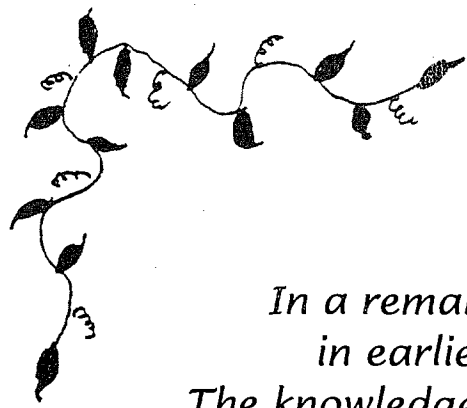
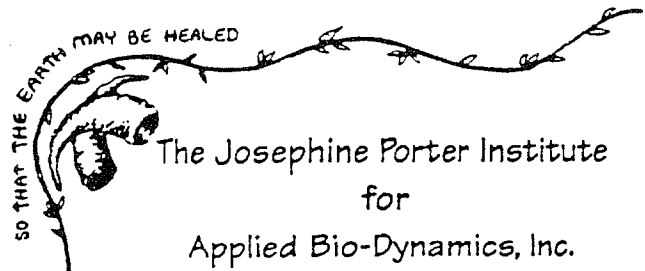


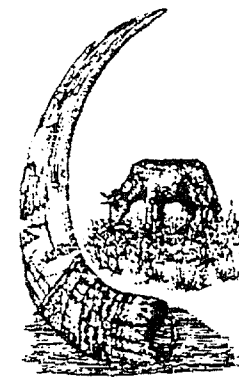


*In a remarkable way, we have here before us what
in earlier times was known as star knowledge.
The knowledge of the stars that we have today only serves
as a means of mathematical orientation.
It's no longer much good for anything else. But that
was not always the case. In ancient times,
people saw something in the stars that could serve as
a guide for their earthly life and work.
That science has now been completely lost.*

—R. Steiner, *Spiritual Foundations for the Renewal of Agriculture*, lec. 6, p. 125



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



SPRING-SUMMER 1998

Applied BIODYNAMICS®

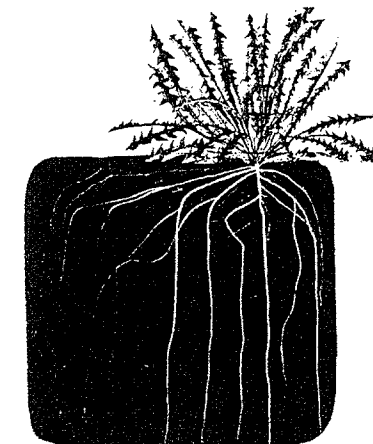
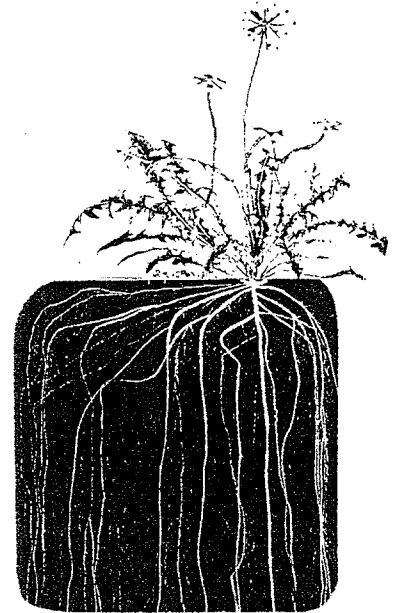
Newsletter of the Josephine Porter Institute • Woolwine, Virginia



ISSUE NO. 23

O Gott, an Liebe mach mich überreich,
Daß ich dem Brunnen an dem Wege gleich,
Daß mir das Geben so von Herzen geht
Als wie dem Brunnen der am Wege steht,
Und daß ich jedem geb', ob bö's, ob gut,
Wie es der Brunnen an dem Wege tut.
Auch das ich dienstbereit bei Tag und Nacht
So wie der Brunnen der am Wege wacht.
Den Überfluß der Liebe gieb an mich—
O Gott, das bitt ich Dich.

—Michael Bauer



O God, let me with utter love abound,
That I be like the spring that wets the ground;
That my giving from the heart,
Be as the spring that gives its every part;
And that I give to all, both bad and good,
Just as the spring along the roadside would;
That I be fit for service night and day,
As is the spring that stands beside the way.
An overflowing love bestow on me—
This, O God, I beg of Thee.

(translated by M.I. Gardner)



ADDRESS CORRECTION REQUESTED

FROM THE EDITOR

I would like to publicly thank all the contributors to this issue and to encourage anyone else with a story, an experience, or a comment about biodynamics, to consider sharing this with our readership. Your unique perspective enriches us all. Comments, positive or negative, about this newsletter are also welcome.

As you have probably heard, the USDA has withdrawn its proposed regulations for organic agriculture after receiving more (critical) comments on it than on any issue in its history. Whether its rewritten proposal will be much better, however, remains to be seen. “Eternal vigilance is the price of liberty” (attributed to Thomas Jefferson).

Malcolm Ian Gardner

A NAME CHANGE:
“BARREL COMPOST” BECOMES “BC”
(BIODYNAMIC COMPOUND PREPARATION—
ADAPTED FROM RECIPE OF MARIA THUN)

In recent months our readership has no doubt become very well acquainted with the efforts of the USDA to regulate organic agriculture. Perhaps less well known is the effort of some state agricultural agencies to bring within their purview and licensing structure any product sold as “compost.” Within biodynamic circles over the years, various concoctions have been available that carry the forces of the biodynamic compost preparations (BD#502-507). Such materials include the Pfeiffer BD Compost Starter and Field Spray, the Podolinsky “Prepared” 500, various “box” composts from Europe, and, in particular, Maria Thun’s “Barrel Compost” (called “Fladenpräparat” [cow pat preparation] in German). None of these are true composts but are more of the nature of homeopathically prepared medicaments. In order to avoid any confusion on the part of state regulators, we will henceforth refer to Barrel Compost as BC (Biodynamic Compound Preparation). We hope this adjustment in nomenclature will not be too difficult—for you or for us.

