feed any soybeans. I mean, what do soybeans have to do with dairy, with cows?

N. So you feed no protein supplements?

M. The only thing we feed is some barley or oats, which we roll fresh every day. The other thing we do is, we have nurse cows. The calves have this amazing instinct to suckle, which becomes so destructive if you have young calves together and feed them with the bottle. Then they suck on each other. They can actually do each other harm, because of the craving to fulfill this instinct of sucking. If you have them on a nurse cow, they can fulfill that instinct. That's the ideal. To let them fulfill their instinct. Plus, the mothers can lick the calves. So we have the whole thing of grazing, nurse cows, what you feed them, plus housing. They need shelter, but they don't need to stand on concrete inside a barn all the time, so in the winter we have a loafing barn. It has a manure pack. On the one side it's earth, on the other side it's concrete. It soon gets built up. They walk a little bit on concrete outside, but they lay down on a soft, bedded pack. They are not tied up. They are not inside a barn. They are out in the air and they receive sunlight. So this is all important for letting the cow fulfill its destiny . . . I don't know what else you would call it.

N. I guess you would call it the natural disposition being able to come to expression . . .

M. Yes. You know, leaving the horns on is just an obvious part of that. We do that anyway in biodynamics, but it also fits together with this image of the cow.

N. We slipped from the philosophical to the practical, and of course that's what we have to do, but we are trying to get some background here to explain why you do the things the way you do. As far as I can tell, you have a great situation here. The community which you serve with your products supports your efforts to let the cow be a cow, and not a production unit. Now, getting to your community. I think Karl Koenig was one of the prime movers of the Camphill Community idea, and he seemed to have a tremendous interest in the animal kingdom *(See Sidebar #1 on books by Koenig available from JPI)*. Do you feel that he has had some influence in the direction that Camphill Villages take with their agriculture?

M. Well, you could say there are two streams in biodynamic agriculture. One is the more scientific one, where you do research and experimenting. Will Brinton, for example, comes to my mind. Pfeiffer is another one. You follow the scientific path, and you develop biodynamics through that way. Then there is another whole stream which I would call the therapeutic stream, which is more the way I tried to describe this relating to the cow, where you are not so interested in bloodlines, or in developing a breed, or superior disposition. That doesn't stand so much in the foreground, but really the environment, the whole surrounding which allows the cow to become a cow. It's the same with the land with this impulse to heal. To heal the animals, to heal the earth. That is the essential impulse of Camphill; to bring healing into the world and also, with the human being, to see the true spirit behind the handicapped person. So in a way, it's the same attempt to see the true spirit behind the cow and behind the animals. So in that sense it's part of the Camphill philosophy, to see how do you heal the land.

SIDEBAR #1

Karl Koenig M.D., (1902-1966) formed the Camphill Movement near Aberdeen, Scotland. He also studied zoology for a time in his early years.

Books available from *Josephine Porter Institute* by Karl Koenig:

Earth and Man — $20.00

Penguins, Seals, Dolphins, Salmon and Eels — $12.95

Elephants, Bears, Horses, Cats and Dogs — $14.95

Swans and Storks, Sparrows and Doves — $12.95

An introductory book that describes the work of the Camphill Movement, also available from JPI, is *Children With Special Needs*, by Michael Luxford — $9.95.

N. You have described what is the ideal situation of a cow on a farm, but now you also expect this cow to pay its way. How does the cow make an economic contribution? Are these cows breaking even for you?

M. That was very interesting. We have actually shifted the emphasis. Once there was a time when we tried with the farm here to be a real, fully productive farm. Our emphasis was on production. We wanted to show the world that a Camphill can also run a production farm. Also, there was a real need for biodynamic products out in the world. We had a really high gear farm with a Harvestore silo and lots of machinery. We grew corn. So it was really running pretty intensively, but once we looked at the economics, it didn't really pay. It only could sustain itself because the community was willing to build up the farm. Part of it was the conversion from a conventional to a biodynamic farm. There was a recognition that you need to put capital into the farm, so there was a great willingness to support that; but it was not possible to continue that support on and on and on. Then, since I got into the whole thing with grazing, we have decreased this production element, but we were able to decrease our expenses even more. Last year, for the first time, the dairy actually broke even. That's including a figure for living expenses for the people who work on the farm.

