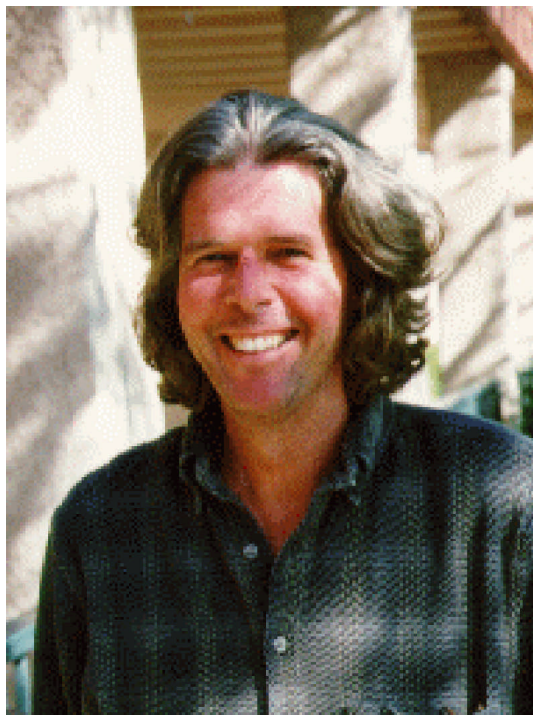


## INTERVIEW

## Balancing Resources Efficiently & Creating a Self-Sustaining System

# The Nuts and Bolts of Biodynamics



### Alan York

Alan York is the former President of the North American Bio-Dynamic Farming and Gardening Association. He is an agricultural consultant working in the premium wine grape industry in California. York is the editor of the magazine, *Biodynamics: Farming in the 21st Century*.

After attending courses at a university, he chose another direction in agriculture and found he wanted to be a practitioner of hands-on horticulture. It was then that he discovered the work of Alan Chadwick and accepted a three-year apprenticeship with him. "It was a most exciting time. It was truly outstanding. A moment where the time was right and the people were there. Alan Chadwick was such a dynamic person. All of us who worked with him got a real sense of what it meant to work together for a common goal—to build a garden that had all the splendor and magic a person could imagine."

*If you look at the studies that have been done on biodynamics, you will see that compared on the basis of profit — net profit not gross profit — biodynamic farms have superior financial performance. This is for the single reason that their inputs are much lower, so their net profit is higher.*

ACRES U.S.A. The concept called biodynamics is not very well-defined to the American people or, at least, not very well-communicated. Why is it not catching on here like it is Australia or New Zealand or Germany?

YORK. There are a number of reasons for that. One is the obvious lack of strong leadership in the United States. If you look historically at biodynamics, how much the concept is taken up runs in direct proportion to the presence of individuals who have been really dynamic and at the forefront and outspoken and synonymous with leadership in the movement. I think it is also because of the lack of financial success stories in the United States. If you look in other countries, biodynamics has been very successful. Part of that success has to do not only with an environmental and ecological success, but also an economic success.

ACRES U.S.A. Such as in Australia, where Podolinsky is advising people covering some million-and-a-half acres?

YORK. Right. Whether it is a million-and-a-half or two million, it's a large area, and there are a large number of people who have embraced it as a solid body of theory and practical knowledge.

ACRES U.S.A. What is biodynamic agriculture?

YORK. Part of the confusion that has come to surround biodynamics stems from a lack of a definition that is accessible to the public. I see it as a system of agriculture that has a strong organizational principal working with the natural resources of a particular site. The practice is organized in a fashion so that you achieve, as close as possible, a closed system of agriculture in reference to the cycles of substances. It is a completely different organizational model from the industrial model, which is characterized by taking raw materials or input from wherever you can get them, assembling them to make a product, and then exporting that product for sale. The

biodynamic organizational principle is to take the resources that you have at your site—primarily your water, minerals, the natural successions of plants that

grow—and organizing these in such a fashion that you have the maximum energy flow coming into that piece of property. What is done is extremely practical. It comes out of five universal principles that, if you look at any biodynamic farm in the whole world, you will find. First, they have a crop rotation system in place. They move crops over time so that you aren't just consistently growing the same thing over and over and over again. The second principle is the integration of animals into the system, whether your primary enterprise is animal based or horticulturally based. The appropriate integration of animals within an agricultural system is a key component of the biodynamic system.