At this point we are hoping that the term “horn manure” will not attract the attention of the regulators, since the word manure also sometimes appears in the list of materials that may be deemed as requiring state licensing and regulation. All that we at JPI can warrant, is that we do the best job we possibly can to make the various biodynamic preparations in accordance with the procedures indicated by Rudolf Steiner. Since the question of the quality of these preparations has yet to be satisfactorily determined by any laboratory test or series of tests, it is difficult to imagine how a governmental agency or its representatives would be able to judge the quality of these preparations, or any products derived from these preparations.

Hugh J. Courtney

FALL PREP-MAKING SEMINAR

We will be holding our 1998 Part II (Fall) Prep-Making Seminar from October 28th to November 1st (Wednesday evening, 8pm through Sunday evening, 6pm). It is planned that this seminar will include an on-farm cow slaughter and harvest of the sheaths for various preparations. This intensive session of four plus days will concentrate on the following preparations: BD#500 (Horn Manure), BD#503 (Chamomile), BD#505 (Oak Bark), and BD#506 (Dandelion). Other preparations will be covered as time permits.

The fee for the Part II Seminar is \$400, with a deposit of \$50 required when registering. Deposits will be refunded if cancellation is received no later than Sept. 27, 1998, and will be non-refundable with cancellations after that date. Space is limited and will be allocated on a first come, first served basis.

Participants will be served mid-day and evening meals, which are covered by the Seminar fee. Please be prepared for fair weather or foul, and for a full schedule of intensive preparation-related activity. There are two nearby Bed & Breakfast establishments for accommodations, or JPI can provide limited camping arrangements on the premises. This seminar is intended for serious practitioners who seek the self-sufficiency and independence of producing their own biodynamic preparations; it is not intended for amusement or entertainment.

Hugh J. Courtney

APPLIED BIODYNAMICS®

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Cover: Dandelion growth from J. Bockemühl, *In Partnership with Nature*.
Other artwork in this issue by Erin Coffin.

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MISSION

The Josephine Porter Institute for Applied Bio-Dynamics Inc. (JPI), 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 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.

OBSERVATIONS AND EXPERIMENTS

Parsley Revival

By Doris Foster (Armstrong, British Columbia, Canada)

Last fall I was very grateful for the opportunity to use JPI’s Barrel Compost [BC (Biodynamic Compound Preparation)] and Horn Manure (BD#500) preparations in my small family garden. I used rain water, warmed in a large glass cooking pot over two beeswax “survival” candles, and applied the Barrel Compost one evening and the Horn Manure the following one. (Sun and Moon were both in the Virgin.) This was my first experience with Barrel Compost [BC], although I had stirred and applied preparation 500 several times.

As I carried out my bucket of stirred Barrel Compost [BC] to sprinkle on the garden with a whisk broom, I noticed the three large pots of parsley, begun indoors in April, that had never found space in my tightly interplanted garden. Each pot contained about six plants, two to three inches apart. They had spent most of the summer on a rock ledge below the herb garden hill, directly behind the house, where they were handy to water from the rain barrel, rescue to the porch in heavy storms, and pluck sprigs from periodically for meals. By late summer I had decided to just leave them in the pots and take them indoors for the winter when the garden froze.

It happened, therefore, that I gave each pot a nice little drink of Barrel Compost [BC], and another of Horn Manure the next evening.

A day or two later I saw a thrilling change in these parsley plants. Every leaf had become a deep, dark, glowing green. I certainly never expected any visible effect from just one application of these preparations. I was confident in their effectiveness and the importance of using them, and I wanted to participate in this vital task as part of re-affirming our responsibility and stewardship toward the Earth, but I expected only a slow, gradual improvement in soil structure, over a period of years, and eventually subtle improvement in the vitality of the plants.

This wasn’t subtle at all! Of course, I did more than sprinkle the soil with the preparations, but I think anyone who had seen their rather indifferent, almost faded green before the preparations were applied, and then the deep richness afterwards, would have agreed that these plants were now literally *more alive*.

My understanding of aliveness has been deepened by this *direct* experience of the change in the quality of life, visibly affected by the application of Barrel Compost [BC] and Horn Manure. I could easily imagine how the entire living world could be transformed if the biodynamic preparations could be applied over the whole Earth, to all the soil on the planet—not just gardens! I wanted to go out and sprinkle Barrel Compost [BC] and Horn Manure everywhere, like a 21st century Johnny

Appleseed. How different our experience of being alive ourselves would be, if our bodies, souls, and spirits were nourished by living within a world, as well as eating food, enlivened by these preparations. I imagined the whole Earth glowing like these parsley plants.

Perhaps mankind itself would be transformed, *will* be transformed, if we continue to gather what is needed and prepare these force-imbued substances, to stir them and sprinkle them and make this conscious effort to heal the Earth and ourselves.

Golf Greens Revival

By Stephen Storch (Water Mill, New York)

Several years ago I became involved with some friends who designed a patent applied machine for installing gravel veins in golf course greens to help alleviate drainage problems. These problems arise from poor soil conditions that range from compaction, to heavy clay soils that are anaerobic just a few inches beneath the turf, to soil completely devoid of life due to chemical treatment. Some of these courses play over 50,000 rounds of golf per season. This type of stress includes foot traffic in hot weather, constantly mowing greens to an eighth of an inch, and constantly spraying chemical fungicides and herbicides. I have been trying to get my friends to sell a treatment that would include the biodynamic preps, trace minerals, and humates.

Most golf course superintendents are either very close-lipped about their methods (if they are successful) or very open to help (because they have hit a dead end using chemicals). Last fall I met one of the latter. He was dabbling with some organic methods and I coaxed him into letting me spray some Barrel Compost [BC (Biodynamic Compound Preparation)] and BD#500 on some of the greens we put drainage in.

This golf course was built in the early sixties by the same contractor who built the Long Island Expressway. Needless, to say, he knew very little about soil. The greens were very hard and built mainly from subsoil. The roots of the grass were very shallow and unhealthy. After about forty years of chemical abuse, they are really hitting a stone wall. I used BD#500 and Barrel Compost [BC] to treat four of the five greens we rebuilt and on one of the greens that they rebuilt in-house. That was in late October 1997. I returned early in April ‘98. Upon pulling up some plugs of grass what I found had occurred over the winter was quite astonishing. The BD treated greens had developed beautiful root systems three or four inches deep with fine, white root hairs, better looking than the best green on the course. The superintendent was very impressed and asked if I could do the treatment again. I certainly will!