N. So what you're telling me, Michael, is that when you tried to approach this farm as a production model in the conventional sense, it didn't work . . .

M. That's right.

N. . . . and then when you tried to approach it from the ideal picture, working backwards into the practical, it actually started to work as a producing farm. Is that what seems to be happening?

INTERVIEW *(continued on page 5)*

POTTING SOIL: SOME RECIPES FROM AROUND THE COUNTRY *(See Map on Page 13.)*

The information for the following article on potting soils was gleaned by the Editor from the 1994 Spring interviews.

Last Spring when we surveyed some of the top biodynamic gardeners in the country we learned about some potting soil recipes that they use. It is our hope that the information shared here will be of help in preparing for the 1995 growing season. Please note that all compost used by these gardeners has been prepared with the Biodynamic Compost preparations BD #502-507.

Kerry Sullivan's Recipe: (Map #1)

2 five gallon buckets of peat

1 five gallon bucket of vermiculite

1 five gallon bucket of perlite

2½ gallons of earthworm castings OR finished BD compost that is at least one year old. *(The Sullivans are raising worms and when they feed them fresh manure they inoculate the worm boxes with the BD Compost Preparations $502-507.)*

2½ gallons of garden soil

To the above mixture Kerry adds 1½ cups of high calcium ground lime because his soil is too high in magnesium.

Kerry mixes the above quantities on a concrete floor and sprays Barrel Compost as it is being mixed. The Barrel Compost liquid adds moisture and keeps the dust down.

Jean Paul Courtens' Recipe: (Map #2)

4-5 gallons very well-rotted horse manure compost (3 – 4 years old)

½ bucket of peat moss

1 cup each: blood meal, rock phosphate, greensand

a little bit of lime

Polly Hieser's Recipe: (Map #3)

50% of the mixture is mature compost

50% equal parts of vermiculite, silica sand, peat moss

Steve Moore's Recipe: (Map #4)

In a wheel barrow Steve mixes BD compost (minimum aging is 6 months and the raw material used for the compost is predominantly chicken manure and bedding from the chicken house plus cover crop cuttings) with up to a shovel full of Barrel Compost (Steve makes his own) and a shovel full of granite quarry rock dust. Steve explained that "compared to other rock dust analysis, this particular rock dust shows a better calcium-magnesium balance in the sense that the calcium relative to magnesium is higher."

Allen Cleek's Recipe: (Map #5)

Allen uses a commercial product called Promix and moistens it by stirring Barrel Compost into it as the only moisturizer. Although he would prefer to make up his own mix, he does not presently have enough compost, and he feels that the Promix is the most benign of the commercial products in that in Allen's words "it has no outrageous chemical fertilizers" in it, and it is approved for organic use. He says he gets a good germination rate with it but that when transplanting it is downhill from there. The sooner you can get plants into the ground the better, he says, because as the plant grows it takes up more and more water and the Promix is not capable of holding it, so you have to be up on watering. The other drawback to Promix is the expense. Allen explained that a 5½ cubic foot bale cost about $25+ and he uses approximately 7 bales a year.

Ruth Zinniker's Recipe: (Map #6)

Ruth uses the following recipe for her hot bed, which she now calls her "warm" bed, because she has only cow manure rather than horse manure, which is the usual manure choice for a hot bed.

In the Fall Ruth digs the soil out of the hot bed and piles it with ripe garden compost at a ratio of 8 wheel barrow loads of old hot bed soil to 2 wheel barrow loads of garden compost. (Two thirds of Ruth's garden compost comes from kitchen scraps, all weed residue from the garden, leaves, and stinging nettle, while the final one third is cow manure.) This mixture is blended together and then sits over the winter. In the Spring, cow manure is placed in the bottom of the hot bed and the above mix of garden compost and hotbed soil is spread over the cow manure, then raked and graded. The window is put on and the fresh bed is allowed 2-3 weeks to settle and warm before seed planting takes place.