ACRES U.S.A. Of course, it's difficult to know where to start on examining the biodynamic system. Some people are prone to think in terms of Preparation 500 and the various BD (biodynamic) preps that have been developed in the wake of the Rudolf Steiner experience and so on. Let's say a fellow has a piece of ground and it looks like adobe clay and he wants to go biodynamic. Where does he start?

YORK. The real beginnings of biodynamics come from the organizing principles and how you work with these principles. The third component is a highly defined system of recycling all organic matter, with the emphasis on manures and compost. This brings us to the fourth main principle, the use of the biodynamic preparations. The fifth principle is the conservation of all natural renewable and nonrenewable resources. So a person initially wanting to start a conversion phase would have to go back and review where they are in reference to those five principles. That would be: crop rotation, integration of animals, a system of recycling, use of the preparations, and conservation of resources. Then you can take a detailed, step-by-step plan and start to implement it according to exactly where you are and where you want

to end up. When you say biodynamic, the first thing that comes into someone's mind is the use of the preparations. This is not the first thing you address when you start to farm biodynamically. The first thing you look at is how you are organized. What are your goals? What are you trying to achieve? How is your resource base

being used? Are you fully utilizing your resource base, or is your resource base being under utilized. If you are not using the resource base that you have, you are not going to have an efficient operation. Consequently your farming costs are going to be more than they should be. A properly organized natural resource base is the most cost effective system of farming. If you look at the studies that have been done on biodynamics, you will see that compared on the basis of profit—net profit not gross profit—biodynamic farms have superior financial performance. This is for the single reason that their inputs are much lower, so their net profit is higher.

ACRES U.S.A. How much education does a person have to have to pursue biodynamic agriculture? It seems to me that there's a servant of somewhat esoteric principles, at least that's the common sense understanding.

YORK. These are always the things that are emphasized, the things that put people off, and, personally, I think this goes back to the first question of Why isn't biodynamics more widely practiced? There is a whole language that surrounds biodynamics and there's a real barrier of entry into it which I feel is unwarranted. Again, if you're farming, the emphasis should be on farming, not on esotericism. Now, if a person will pursue biodynamic agriculture as a system of farming, then the questions that will arise, the experiences that they will have in nature, will lead them to ask different questions than they would pursuing another methodology. And in that pursuit, if a person comes to the parts of biodynamics that I personally feel have a lot to offer, then a person comes to it out of their own questioning. I think the whole thing is backwards. You need to approach it from the farming, because that's the profession we are speaking of. We are talking about agriculture, farming, making our living from farming. What it can provide for you as an individual and the perspective that it can give you on how we interface with nature is a much more personal question.

ACRES U.S.A. Well, these are personal questions you've answered for yourself as a student of Alan Chadwick. How did you pursue it when you started?

YORK. Initially, and still today, my interest has been a genuine unquenchable desire to understand nature. I will pursue anything that illuminates my questions about how

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I can interface with nature in a way that is mutually beneficial to the human race and to the planet. I don't care if it is biodynamic or really what it is. If it answers questions that I have, I will pursue it. Consequently, being open minded about it, biodynamics has had more answers for me than anything else that I have pursued. I have sufficient confidence in biodynamics to feel that if people would enter it as their profession and pursue it as a sound system of farming, they would find that there is a depth and wealth of information that will get them to a place no other system will. But that is in direct proportion to what level they want to pursue their own inner questions and their relationship with the outer world. That is not something that anyone else can tell someone. You can sit with someone, tell them the most hard-found secrets, and it may mean absolutely nothing to the other person until they grapple with the questions themselves. Part of the problem that we have in biodynamics is that, in the past, there has been a regurgitation of what Rudolf Steiner said, and it hasn't come out of our own inner questions and drives that we experience in the world. We are not European peasants, and our experience is different from that of a European peasant. We have to come at biodynamics from where we are. What is it that's driving you? What is it that motivates you to get out there and do the things that have to be done, take the hits you take in agriculture, get up and go at it again?

ACRES U.S.A. You, at least had the background of being trained by Alan Chadwick.

YORK. I had the background of being trained by Alan Chadwick, but also in my pursuit of biodynamics I took up a formal training of anthroposophy so that I could penetrate the language barrier.