If we would come along in the first or second year with the #501 and begin to push the top growth with it, we really wouldn't be helping ourselves, I feel. Of course, with annuals like sunflowers, we'd use it once or twice during the growing season.

We'll also be using a BD root paste to dip our grape vines into prior to planting this spring.

K: What is your experience with using #508 for diseases?

M: Botrytis is the big infectious disease of peonies. We don't really have that here. I think the raised beds help prevent it. We use the #508 with the zinnias, primarily because they tend to get powdery mildew. Application of #508 would pretty much be determined by the weather. In advance of adverse weather conditions, it would prove favorable to go ahead and use that.

K: Do you use it as a preventative, or after-the-fact?

M: Prevention is always the best because once the disease is there it's really hard to prevent it from spreading. We tried the sequential spraying last year because we tend to get real dry weather patterns from July to August. We used that to see if we could get a little moisture coming our way.

Again, we don't have a lot of time to experiment to find out how all these things work: It would be helpful to everyone concerned, Hugh, especially, if we could record all this, but it's a two-person operation and almost impossible to do.

K: The community of New Harmony seems to have an interesting history. Can you tell me a little about that?

M: It was founded in the early 1800s by a group of German religious separatists. They followed a man named Father George Rapp. They would probably be called a cult or sect these days. They built up the community from nothing. When people come to New Harmony now they see the buildings that were built in that era. The people were very industrious, they built a brewery and distillery (although they didn't imbibe), opera house and all these other buildings. They shipped their wares down the river to New Orleans.

They believed that the Millennium, the coming of Christ, was coming in their lifetime. They were a celibate sect, they had separate housing for men and women. When Christ did not appear, people began to get a little bit antsy and Father Rapp decided they needed another challenge. So he sold the entire town of New Harmony to Robert Owen.

Owen was someone who's familiar to Steiner. Steiner mentions him in a couple of lectures. Owen had social theories about the perfectibility of people and educational theories. So when the town of New Harmony became available, to Robert Owen, who was from Scotland, it was a perfect place for him to bring his social experiments. Here was an existing town with all the infrastructure, so he could just bring his experts in and attract new people, and then put his social theory into practice,

which he tried to do.

But he was always out lecturing and proselytizing. He wasn't here to direct the town; he left that to his sons, who weren't quite as magnetic as he was, I guess, so the great experiment here with Owen lasted just a few years. New Harmony was the site of the U.S. Geological Survey for a number of years, the first kindergarten was started here, the first women's club, so a lot of good came from that.

K: What is your opinion of biodynamics as far as its effects on your product and its effects on you personally?

M: I think what we see is that our flowers do look better—florists tell us that—the colors are like nothing they've ever seen, at this point, and this will probably continue into the future. It doesn't bring us any more money to be biodynamic, particularly with flowers, or even organic—you don't get a dime more for that, unfortunately. But we do educate the people who buy from us that they know we don't use any



chemicals in the growing of the flowers and they're really impressed with that.

I think for me—I've been using the biodynamic preparations for fourteen years now—I still feel like someone who's crawling along, learning this stuff. But I've noticed tremendous changes in the physical world around me, the life that these things bring to the soil, all the different insects and animal life (some you'd rather weren't there!). It really is an attractant to life.

K: Why do you think it's important for growers to use biodynamics?

M: I think primarily what you're doing with regard to the soil and the earth—a lot of people might not want to hear about the spiritual aspect of it—but it's the work that you're doing "out there" that also is being done in you and through you that makes a big difference. Initially I thought, "Oh, you can do biodynamics and not buy into all the other stuff", but I think the minute you touch biodynamics, that's inevitable. You will be affected by the rest of it.

LETTERS TO THE EDITOR

Thanks for including the response form regarding the proposed organic regulations [from the USDA] in the last newsletter. I was hoping one or all of the organic organizations would make it easy for us to "properly" respond. I've copied and passed it around asking others to do the same. If enough people respond maybe we can tie it up till it dies. That's why writing to Congress is equally important.

The organic regulations problem may be a blessing in disguise. I see it as a *golden opportunity* for Biodynamics to get out there and inform the public and at the same time let the public know what Biodynamics is.

This could be done with press releases, radio talk shows, interviews, National Public Radio, letters to the editor, handouts, the Internet. Press releases could go to newspapers, ecological magazines (*Sierra*, *Audubon*), animal rights magazines, as well as upscale magazines (*Towne & Country*)—the possibilities are endless.

Biodynamics, as the oldest natural farming, organic organization—and Demeter as probably the oldest certifying organization—have an interest in maintaining the integrity of the term "organic" as well as maintaining freedom of speech with less government control.

If Biodynamics doesn't take advantage of this opportunity to inform, they (we) will only have ourselves to blame if Biodynamics doesn't grow exponentially. We will be denying people knowledge of and access to good vital food.

Sincerely,
Abby Porter, *Stroudsburg, Pennsylvania*

I'd like to thank you for the great work you are doing with *Applied Biodynamics*. Reading the articles in it has given me the first real sense that Biodynamics is something one can actually do. Before it always seemed too fraught with the absolute certainty of doing it all wrong! Now I see that it doesn't matter if in some ideal sense you're not doing the exact right thing at the exact right time—if it's not 3 people stirring in a beautiful wooden barrel, but only one person stirring in a plastic bucket, and, yes, sometimes that one person *is* feeling argumentative, because Biodynamics is itself an argument against almost everything else that presses in on us from modern economics. I've decided (with your help) that we can go ahead and do it wrong, as long as we're trying (again with your help!) to do it right. So—thanks for helping us over one gigantic hurdle of self-doubt.

Our *second* big hurdle is to make it through an actual season using the preps. If we can manage that, then next year we can reward ourselves with a[n Associative] Contract.

Thanks again ...,
Lori Perry, *Watsonville, California*

Thank you for shipping the recent information papers, your product catalog and the new price increases. After

research on the Internet, the attached finance plan for bovine forwarding was extracted which, I hope, will provide you the necessary parameters for future budget extrapolation.

Volker Imschweiler, *Dale City, Virginia*

Basic cow	\$499.95
Extra stomachs	79.25
Two tone exterior	142.10
Heavy duty straw chopper	189.60
Milk production system	375.13
Produce storage compartment	126.50
Four spigot high output drain system	149.20
Automatic fly swatter	88.50
Genuine cowhide upholstery	179.90
Deluxe dual horns	59.25
Automatic fertilizer attachment	339.40
4x4 traction drive assembly	884.16
Pre-delivery wash and detailing	69.80
Destination charge	395.00
Tax, license, title	<u>306.63</u>
Total list price	\$3884.37

—As told by laughalot-owner@gracweb.org
—Original source unknown

THANK YOU FOR THE DANDELIONS!