Claire Hall's Recipe: (Map #7)

⅓ BD Garden Compost

(Claire's garden compost is made up from garden refuse, apple pumice from the cider press, and manure. The amount of manure in the garden compost is about 5% plus the pile is inoculated with old compost. She uses BD manure compost on the garden beds but only BD garden compost in the greenhouse.)

RECIPES *(continued on page 13)*

THE CORRECT USE OF ESOTERIC KNOWLEDGE — BIODYNAMICS

by Candace Coffin

"Now I will turn again to the fact that in this 5th post-Atlantean epoch humanity will have to find ways of dealing with great life problems which in a certain sense were veiled by the wisdom of the past. I have already called your attention to them. One of these great problems will be concerned with finding out how to place the spiritual etheric forces at the service of practical life."

— Rudolf Steiner, 25 November, 1917, Dornach, Switzerland

In 1993 and 1994 (*Applied Biodynamics*, issues 4 & 7 respectively) we reported on the success of the use of the biodynamic preparations at the Evergreen Elm's Biodynamic Community Garden, a gardening therapy program for persons with mental disabilities in Bradford, Pennsylvania. In 1990 L.A. Rotheraine, Master Gardener, was hired with state and federal funds to run an organic garden entitled Evergreen Elm's Horticulture Therapy Program. Mr. L.A. Rotheraine agreed to accept the assignment with the provision that he would be a biodynamic gardener. For four years it has had remarkable success as witnessed by the ribbons won at the McKean County Fair:

Year	Categories	Ribbons Won	Number of Blue Ribbons
1991	14	11	8
1992	21	18	11
1993	27	25	17
1994	33	31	17

The community supported the efforts by donating about 40 tons of leaves, grass clippings and table scraps this past year. A comment at the Fair from a local Bradford resident highlights how the success of biodynamics has assisted in raising awareness to and appreciation for the work of Evergreen Elm: "I'm from Bradford and we have an organization for the handicapped who have always grown the biggest and best vegetables entered into this County Fair." Rotheraine lauds the courage and concern for all life forms exhibited by the residents of Cameron, Elk and McKean county along with MH/MR people, Evergreen Elm's staff, clients, and their Board of Directors. He says, "They saw the results (of biodynamics) and stood fast against those who would have had them poison the Elm Street Garden with chemicals, or had them use organic matter which already had poisons in it from previous production, without being reconstituted by the biodynamic preparations and the biodynamic system."

In a full page article printed in the 9/8/94 issue of the *Bradford Journal*, Rotheraine explained how biodynamics alters the climate in the Elm Street Garden. "As the ancient civilizations on the planet knew, and contemporary science is about to relearn, plants are small models of the stars and planets. Each plant species is a condensed form of the light, sound and other energies emanating from particular groupings of stars and planets. The closer a vegetable comes to becoming a physical counterpart of its heavenly/celestial energy, the more food value it contains. The Biodynamic preparations and the Pfeiffer Biodynamic Compost Starter enhance these energies."

Rotheraine queries "Why is the entire world not using the biodynamic superscience to produce superior plants, seeds, and animals?" As you can see from the photograph reproduced here, the Stellar Enhanced Ratatouille Tomato Plant is a superior plant. It is described as being: "a culinary dream: gigantic size, all meat, and heavenly tasting." The Selke Biodynamic Cherry Tomato Plant, pictured in Issue #4, *Applied Biodynamics*, produces plants that offer in excess of 2000 tomatoes per plant with a taste that is described as being "from out of this world."

We too wonder why biodynamics is not the leading agricultural system. But, we are blessed to have courageous pioneers like L.A. Rotheraine and the Evergreen Elm folks helping to bring biodynamics to the forefront.