ACRES U.S.A. Has this been a troublesome spot with biodynamics, this language barrier, this grammar of the subject?

YORK. Absolutely. If I have to identify one problem as the biggest, it's a language problem. It's got two sides to it. One is that we are trying to discuss things that we are not very familiar with, so any language is going to be problematic in that respect. The other side of it is that there is an extremely cliquish and sectarian language which has come out of anthroposophy and is quite alien to most people.

ACRES U.S.A. What is anthroposophy?

YORK. Anthroposophy means the study of man.

ACRES U.S.A. So its basically a philosophical foundation?

YORK. Anthroposophy is basically a world view that elucidates the evolution of humanity and the planet earth simultaneously. One of the most interesting aspects of anthroposophy which engaged me in it initially—and still does—is that it views the development of the human race and the planet that we live on as parallel occurrences. In other words, the human race will not be able to evolve without the evolution of the planet that we live on. From this standpoint, one views the world with a sense of responsibility as the steward of the planet that we live on and, consequently, of the well being of humanity.

ACRES U.S.A. We see that concept being pushed for ward now in books like *The Web of Life* and even in the pronouncements of the Indian chief, Seattle. But these pronouncements that you are talking about were made way back. Can you give us a date?

YORK. Rudolf Steiner's agriculture courses were in 1924. But Steiner was talking about this much earlier than 1924. If you really objectively look at Steiner's work, it's interesting to note, historically, things that he talked about that were considered absurd. One of the most obvious right now is parts per million (ppm). When he first recommended that you apply horn manure or silica or one of the preparations and that you were applying them in ppm, do you know how absurd that was at that time? Now ppm is common practice in agriculture. People then were just howling with laughter. You can see the same thing with the integration of animals into agriculture, with the idea that the earth is a living

entity. In Western culture that was considered one of the most ridiculous thing you could possibly think.

ACRES U.S.A. Well, it was there at the time of Socrates and Aristotle, but it got dropped during the reductionist phase of the development of science. Rudolf Steiner was doing appears to us as recapturing some of the values that had been bypassed. You now translate that into the management of a single farm. That's quite a leap!

YORK. That's a big one isn't it! That is one of the interesting things about biodynamics, and that's really what I was trying to emphasize. It is difficult to know if you get your point across. But when I say a universal principle, that in and of itself is a radical idea—that something could be universally applicable while at the same time allow for endless variations for the growth of a site-specific form of agriculture.

ACRES U.S.A. But as a farmer we are dealing with a site-specific form of agriculture everyday, even though many farmers want to wander too far beyond the gate.

***The goal of biodynamics is to bring that individualness, the uniqueness of that piece of property to a point where it is recognized in the quality of the products that come out of it. Alan York***

YORK. That's right. That is exactly what we deal with. The reality of it is that it is all site specific. Every farm that we interface with and work with is different than: even the one next door to it. The goal of biodynamics is to bring that individualness, the uniqueness of that piece of property to a point where it is recognized in the quality of the products that come out of it—just as each of us as individuals are truly unique, and our uniqueness is realized in what we give to the world and how we interact with it. This is actually the analogy that Steiner uses in the agriculture course.

ACRES U.S.A. But once you start applying it to that unique piece of ground known as your farm, is there a pecking order in how you proceed?

YORK. There certainly is a pragmatic approach to it. Again, I go back to the universal principles. First of all, it depends on the enterprise you are involved in. Contrast a dairy farm in Wisconsin with biodynamic viticulture in northern California. There couldn't be two more different enterprises. Yet, at the same time, if you I look at it closely, the organizing principle is exactly the same. Each one of these enterprises will be organized around those five universal principles that I discussed earlier: crop rotation, integration of animals, recycling, use of the preparation, and conservation. That's the basis of it. Now, as a dairyman you have a set of skills that are required in your profession. And as a viticulturist, you have the skills that are required. Basically the farming enterprise in and of itself has it's own requirements. In production of woody crops—the orchard, the vineyard, those type of enterprises—the four foundational cultural practices are the management of fertility, management of water, management of vineyard or orchard floor and management of the canopy. In order to be a biodynamic viticulturist, first you have to be a viticulturist, and you need to master the skills that are required. Overlay that with the principles of biodynamic farm organization and now you have biodynamic viticulture.