Paul & Nancy Kaiser, Mary Penninga (intern), and students at the West Michigan Academy of Environmental Sciences, *East Lansing, Michigan*
Susan Langley, *Rock Hill, South Carolina*
Barbara Martin, *Austin, Texas*
Suzanne Dustrude Starr, with Julia, Katie and Marin, *Hibbing, Minnesota*
Sara & Tracy Tufts, *Mebane, North Carolina*
John Van Beckum's 5th graders at the Waldorf School of Princeton, *Princeton, New Jersey*
Ruth Zinniker, Mike Whalen and Celia Lyke's 1st graders, Chris Kilmer's 3rd graders, and Betty Link's 5th graders of the Prairie Hill Waldorf School, *Pewaukee, Wisconsin*

Biodynamic Preparations Legend

BD #500 — Horn Manure	} Compost Preparations
BD #501 — Horn Silica	
BD #502 — Yarrow	
BD #503 — Chamomile	
BD #504 — Stinging Nettle	
BD #505 — Oak Bark	
BD #506 — Dandelion	
BD #507 — Valerian	
BD #508 — Horsetail (<i>Equisetum arvense</i>)	

WHEN IS VENUS BEHIND THE SUN?

By Malcolm Ian Gardner (Woolwine, Virginia)

In the sixth lecture of the Agriculture Course, Steiner introduces a method of weed and pest control based on the spreading of ashes from the undesired species (often called “peppering” due to the resemblance of the ashes to table pepper). Steiner indicated in most cases that the requisite fire to produce these ashes must occur at specific times determined by astronomical events. These indications were not fully understood by the audience and so in the discussion period following this lecture, Steiner was asked to further explain certain things. Some of these explanations, however, raised further questions that were not asked at that time and that have therefore endured as riddles. A case in point is the following exchange regarding the appropriate time to burn the skins of mice and other higher animals:

What did you mean by “when Venus is in the Scorpion”?

That means any time when Venus is visible in the sky with the constellation of the Scorpion in the background. Venus has to be behind the Sun.¹

Although this seems like a very straightforward and matter of fact statement, the last sentence in particular has given rise to much head-scratching. When I edited the American translation of the Agriculture Course, I added a note in which I suggested that Steiner’s term “behind” might not after all refer to space but rather to time. In other words, rather than referring to Venus being behind the Sun in space, I suggested that Steiner’s reply would make more sense if one took “behind” in a temporal sense, i.e., as *following after*. I based this conclusion on the fact that when Venus is behind the Sun in terms of space, the Sun’s brightness prevents either Venus or the constellation behind Venus from being visible at all, which is a condition that Steiner had specifically mentioned in his reply. Furthermore, in reply to an earlier question, Steiner had explicitly referred to Venus as an “evening star.” As an evening star, Venus is still visible after the Sun has sunk below the horizon and therefore, in terms of their daily motion, Venus is *behind* the Sun.

This interpretation of mine was shaken last year when I learned of two people who had had particular success in repelling mice with ashes from mouse skins that had been burned at times when Venus was in the constellation of the Scorpion, but was *not* an evening star. This caused me to re-examine my interpretation and also to re-examine a paper by a New Zealander named Marinus La Rooij that was published in 1994, about a year after the American edition of the Agriculture Course. The first time I read this paper, “The Astronomy of Peppering,”² I was confused by it and did not appreciate its significance. When I re-examined it I still found it somewhat confusingly written, but I now realized that it contained a valuable reminder.

Instead of thinking of the relation of the Sun, Venus and the Earth in terms of the conventional heliocentric model

developed by Copernicus (1473-1543), Marinus La Rooij suggested that one look at them in terms of a geocentric model—more precisely, the “dual center” model developed by the famous Danish astronomer Tycho Brahe (1546-1601). In this model Venus (and the other planets) revolve around the Sun, but the Sun itself revolves around the Earth. Tycho Brahe was very much an empiricist and his theory accounts for and predicts the observed movements of the planets just as well as the Copernican theory. Nevertheless, his system has been largely abandoned because no physical mechanism could be imagined that would account for the motions he postulated. However, as soon as one allows that there may be more than physical, gravitational forces at work in the universe, his theory becomes very interesting again, for it enables one to unite empirical astronomy with the ancient idea of the stars’ and the planets’ geocentric “spheres of influence.” Steiner certainly had these in mind when in the first lecture of the Agriculture Course he included the Sun among the planets³—and I had recognized it there—but somehow I had not been able to apply this insight to his later statement about Venus being behind the Sun. With Marinus La Rooij’s help, however, it was suddenly obvious that what Steiner meant by “behind the Sun” was “behind the Sun *sphere*,” i.e., beyond the “sphere” enclosed by the path of the Sun around the Earth.

The relationship of Venus to the Sun, as well to the zodiac and the Earth, is illustrated in Figure 1. The solid line represents Venus’ path as it revolves around the Sun while the Sun itself (dashed line) is revolving around the Earth (center). Venus repeats this beautiful path every eight years with only a small displacement (2.34 days). The path is shown for the period from June 1960 to June 1968, with Venus’ position at the beginning of each year indicated by numerals (e.g., 1.61 = January 1961). The constellations of the (unequal sidereal) zodiac are indicated around the periphery, with the Scorpion sector specially outlined. The five loops in the center of the diagram correspond to Venus at inferior conjunction, when it is directly between the Sun and the Earth and closest to the Earth. Since Venus’ inferior and superior conjunctions always occur in the same five parts of the zodiac, it is evident from the diagram that when Venus is in the Scorpion it is never directly behind the Sun. At these times, therefore, it and the Scorpion are always more or less visible.

From Fig. 1 it can also be seen that of the eight passages of Venus through the Scorpion, only two occur when Venus is not behind the Sun’s sphere (dashed line). This means that two out of every eight periods are definitely unsuitable for making this kind of pepper. The eight periods between 1960 and 1968 when Venus was in the Scorpion are listed below, along with Venus’ position relative to the Sun’s sphere:

- | | | | |
|----|------|-------------------|------------|
| 1. | 1960 | October-November | behind |
| 2. | 1961 | November-December | behind |
| 3. | 1963 | January-February | not behind |

turned because it’s such a large volume and we don’t have the equipment to do that. It will sit anywhere from six to nine months before we use it.