If you would like to grow the biggest and best tomatoes, you will need to use Biodynamics and may wish to purchase seeds. *Seeds, 10 stellar enhanced Ratatouille and 10 stellar enhanced Selke B.D. Cherry, plus Evergreen Elm's unique organic tomato hill instructions with planting dates can be obtained by sending $5.00 to Evergreen Elm Horticulture Therapy Program, Room 804, Hooker-Fulton Building, Bradford, PA 16701. (Make checks payable to Evergreen Elm H.T.P.)*

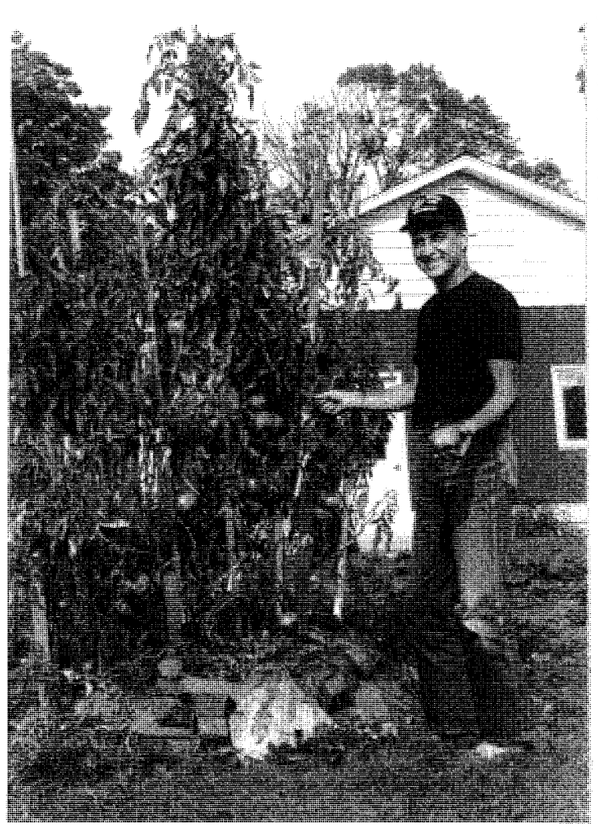


Photo: Grant Nichols, *Bradford Journal*

INTERVIEW *(continued from page 4)*

M. Yes. It was pretty surprising. But it's a little bit too early to say that it is a success story. That will show itself in ten years. The direction seems very promising. I would say I'm encouraged that it's the right direction. By doing the right thing, it found its way to support itself economically. I'm not getting rich, but the farm became self-supporting, and I hope to maintain that in the future. There is a clear recognition here that the farm shouldn't generate profit. It's not a business, but it shouldn't drain money either.

N. Nobody would complain if you made a profit, would they?

M. Nobody would complain. Part of it is we asked our consumers to be more supportive by raising the price of our milk. We used to be very conservative in our price, because we had the ideal of seeing our produce as a contribution to the world. So there was a lot of idealism, too. We had a good product and we wanted to *share* it with the world. But, we discovered that you can only really do that if you can afford it. Actually, we couldn't afford it, so now I'm selling my milk considerably higher than I used to.

N. How much do you get per gallon of milk?

M. Because I bottle it myself, I am selling it at three dollars a gallon wholesale. That's probably about $3.80 retail. So it's a dollar more than conventional milk.

N. You sell all your milk through local markets?

M. It's sold through local health food stores.

N. You have no problem getting rid of your milk in this fashion?

M. No. I have a small herd, so I'm not producing a lot of milk. The excess we make into cheese. I supply three Camphill communities in the area, which are a big market already.

N. How do you integrate the other animals here into the whole farm system? I know, for instance, you have a lot of chickens.