ACRES U.S.A. Doesn't the biodynamic system rely to a marked degree on the level of the development of compost, compost teas, and things like that to assist in the fertilization management.

YORK. Yes. Using viticulture as an example again, look at the cornerstone of your cultural practices around the world "fertility". The word fertility is the umbrella under which fall all of the practices that we deal with in managing that resource base. So compost and the production of biodynamic compost is one component of your fertility management program. It is easy in biodynamics to get focused on certain individual compo-

nents—it can be tempting to just latch onto something. The reality of it, however, is that in order for this umbrella to be filled there must be various aspects of it. So we have the management of our natural resource base in our given soils, we have our ability to covercrop, and we have our nutrient requirements for that particular crop. One of the great things about wine grapes, and one of the reasons I think there is so much success right now in biodynamic viticulture, is that wine grapes have one of the lowest nutritional requirements of almost any of the crops we grow. They are so well-suited to this type of management that, if it is done properly, the quality sought by the higher arena of the premium wines is brought to the forefront. They are not over fertilized, they are not over watered, and they are not over farmed. This allows the true characteristics of the site and of that plant to interface and be fully realized. If we are just going for tonnage, then the quality side is overshadowed by too much fertility, too much water, too much management.

ACRES U.S.A. What kind of progress is being made in the grape industry or the grape-wine industry in cleaning it up and getting these chemicals of organic synthesis out of it?

YORK. I would say there is more progress being made in that arena of agriculture than anywhere else. Primarily because wine grapes are one of the easier crops to grow and there are no cosmetic standards for wine grapes. As soon as you eliminate this whole cosmetic thing, which plays in going into the commercial market place, you have just released one of the biggest burdens that exist on agriculture. There is considerable progress being made. A few years ago I was interviewed by the Wall Street Journal. When the article came out, I was greatly disappointed because it basically was making fun of biodynamics. After that I've been careful to emphasize what biodynamics can produce. That is the bottom line, isn't it? We are talking about a product. We can never lose track of the fact that we are producing a product. People are raving about biodynamic wine. Let that industry report on the qualitative side of biodynamics. This is where biodynamic wines are just leaps and bound ahead.

ACRES U.S.A. Isn't that the nature of what we call large scale or economy scale agriculture?

YORK. That isn't industrial farming where your primary goal is based on yields—as if that isn't the stupidest goal a person could set for themselves—yield. Just throw caution to the wind with what it costs you to get there, economically and environmentally? I think, when we have the advantage to look back on this with the perspective of time, this era of "modern agriculture" will be seen as the shortest-lived system that has ever been pursued.

ACRES U.S.A. That is usually the case when you mark on a course of pursuing one blunder after another isn't it? Would you explain for *ACRES U.S.A.* readers some of the things that they hear and are puzzled by, perhaps starting out with the preparations that are used, and with things like the stirring machine? People walk away and just shake their heads. Why should they be shaking their heads? Is it because they just don't comprehend anything about it?

YORK. Again, part of it is our inability to articulate how these things are working. The truth of it is that we know that they work—there is plenty of statistical information out there that shows that there are definite differences—but when we try to explain how they work, we find ourselves in untreated territory. It is one of those kind of things where we feel like we are obligated to try to explain things that we don't understand instead of being comfortable enough with it to say we don't really know how these things work. It is only human beings who are so arrogant to think that they need to know everything that there is to know. As time goes by, if we pursue it, we will find the answers we don't have today.

ACRES U.S.A. Don't we have something akin to Einstein having a brainpan capable of conceptualizing what he was able to conceptualize? And isn't this what Steiner did when he reached out and was able to conceptualize things we still can't understand?

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YORK. I don't think there was any question about that. Just as I was saying, part of it is us being comfortable working with the unknown. That is always scary for people.

ACRES U.S.A. Its scary for people, but from a practical point of view isn't it true that most farmers are working with what they don't really understand?