Sometimes, especially with the leaves, there’s a problem with drying out—pockets that are thoroughly dried and that didn’t compost properly. We’ve been experimenting with a recommendation by Hugh Courtney that we also add BD#508 to the pile. He gave us the procedure—how to make the tea and put it into a compost pile. He recommended that we put it in four holes to help the moisture circulate evenly throughout the pile. We’ve got at least 8 to 10 of these monster leaf piles and we need to get going on that.

K: How many units does all that usually take?

M: We use ten to twenty units for that much raw material. It’s been our experience that one unit treats a lot bigger quantity than one might imagine. Although, when these individual piles come in off the truck, using one unit per pile makes it a lot easier to keep track of. Sometimes three piles will end up in a long row. What I’ve done is to put one set in those piles and it’s worked out real well.

K: After those eight to nine months have gone by and you’ve got these huge piles of finished compost, then what do you do with them?

M: We have access to a tractor with a rear-tine tiller PTO. Instead of trying to run all this material through a shredder back into a pile, the tiller chops it up very fine. The compost can be applied to the beds as a mulch or actually worked into the soil.

K: How is the compost applied to the beds?

M: We try to have the piles dumped in close proximity to the beds because we have large walk paths down the center of the beds. When the town comes and drops off the leaves they just dump them on those paths; they’ll compost right there and it’s not a major hassle to maneuver them with wheelbarrows out onto the beds during the winter months.

K: In addition to the compost preps, do you use the other Biodynamic preparations?

M: Yes. We use BD#500 during the growing season, primarily spring and/or fall. We may be using it here shortly as the weather warms up. It’s been a warm winter and the soil has adequate moisture. If we put the #500 out now, when things really get to crunch time in April, we’ll be that much ahead.

For the perennial beds, that need no tilling, we spray on the soil around the plants. We try to do it when there’s soil moisture or when the mulch is wet. It’s going to get trickier for us because we’ll be going to weed barriers on a lot of these perennial beds. We’ve got a severe weed problem and we just can’t be weeding these beds.

We’ll cut holes in the weed barrier and put it down on top of the soil and have the holes cut for the plants to come right



through. We’re going to have to find a way to get #500 on that. Hugh doesn’t feel it will go through the barrier, so that’s going to be a sticky wicket. Do we want to pull the weed barrier off every time we apply the #500? That’s going to take a lot of time. We’re trying to figure out how we’re going to do that. We don’t have the weed barriers down yet, which is why I feel that if I can put the #500 down before too long and then put the weed barrier down at least we’ll be taken care of for the growing season. In the fall if we need to pull the barriers off and do #500 again, then that’s what we’ll do. We should have more time to do it then.

K: After the #500, what then?

M: We use BD#501, but that’s been sort of a tricky one to use with cut flowers. In the common wisdom I read and hear, you probably don’t want to use it on flowers. We’re still feeling our way with that one. We also use BD#508, *Equisetum*.

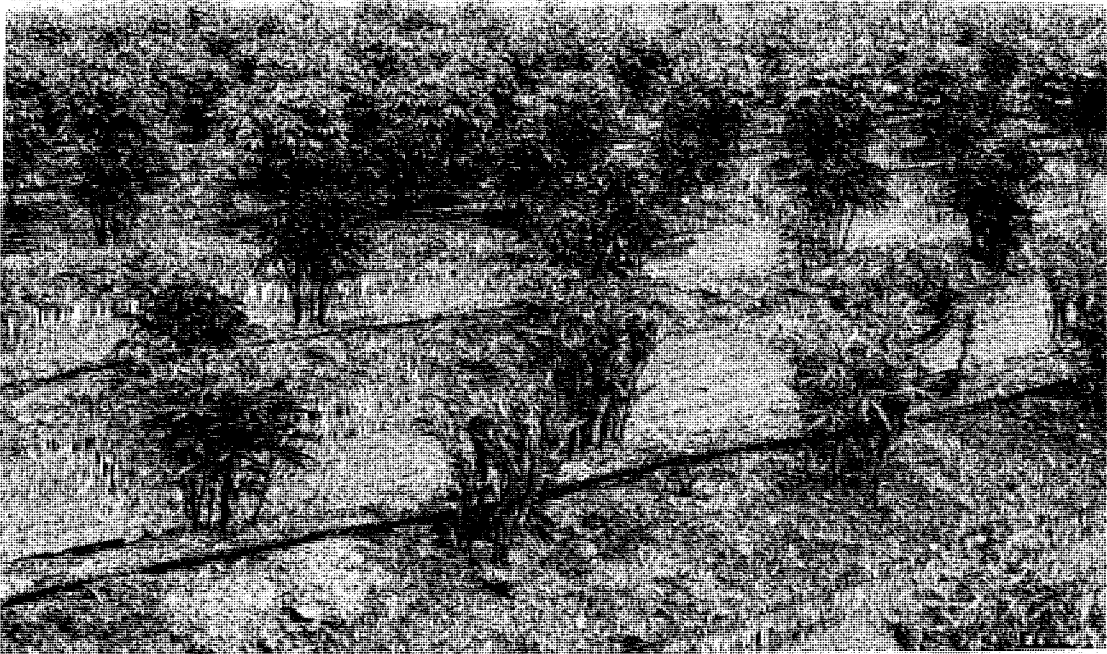
We want to use all of the preparations, but sometimes you don’t know if it’s going to backfire if you’re going to be using it on flowers. What we can see is that the color intensity is really nice, but with cut flowers, there are so many mechanical and physical ways to prolong the vase life, that I don’t know what the #501 would do. I’m sure it would help, but at this point there are all these preservatives and all these other things that are added to the water and to the flowers further on down the line that might create a negative reaction in plants grown with the #501.

We’ll use the #501 with the perennials once, but we won’t do repeated sprayings. The tricky thing with the perennials is that in the first and second years they need root development as opposed to a lot of top growth. You don’t want to be pushing that, you want the root establishment. A lot of the perennial flowers don’t really start to mature and be productive until the second year, and many peonies not until the third year. It is even recommend that one not harvest until the fourth year—to let the bush get big and develop its root system.

florists and for shipping. A lot of the backyard flower varieties or landscape plants are attractive right there, but when you cut them and transport them, they just don't hold up.