M. That was an attempt that was not successful. I tried, with the chickens, to follow them behind the cows. The idea was that they would eat the fly larvae out of the manure pies. It worked beautifully. They did a great job. They incorporated the manure. You couldn't see the cow pies anymore after the chickens were there, but I lost too many chickens to foxes and raccoons. We then started working with electric fences, but that was just too much work. Also, the fox immediately figured out when the fence was on and when it was not on, so even if it just was off for only two hours, in the two hours he managed to get in. The idea is good, but I haven't managed to make it work on my farm yet. We have pigs, and the pigs are really animals that take care of the spoiled stuff. They're kind of scavengers of the farm.

N. Do you let the pigs run together with the cattle at all?

M. Yes. In the winter we often have pigs in our beef barn, which also has deep bedding, and they run together. I'm always amazed how little feed these pigs need to become fat just by, it seems to me, running with the cows. They dig through the cows' manure and get out what the cows don't digest. That's to me another example of when you bring animals together how they can enhance each other, and the result is always something higher, or better, than if you treat animals in isolation. The manure also often turns out nicer, because they dig into the manure and aerate it, and because they burrow in it to stay warm. I haven't gone into that system of burying corn in there and then letting the pigs in. *(See Sidebar #2 on Salatin)*. I have heard about that method. I haven't tried it yet, but I'm sure it's a good way to do it.

N. You are saying that they are digging into the manure pack even without any corn being in there to begin with. They're digging it up anyway?

M. Because it's in winter, they are digging in there to stay warm. They constantly move it around.

N. Do the pigs make an economic contribution?

M. They're such a small part of the farm that I don't consider them in economic terms. They make economic sense because they are scavengers. If I would grow grain for them and feed them out, I'm not sure if they would make a profit; but by being the scavengers, whatever meat they produce is a bonus. They're not expensive to keep. I don't have to buy things for them. The only expense is the initial cost for the feeder pigs.

N. Do you feel that over time the animals are bringing fertility to the land? What have your observations been in this regard?

M. There are two ways of looking at it. One is the fertility that's brought to the land just by the manure. On our farm we have a large vegetable operation, so a lot of the manure goes towards that operation. So the nutrient cycle of the farm is actually a little bit off, because very little of the vegetables comes back to the animals. Basically, it's almost as if the manure were leaving the farm. They have their own fields and their own rotation there. One can see when they grow hay there how beautifully it grows because the land is so fertile. For our farm it actually became a problem that we were doing a lot of cropping, growing corn, because it really sucked up a lot of manure, and it also left the land open. We had quite an intensive

INTERVIEW *(continued on page 6)*

SIDEBAR #2

Joel Salatin is a grass farmer in Swoope, Virginia who has much to offer to practical biodynamic people. He is one of the most innovative and dynamic livestock managers I have met. Not only is he a dedicated caretaker of his land, but he has been able to develop novel techniques of raising domestic animals in a biologically sound way. Joel raises beef, layer and meat chickens, hogs, and rabbits, utilizing the natural grazing, rooting, and scratching instincts that domestic animals have which improve animal health and animal product quality, while at the same time improving the vitality of the land. He emphasizes profitability through direct marketing. His book *Pastured Poultry Profit* is available from the Josephine Porter Institute for $28.00, and Joel is a regular and lively contributor to the *Stockman Grass Farmer*.