YORK. That's the absurdity of the uncomfortableness with it. If you look at this from a rational point of view, no one has ever seen the wind, have they? All they see is the effect of the wind. No one has ever seen electricity, have they? What do they see? They see the effects of electricity. To a large degree this is what we are working with in these preparations. We don't see this stuff. It is unknown to us. What we see are the effects of it. Our understanding of nature is so embryonic that perhaps if we really did understand it, we still wouldn't be able to fully explain it. The real point is that I don't know one single person who has ever seriously pursued the use of biodynamic preparations who has ever quit using them. That is not to say that people out of curiosity haven't dabble in them. When you seriously engage yourself in the use of biodynamic preparations as a practical farmer, you walk on your field and can feel under your feet that the soil is more buoyant than it was, that plants are growing better, that you are having fewer insect problems, fewer disease problems; there is your proof. Anyone who has seriously pursued this, they don't stop. They move forward. And the fact that they can't explain it in terms that are acceptable to the scientific community today has never stopped any practical person from doing things that work.

ACRES U.S.A. Especially in view of the fact that the scientific community has proposed some rather absurd procedures. The physicists spend their energies learning how to blow up more people. The chemists poison the world . . .

YORK. Actually that is a really good point. Look at nuclear energy or atomic energy, look at the incredibly small quantities that you are dealing with and how powerful they are.

ACRES U.S.A. That's correct. If you go into chemistry, they are now putting out stuff in terms of grams per acre rather than pound per acre.

YORK. Again, the key is seriously pursuing the use of the biodynamic preparation and coming at it with an open mind. When I say an open mind, I am not saying that you believe any of it, but that you allow yourself to go through the whole thinking of it—how the preparations are made, what they are exposed to. You can see the way in which they are made, the rhythms they are exposed to, and the way in which they are applied based upon the natural rhythms of the seasons and the development of the plant. The whole thing makes complete sense, if, that is, you look at it from the point of view of nature.

ACRES U.S.A. Alan, you've read, I presume, Hugh Lovell's book on biodynamics? Are his descriptions of preparations adequate and correct in your opinion?

YORK. That is a good question. I would certainly say, that if I had to answer simply yes or no, I would say yes. Hugh Lovell is a very smart and talented man. He thinks things through. Again, each person has to pursue this system with an open mind, and he is a good example of this. He has come up with his own experiences and interpretations of experiences. As one of the better references for the nature of forces in agriculture, I think he has done as good a job of elucidating that as anyone has.

ACRES U.S.A. Would it be correct to propose his work as a good primer entry for someone who wants to learn about biodynamic agriculture?

YORK. It certainly is one the books you should pursue. There is a lot of great value in his book.

ACRES U.S.A. What is the correct way, or the best way to pursue becoming literate about biodynamic agriculture; reading, contacting your organization, working with someone who is actually doing it?

YORK. Again, it would depend on what your goal is.

As an individual grower, depending upon your case, there are many different avenues you could take. You could pursue it on all levels. You should pursue it as a study of interest for yourself as a person. You should contact people that are practicing it. For example, let's say that you are a grape grower interested in biodynamics, the best thing to do would be to find out who the biodynamic grape growers are and go and visit them so that you can see the biodynamic vineyards.

ACRES U.S.A. How can this be done?

YORK. By contacting the Bio-Dynamic Farming and Gardening Association at 1-610-935-7797 and finding out who the growers are. They have a resource base of who grows what crop, and they have contact people for different areas of the country. Whether a person is interested in pursuing dairy farming or viticulture or orcharding or vegetable production or pastoral farming—whatever—you could contact them and find out who the people are that are practicing it. Contact those people and try to set up an appointment to go and visit them. Meet the people that are doing it. Walk their farms and collect your own impressions. Simultaneously, read as much as you can. Then there are various conferences. If you are a professional and you need assistance, there are consultants. It really depends on what level a person wants to pursue it.

ACRES U.S.A. We have mentioned Alan Chadwick before. His was a unique epic in the story of ecologically correct production and growing. Is there anyone around who is doing something similar to what he was doing?

YORK. He did a unique thing of vast historical significance. He brought a sense of high quality to horticulture. Many of us who worked with Alan have taken that which we learned from him and tried to take it out on a commercial scale. The one death nail to what he did was that the commercial significance of it was not there. Anything that is not commercially viable will not stand the test of time. Most of us who worked with Alan have pursued that vision of horticulture we were lucky enough to experience with him, but we take it to a commercial scale.

ACRES U.S.A. you haven't been able to take it to a new plateau?

YORK. that is what we are working on. My own personal involvement in it is in an area I call garden quality farming — an arena of agriculture that I am practicing with my clients. I have a number of clients who are very representative of the next step.