We grow annuals such as sunflowers, salvias, zinnias, and we always experiment every year with plants like basket flower, gomphrenas, euphorbia, and marigolds. A lot of these things we also dry. If they don't sell as fresh flowers, we can dry them: We also grow safflower, strawflower, salvias, scabiosa, larkspur, calendula, sweetpeas, several varieties of sunflowers, and clary sage. This list changes from year to year because some of these things don't work out for us or fall out of favor in the marketplace.

This is why the peonies are so important. They're a wonderful flower, in very high demand. The varieties that we've gotten are from two sources—Paul Sansone in Oregon, who's the best flower grower in the country. He is biodynamic, so we get his varieties and that takes the guesswork out of it for us. We've also gotten some really nice varieties from a nursery in Illinois—Klehm Nursery. Roy Klehm is one of the best peony hybridizers in the country and



probably the world. He's got some really fantastic varieties. One, called Coral Sunset, a coral-apricot, is a color you've never seen in a peony. It's stunning. Just this past year we got in yellow peonies, which is a big breakthrough because that's not a peony color. This is a hybrid between the tree peony and the herbaceous peony. The roots are \$60 a piece, so you don't go overboard with these!

Another interesting development is that we're going to be putting a 15-acre field that has been farmed conventionally into wine grape production. The Indiana wine grape industry is really taking off. In the past four years the number of wineries in Indiana has gone from six to twenty and they're begging for growers. The interesting, challenging part, some would say the downside, is that the state agricultural school that distributes all the information, has flat-out said, "You can't grow these things organically, just forget it!" So the big challenge down the road

is to try and do this. And I know the resources are out there—Alan York in California and a number of other people.

Again, I doubt that that label will get us any more money. But the quality aspect—if we can really enhance that, growing grapes organically and biodynamically—we will have made great strides. We will have shown that it can be done. So, that's in the works for four to six acres ... and then to protect it from our friends, the deer!

K: Where do you market your flowers?

M: We market locally to florists in the nearby city of Evansville, which is about 110,000 people. We have a stable of florists who like our flowers and we do regular runs there. In addition we do a small farmers market in that town.

We also ship to a few larger florists in Indiana and Champaign, Illinois. With peonies, we have a mail-order operation. We ship a box of 12 stems to people individually, or send them for people as gifts. They've gone to Texas, Connecticut, New York, Colorado—they've really gone all over the place.

K: How do you use biodynamics in your flower production?

M: All compost gets the compost preparations. The town of New Harmony has a leaf collection program and they drop off large mounds of leaves for us. We prep those and they either go on the beds as mulch or they get incorporated into the soil when a bed is prepared. We also get huge truckloads of horse manure, which we prep. We have access to cow manure from a nearby beef cattle operation, so we don't have any shortage of organic matter to work with. And that's good, because the soil we took over was conventionally farmed and

just thoroughly lifeless. Building the soil up has been the other big challenge in starting this business.

K: What is the volume of compost you'd say you produce every year?

M: I'd say probably close to 15 tons. Again, to put that on 25 acres in the quantities I think the soil needs at this point, well, we're just scratching the surface. We've seen the organic matter content rise considerably in the areas where we've been doing the composting and the biodynamics, but there are areas that due to lack of manpower we just haven't gotten to, but I know it will make a big difference.

K: What is your procedure for making compost?

M: The leaves or manure come off the truck almost in a windrow. It's about 6 to 8 feet wide and about 4 to 5 feet tall. We shape it by hand with pitchforks and then it all gets prepped within a day or so of getting here. Generally, it won't get

- | | |
|-----------------------------|------------|
| 4. 1963 October-November | behind |
| 5. 1964/65 December-January | behind |
| 6. 1965 October-November | not behind |
| 7. 1966 November-December | behind |
| 8. 1968 January-February | behind |

The suitability of any particular year can be determined by adding or subtracting multiples of eight years from these listed periods. For example, 1998 minus 4 x 8 = 1966; thus, just as Nov.-Dec. 1966 was a good period, so will Nov.-Dec. 1998 be a good time for making peppers to repel species of higher animal (vertebrate). The skins of these animals can be obtained in advance,⁴ but the burning must take place during this period.⁵