INTERVIEW *(continued from page 5)*

crop rotation. We kept soil tests over the years (every two years, quite consistently). Even though initially, after the conversion to biodynamics, the organic matter started to go up, it reached a certain peak, and then it actually started to go down again. That was a real concern. The organic matter for me is really the key to soil fertility, because it points to the life in the soil. That's the thing I'm looking at. If the organic matter is good then I'm not worrying about anything else. If it's poor, then for me that's a key sign of lack of fertility, because it stands in relation to humus and so forth. By having a less intensive crop rotation, and by having most of the land in hay and grass, one can now see the organic matter going up again. I'll have to see how that goes over the years, but we know that it's the legumes and the grasses that build organic matter by the dying back of their roots. So again, here you see the animals indirectly, because they consume the grass. I couldn't just grow grass and then just mow it. That wouldn't make sense. It's the forages that build fertility together with the cow. What I also do is to really let my biodynamic compost finish quite well, and then I put that back onto the grass land. I have very ripe, mature compost, which in terms of quantity, or in terms of content of nitrogen, phosphorous, potash, is negligible. But again, that's the the dynamic. The basic fertility, the substance of the fertility, is provided through the grasses and the legumes. Through the biodynamic compost I bring in the dynamic, which stimulates the life: The microbial life and the earthworm activity, which then transforms this "dead" organic matter into humus. The cow is central to that, because it both eats the forage and it provides the manure. I always had the feeling that when you grow corn you don't do anything dynamic. You're feeding the corn with the manure, and you want to keep it a little on the raw side, so the corn gets enough nitrogen. So you spread a lot on the land, and the corn sucks it right out. You don't create a dynamic situation there, you're just feeding the corn. You know it's better than feeding it with NPK, ammonia, etc. It's definitely better, but I'm not sure if, in the long term, it really does the soil any good. Another example is that I started to experiment with chicory, which is not the wild chicory, but there's a cultivated chicory. It has a deep tap root, so it unlocks the minerals in the subsoil. It brings them into the leaves, and then the cows get the minerals through that, and then it goes into the manure. It stimulates this whole cycle, rather than top dressing rock phosphate or some other mineral.

N. For me one of the most amazing things that Podolinsky said is that roots make the soil, compost doesn't make the soil.

M. You don't have the compost! You would need huge amounts. On the vegetable fields I can see the manure. The biodynamic compost makes the fertility, because the manure goes on heavy. But I can't do that on the rest of the acres, so I have to go that other way. It's true, it *is* the dying back of the roots and the plant material.

N. Besides the organic matter content of the soil, have you seen any improvement in the quality of the soil structure now that you are cropping less intensively, or is it too soon to tell?

"It should go without saying . . . the manure which the peasant woman — basket on back and shovel in hand — gleans from the meadows, is undoubtedly better than the manure you get by stable feeding."
— R. Steiner, *Agriculture,* p. 163
translated by Adams

M. I couldn't make a judgment on that, because I don't have enough background, and my eye is not schooled in that way. But you know, I'm surprised when I go into one of these alfalfa fields. Even if it hasn't rained for a long time, there is kind of a moist microclimate under the canopy, and you see a lot of earthworm manure there. You see these little heaps of earthworm castings. That's what I want to see. On an open field they don't dare to come up. You don't have that activity.

N. Let me try to understand this. At one point you were cropping and tilling very aggressively, but the crops were basically being fed back to the cows?

M. Well, yes and no. We also grew grains for bread baking, but there were a lot of crops grown for the cow. For example, mainly corn, but also some soybeans, Sudan grass, barley, and wheat for the cattle. It was a lot of grain.

N. I don't want to put words in your mouth. I know that in the agriculture course Steiner was anxious that we understand the relationship of legumes and grasses and their contribution, and that the cattle be allowed to get their own feed, rather than they be kept in the barn. Barn feeding was the tendency in Europe, at least as I experienced it. Cattle were kept in a barn, at least three fourths of the day in many times of the year, and feed was brought to them, and then the manure was hauled back out to the land in either liquid or composted form.

M. At one time we used to green chop. We went out to a hay field and chopped it, so you had to have a tractor and a chopper, and then blow it on a wagon, bring the wagon back, unload that wagon in the barn, and feed it to cows in the bunk. Now the cow goes out to the same field and grazes it. You can see what amount of machinery and labor just falls away right there. Also, the quality of the feed is so much better because it's totally fresh.

INTERVIEW *(continued on page 7)*

COMPOSTING *(continued from page 8)*

that pitcher and adding enough water to make another full pitcher of lemonade. If one then takes a glass from the second pitcher and makes a third pitcher of lemonade, there probably won't be much "lemon" flavor left. So too, the more one dilutes the preparations in a series of compost piles, the more will the biodynamic forces of those preparations lose their "flavor" or force field. Once again, one uses the biodynamic preparations as a means to stimulate "healing and enlivening" forces for the earth(soil)/Earth(planet). One should not constantly seek to diminish those forces by such a dilution approach.