ACRES U.S.A. But the lessons of nature were three. that's the important thing, is it not?

YORK. Most definitely.

ACRES U.S.A. How do you feel that biodynamics can live side by side with academia?

YORK. As funny as it sounds, I really don't see that big of a conflict. Biodynamics is a highly disciplined system of growing in the sense that it is, disciplined and pragmatic, and is actually as close to a scientific arena as any other form of agriculture. Science is supposed to be open minded.

ACRES U.S.A. But of all the disciplines involve, what we call ecologically correct agriculture, biodynamics probably draws the loudest howls of derision from the academic community, does it not?

YORK. Only the ones that have something to fear from it. On the other side of it, biodynamics has more academic accreditation than any other form of alternative agriculture. There have been more studies on it. There was an article in Science magazine comparing biodynamic agriculture to conventional agriculture. That is the pinnacle of their world. This was pursued by a biosoil scientist at Washington State University, John P. Reganold.

ACRES U.S.A. Would you mind restating that?

YORK. There are two sides to the coin. The one side

is that as practitioners we need to become much more professional in our profession. We need to become masters of our profession. The other side of it is that, in the biodynamic community, we need to address the dogma that has developed over the 70-plus years biodynamics has been practiced. Our community needs to open its arms and not be afraid of the world and not operate out of fear that we can't answer some of the questions that we will be asked. We must have the confidence that the soundness of our system of farming is sufficient to stand on its own. I believe that if the biodynamic community worldwide would open its arms and drop the sectarianism that has developed, we would all benefit and we would all make much more progress than we presently are. I think that the ball is in our court. Increasingly, the world is asking the biodynamic community questions because it has seen, over this period of time, the contributions biodynamics has made. But we as the practitioners are the weak link in it at this point and time. I think it is our responsibility.

ACRES U.S.A. Do you think that some part of this semantics. For instance, in German, a peasant is merely a word for a farmer. In the United States, it's sort of term for someone who is downtrodden, has no political clout, and is sort of a down-and-outer.

YORK. There is unquestionably a problem with perception and images of what biodynamic farmers are. I think that is one of the reasons for the seeming lack of biodynamic enterprises. To get people to emulate anything they have to be shown a degree of success and an element of pride that a person takes in what they do. For a new generation to be able to simultaneously make a decent living and pursue a profession that they feel is synonymous with how they want to live on this planet is an exceptional opportunity. Biodynamics provides a vehicle for that. On the other hand, if all you see are people who are working themselves to the bone and not achieving anything, much less any recognition in society for their efforts, who would want to emulate that?

ACRES U.S.A. Nobody wants to be a subsistence farmer. Matter of fact, most of the subsistence farmers, because its been available to them in the United States, have traded in subsistence farming for subsistence welfare.

YORK. That's right. You know I never, never thought that I would make a statement of the nature that I am about to make. But, as time goes on, I have actually begun to appreciate these larger farming enterprises — whether they are families or corporations—that are embracing this whole ecological movement. They're the enterprises that are able to span time. Their enterprises are organized in a way which may allow them to continue for generation after generation. If biodynamics can bring something forward and offer practical sound solutions to their land management problems, to their interfacing in the world in a positive way, than that is one of the greatest things we could contribute to the world that we live in.

ACRES U.S.A. Well, it is certainly not possible to take and clean up the food supply unless we penetrate the world of the mainline farm.

YORK. That is very true. I am absolutely convinced that biodynamics can be a part of that. It may be that they cannot embrace biodynamics 100%, but that doesn't mean that there isn't a lot of benefit available—benefit not only to the farming enterprises, but to the world that we live in.

The national headquarters for the **Bio-Dynamic Farming & Gardening Assoc.** is located in Kimberton, PA, PO. Box 550, 19442. They can be contacted by phone at (610) 935-7797, or fax (610) 983-3196. Hugh Lovell's book, *A Biodynamic Farm*, is available for \$15.00 (\$1.50 U.S. shipping and handling, \$3.00 international) from ACRES U.S.A., PO. Box 8800, Metairie, Louisiana 70011, phone (504) 889-2100, fax (504) 889-2777, or order tollfree (U.S. and Canada) 1-800-355-5313.