Notes

1. *Spiritual Foundations for the Renewal of Agriculture*

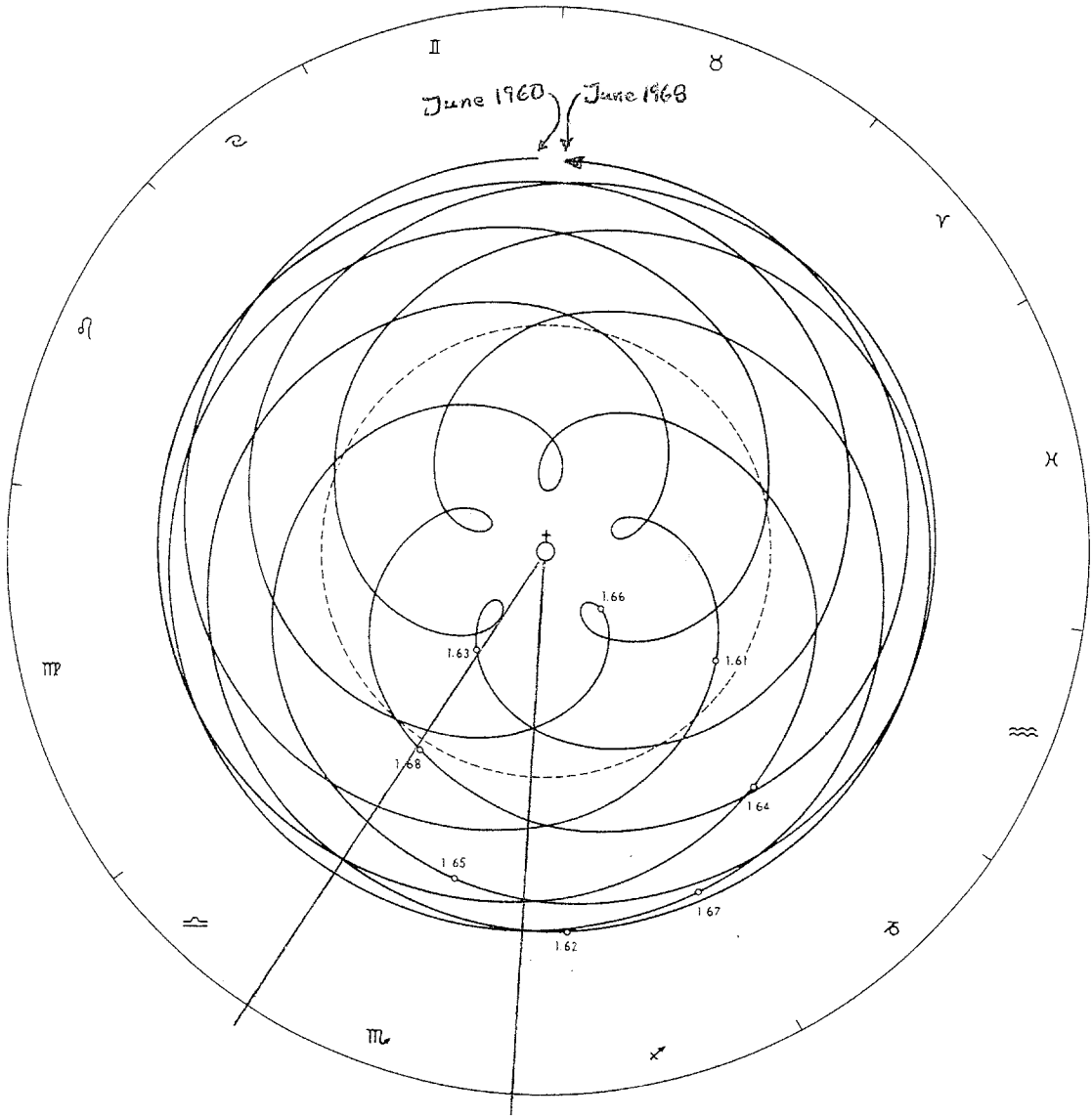


Figure 1. The geocentric Venus orbit 1960-68. Dashed line is the orbit of the Sun (Sun sphere). The directions of zodiacal constellations are shown at the outer edge; the Scorpion sector is marked. (Modified from J. Schultz, *Movement and Rhythms of the Stars*, Anthroposophic Press 1986; reprinted with permission).

- (Kimberton 1993), p. 135. Hereafter abbreviated *SFRA*.
2. *Bio-Dynamic Newsletter* [Bio-Dynamic Farming and Gardening Assoc. in New Zealand], vol. 47, no. 4, Summer 1994, pp. 23-29.
3. *SFRA*, p. 20.
4. For the lower animals Steiner says explicitly that the parts to be burned can be collected in advance and stored until the right time (*SFRA*, p. 124 & 172). Although he does not say this explicitly for the higher animals, I cannot see why it would not apply in that case too.
5. The exact dates depend on where the boundaries of the Scorpion are set. With the equal-division sidereal zodiac, Venus will be in the Scorpion from Nov. 14 to Dec. 7, 1998. With the unequal-division sidereal zodiac that is used, for example, in *Stella Natura*, the period is from Nov. 18 to Dec. 8, 1998.

FARMING ON THE BARTER SYSTEM

By Alice Petty (Horse Branch, Kentucky)

I believe in the importance of livestock on the land. We have seen poor, worn out soil be revived by the addition of farm animals and the spraying of the BD preps. Our farm had been abused for many years before we came to live here—this is tobacco and corn country, and those crops can take a lot out of the soil—so my ancestors used chemical fertilizers to feed their plants, but they didn’t realize that the soil is alive and like us needs enlivened food. The chemicals that my grandfather and father were seduced into using almost destroyed this farm. Those chemicals kill the bacteria that feed the plants, and they also weaken the plant’s life forces to the point that all we eat is the mere shadow of a plant. I feel personally responsible for the actions of my forefathers and what they did or didn’t do to the land. That’s why I feel so good when I spray the preps on the soil.

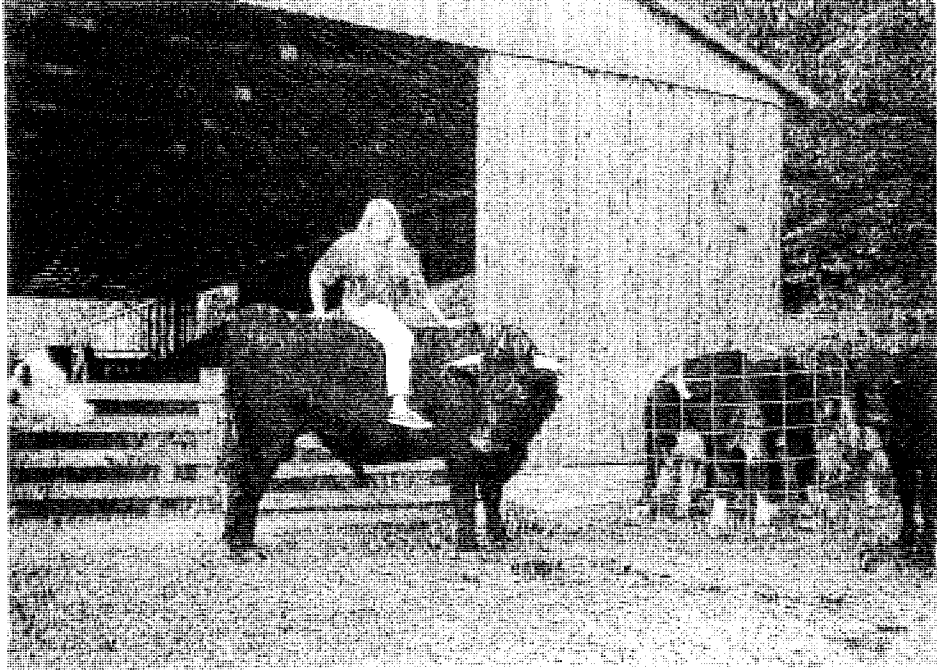
We are on the barter system with the land—we feed and heal the land, and it feeds and gives us the healing food that we need to survive. I’ve heard many stories from my great uncle about bartering and trading with neighbors—since they didn’t have money they just traded things around. We do that here, even with the animals.