Of course, both these frequently asked questions may be prompted for economic reasons because of the expense of the preparations. For years we have sought to establish a price level for all of the preparations that would leave them affordable but which would also cover the costs involved in producing them. While we believe we have found an ideal price level that meets both those requirements, we welcome comments and input from all concerned, so that we can offer the preparations at the most equitable price level. An alternative solution to this factor of cost is for one to begin making some of the biodynamic preparations, particularly since we will gladly supply the various compost preparations on an individual basis without requiring that everyone purchase a full set every time.

When looking at how one makes biodynamic compost, two key points should be foremost:

1. The preparations should go into the pile as early in the composting process as possible.
2. A biodynamic compost pile does *not* need to be turned unless it was not properly made in the first place.

We will examine these two points along with other factors of biodynamic composting at greater length in future issues of *Applied Biodynamics.*

THE UNION AGRICULTURE INSTITUTE: ANNUAL CONFERENCE

A report by Josh Coffin

For the past seven years, Hugh Lovel, Director of the Union Agriculture Institute in Blairsville, Georgia, has presented a conference with top speakers who address pertinent biodynamic concerns and information. I have attended the past two years and enjoyed both. Approximately 100 persons, novices and experts in the field of biodynamics, convened at Hugh's farm to hear information on such topics as the Biodynamic preparations; Rocks, Minerals and Energies; Homeopathy; Saving Seeds; Seasonal Whole Foods; Science of Human Wisdom; and Soil Science. There was also time for socializing, networking and the annual Sunday morning study session on Rudolf Steiner's *Agriculture Course.*

The Union Agriculture Institute's annual biodynamic conference is most exciting to me because it takes place on a biodynamic community supported agriculture (CSA) farm. This puts the conference attendees face to face with the gardens and animals. I see this as more educational and more related to biodynamics than a conference held in a big auditorium next to a hotel.

To the maximum extent possible, the food that is served at the UAI conference is of the highest biodynamic quality. Hugh Lovel goes to great lengths to bring biodynamic meals to conference participants. Along with his CSA, Hugh grows additional crops especially for the conference. The freshest vegetables, meats, cheeses and spices are used. (Hugh makes his own cheese and butchered his own chickens for the conference.) Several of the participants bring biodynamic produce to add to Hugh's, which also enhances the variety of foods offered, but most of what is served comes right from the farm. Much care also goes into the preparation of the food as I witnessed first hand while volunteering my services in the kitchen and gardens. It is not unusual to find Hugh and his volunteer staff working until 2:00 a.m. cleaning up or arising well before sun up to fire up the wood cook stoves.

This high concentration on the caliber of the food is a main focal point of this biodynamic conference. This aspect alone gives much merit to the gathering. Hugh Lovel believes that serving biodynamic foods which contain the nutrition that "will supply the strength necessary for manifesting the spirit in physical life" (E. Pfeiffer, Preface, *Agriculture*, R. Steiner, Bio-Dynamic Agricultural Assoc., 1974, p. 7) is a key to the success of the conference. The food is a confirmation of all the conference presentations . . . a presentation in and of itself!

Participants were of all ages and walks of life . . . teenagers, young couples with babies, retired folks; persons new to biodynamics and persons who have years of background in the field of biodynamic agriculture. The presentations were as colorful and diversified as the attendees.

My congratulations to Hugh Lovel for another successful biodynamic conference . . . knowledgeable topics and presentations, delicious food, and a warm, social atmosphere. It's no wonder that everyone leaves energized and excited about healing the Earth, and, of course, eager to return next year for another dose of enthusiasm.

**If you would like to be on the mailing list for next year's conference (usually held the 3rd weekend in August) you can contact Hugh Lovel at:*

UAI
Route 4, 8475 Dockery Road
Blairsville, GA 30512
(706) 745-6056.