Faye Ray was the first cow that I bartered rides with; she was very unique, to say the least. We bought her and three other young heifers from a friend of ours by the name of Raymond. Most of the cows have two names. All the ones we got from Raymond have the last name of Ray, as do their daughters and grand-daughters. There was Faye Ray, then Kay Ray, Gene Ray, and Messa Ray. I picked Faye out of Raymond’s herd of cows because of her personality. All the other cows ran away from us, but Faye came toward us. The others we picked because of their size and form, or because they were Angus or Hereford. But that didn’t matter when it came to Faye.

She just was special from the start. It took the other cows a while to get used to us and get to the point where they would

let us near them without running off. Faye would follow so close to us when we would walk in the fields, that if we stopped too fast, she would bump into us.

Faye loved having her back scratched. This is why she allowed me to ride her. One day while scratching her back, I convinced her that I could do a better job if I was sitting on her back. She found this to be true and from then would allow me the privilege of riding her. Sometimes she didn’t even mind if I forgot to scratch her while I was up there. I think she liked my company as much as I liked hers. It’s pretty neat to sit on the back of a cow while they are chewing their cud; they have a natural rhythm when they chew that is very soothing. I wonder about making a relaxation tape of cows and sheep chewing cud—guess I would have to edit out the belching noises though.



Our bull is very special too. He has only one name, however: Mercury. When we started looking for a bull for our girls, I mentioned to Hugh Courtney that it was time we had a bull of our own, rather than borrowing the neighbor’s. He said he had just what we needed, and we believed him, and so Corry, my husband, drove the 500 miles to Woolwine to get a BD bull for our BD

cows. We are forever grateful for Hugh’s suggestion. I’ve never seen a calmer, more content bull than Mercury. The girls can get a little high strung at times, but Mercury keeps them grounded and peaceful.

Merc, however, will let me sit on his back only if I am scratching him. He doesn’t like being host to a human, as Faye Ray did, but it is an acceptable inconvenience if it gets his back scratched. If I get wrapped up in being so high off the ground, on a 2000-pound black bull with horns, and forget to do what I’m there for, Merc lets me know that there is no such thing as a free ride! He will get fidgety and remind me that we are using the barter system and that I will get off one way or the other if I don’t hold up my end of the deal.

When he is standing out in the field, I use a tall, upturned bucket to get on him, and even with the bucket I have to jump upwards to get on. Sometimes when Mercury is laying down, I will go up and sit on his back. This way I don’t have to use my tall bucket. Cattle very rarely lie on their sides, so he always has his head up and he always seems to be watching out for his girls and for the bucket. I do believe I’ve seen him roll his eyes at me when he sees me coming with that tall white bucket. He likes seeing the short black bucket, because that means a little feed for someone or maybe fresh salt for the salt feeder. But the tall white bucket means Alice wants a ride.

Mercury is quite tall even when he is lying down and my feet still don’t touch the ground, but I feel more at ease if I’m sitting on his back when he is down, rather than when he is standing up. This is mostly because I don’t have to do as much scratching as I do when he is standing up. It’s kind of funny, but he doesn’t think I am worth getting up for! He will squirm a bit, but if he’s really comfortable he won’t make the effort to get me off. I really think he likes me being there, he just doesn’t want the other animals to know; after all, he does have an image to keep up.

He really puts up with a lot from us, but I try not to take advantage of his kindness. I always ask his permission before getting on him. That might seem silly, but there are ways that he lets me know when he does not want to be bothered by his humans. He has a strange, and let me tell you, a very scary noise that he makes when he doesn’t want to be disturbed or when his bull-hood is being threatened. The main way he shows us that he doesn’t want any human company is just by walking away. Surprisingly enough, this isn’t very often. I think it’s because of the way I ask.

When I ask his permission, I will rub him behind the

horns. Mercury’s horns are rather large and he sometimes gets hay and dirt trapped between his horns and his ears, so he appreciates it when his human friends clear away the dirt there, since it is difficult for him to get it out himself. His cow-girlfriends will groom him by licking him with their very rough tongues, but there are certain places they simply can’t reach. He very much enjoys our help because the dirt and hay really make him itch.

Sometimes, when I’m out in the fields talking to the cows and checking how they are doing, Merc will come up to me with his head down. This is a sign for me to clean the debris from behind his horns. This also very much looks like one of those scenes in the movies of Spanish bullfights where the bull is about to charge the matador. I don’t like to see those movies, for the “stuck” bulls all look just like Mercury. Also, I remember the scenes where the bull tosses the matador and other people up in the air and over the wall; these bother me a lot too, because I am out in the middle of a field with no walls to run to. Luckily, however, Mercury doesn’t believe in wasting time watching TV. He doesn’t like the violence that is on these days (and all those Big Mac and Whopper commercials give him nightmares).

Mercury and Martha Ray (Messa Ray’s daughter) are now the only ones who let me ride them. The flood we had about two years ago was pretty bad and devastating, but mostly because we lost Faye Ray. Faye had taken refuge under a tree during the storm. I think the other cows were there also, but Faye was apparently standing on a root of the tree. We could have lost the whole herd, but the bolt of lightning was only strong enough to pop some bark off the tree—and to kill our Faye. We still miss her, but we gratefully carry on the special form of bartering that she brought into our lives.

INTERVIEW WITH MARK TRELA, FRAGRANT FARMS

By Kathryn Dagostino (Afton, Virginia)

I interviewed Mark Trela, of Fragrant Farms in New Harmony, Illinois, just before the start of his busy spring growing season. A native Hoosier, he spent eight years in California, where he met Peter Dukich, who taught him about biodynamics.

Mark lives at Fragrant Farms with his wife, Becky, who ran a Waldorf-inspired pre-school in the New Harmony area in the late ‘80s through early ‘90s. They have four boys “with four temperaments—Casey (18) phlegmatic, Riley (11) choleric, Grady (8) melancholic, and Bailey (4) sanguine. At this point, none of them seems destined to an agricultural career!”

K: Tell us a little about Fragrant Farms.

M: Fragrant Farms is in its fourth season. We started November, 1994. We are specialty cut-flower growers with the capacity to use 25 acres, but we haven’t scratched the surface of that yet. We now have about 4 to 5 acres in perennial and annual beds.

The big flower for us is the Indiana State Flower, the peony. This fall we put out 5,000 transplants and now we’re up to over 6,000 plants. In the next few years they should get productive and that’s when we’ll get very, very busy.

We’re trying to move more towards perennial flowers, which include veronicas, asters, aconite, heleniums. These are flowers which weren’t all that familiar to me several years ago, but one has to learn on the run which flowers do well for