

PRACTICAL NUTRIENT MANAGEMENT AND ITS IMPLICATION FOR NEARLY EVERYTHING
Presentation to TESC Soils Class
on March 4, 2004

by Gary L. Kline

Thank you for inviting me. I want to tell you that you are very fortunate to have these two very sharp instructors (Martha and Mike). I know that you are being taught a lot of sophisticated information and ideas on all aspects of agriculture. So I feel a bit out of my league being here. However, I have perhaps a different slant on soils and farming or gardening that hopefully will give you some new insights. I plan to allow some time for questions and for you to pick apart my points. [Editorial Note: the audience questions and their answers were not recorded and are not included here.]

I'd like to begin with some questions to find out who I'm dealing with:

1. How many of you have had high school chemistry?
2. How many have gardened organically?
3. How many plan to become farmers or work on a farm?
4. How many of you have heard of:
 - a. Justus von Liebig
 - b. Albert Howard
 - c. J.I. Rodale
 - d. Francis Moore Lappe
 - e. Francis Pottenger
 - f. Weston Price
 - g. William Albrecht
 - h. Neal Kinsey

If you happened to read a copy of the speech I gave back in January, you are familiar with these names.

5. How many of you are vegetarians or vegans?
6. How many are unashamed carnivores or omnivores?

I'm supposed to talk about Practical Nutrient Management, and I'm going to take a stab at that. However, I want to digress for a few minutes for a commercial message that may seem like its getting off the subject, but really is right on the point of the peculiar perspective I want to put across.

Let me ask a series of questions and, when I'm done, call for a show of hands.

1. How many of you would favor or like to: bring down the greedy multi-national corporations?
2. Restructure the American and World economies in a way that automatically raises the lower class, lowers the upper class and leaves the middle class better off financially?
3. Greatly reduce malnutrition, degenerative diseases like cancer, diabetes and heart disease; improve the fitness of people generally; and curb the runaway cost of medical care with its over reliance on drugs and surgery?
4. Bring back the medium and small size family and collective farms? Small is beautiful. [Added note: Big is usually ugly.]
5. Reverse the degradation of our agricultural soils, and the pollution of our air and water by pesticides and other toxins?
6. Reduce the waste of fuels in needless transport of food over great distances?
7. Reduce the generation of packaging, solid wastes and roadside littering?
8. Reduce psychological illness, pathological behavior, crime, and conflicts over land and resources that spawn wars?

How many would favor those measures? All those opposed? [Editor's note: a majority favored the measures.]

Well, I have a plan. It's brilliant! It does not require revolution, protests or strikes. Yet it's irresistible and unstoppable because no one (except vested economic interests) can really be against it. Initially though, everyone will throw stones at me.

My plan calls for a polite war of education, persuasion, and personal example. My hope is that I can enlist all of you as soldiers in this battle for sanity and serenity. Actually, you are already in the vanguard of a growing movement that will change the world for the better, provided we don't slip up. There is a real danger of that and I will tell you what we need to do to avoid it. It has a lot to do with Practical Nutrient Management.

I have a simple, secret weapon that can do all this. It's called food. Not just any food, but nutritious food. Real food is a powerful, magical force for global change. We have to start at the top with the recognition and realization of what true nutrition is and its supreme role in the entire pyramid of life. From there we work backward to how we achieve true nutrition in ourselves, our food and our diet and in the soils we farm or grow livestock and garden crops on. Having quality nutrition in mind as our goal, we work backwards to correct methods of growing; the materials to be used; and particulars of soil characteristics and nutrient or fertility management.

First of all however, we need to distinguish between real nutrition and false nutrition; between real food and phony food. Then we have to direct our farming and gardening toward the all-important goal of finding ways to make real nutrition available to all- - - and that will turn the world around. It will accomplish miracles like nothing else can.

Here's the strategy. It's easy because it's in everyone's self-interest. All we have to do is get everyone to understand what real nutrition is, how crucially important it is to their lives, their health and prosperity. Then all we have to do is teach and encourage people to become farmers or to grow their own food (including meat, fish, dairy, and eggs as well as fruits and vegetables) in mineralized, organic-treated soils. If they can't grow it, then they need to buy it locally at farmers' markets, CSAs, food cooperatives and so on.

If we all did that, the giant corporations would have little to sell us and no markets. The pharmaceutical and insurance industries would have far fewer buyers and the doctors and hospitals far fewer patients because real food is your best medicine. All we have to do is convert everyone else by showing them what to do in their own best interest; namely, how to grow or obtain and prepare highly nutritious food to achieve excellent health. Without health, you don't have much. We are urged to think globally and act locally. Well, you can't get more local than growing your food in your backyard. If we all did that, it would be the single-most practical and effective action we could take to improve our physical and mental health and reduce our impact on the earth and its natural resources. And it doesn't take that much land to grow enough food for a person or a family, given the right knowledge and practical nutrient management.

Consider that: 1) nearly half the U.S. economy revolves around agriculture; food (including false food), it's processing, transport and marketing.
2) Everybody needs food, everyday.
3) Two-thirds of sickness in this country is diet-related. So said the Surgeon General several years ago. [Added note: Eighty percent is now degenerative diseases.]
4) So-called medical care is one of the largest budget items of the U.S. budget and the most rapidly rising expense of modern living. At the same time, people are turning away from conventional medicine, drugs and routine surgery and looking for alternatives.

Organic foods and products is one of the most rapidly growing sectors of the U.S. (and world?) economy. People are worried. They see what's going on all around them and what is happening to their food supply. They are searching for clean, wholesome food and correct nutrition, although they are confused about what

foods are healthy and which are not. They are coming over to organic food and organic growing in droves. This is unquestionably the wave of the future and the big corporations are trying to move into it and hijack it; whereupon they invariably try to slip back their fakery.

But my worry and my question is this: Is organics really the answer? Have we got it down, or might organic growers be making some mistakes that could cause all this to crumble and fail to deliver on its promise? If organic growers are not focused on quality nutrition, it will fail! Much organic food is nutritionally inferior because of grower ignorance. There are pitfalls in organic growing as it has commonly been practiced. It is not enough for food to be free of pesticides and toxins (which is most people's understanding of organics). It must also be highly nutritious. You should be at least as concerned about the nutritional content of food and crops as about chemical contaminants and toxins put on them. Probably more sickness and ill health in this country is due to improper nutrition than to pollution. Furthermore, probably most of the people who think they are eating healthy are setting themselves up for malnutrition and degenerative diseases of one form or another.

You cannot increase the nutritional content of food crops by using pesticides; nor by withholding them. But you can greatly reduce pest and disease damage and the keeping quality of crops by increasing the nutritional quality and strengthening their resistance. This also improves their taste. Better taste, fewer pests, no pesticides, and superior nutrition - - isn't that what we are seeking in our food? So where do we begin this polite war? We begin by correcting nutritional misinformation. Here is where I'm going to make you angry. That's okay; its part of your catharsis.

Sugar, white flour, soybeans, fruit juices in excess, and vegetable oils (with a few exceptions) are bad for you! They are unhealthy. Whole grains and cereals are bad for you, unless specially prepared; as are nuts. Nearly all commercially processed and packaged foods and convenience foods are bad for you.

Butter, eggs, raw milk, cheese, animal fats and meats (unless contaminated or improperly raised) are actually good for you. Indeed they are mandatory for health! The anti-fats (animal fats) campaign of the so-called Center for Concerned Scientists is wrong. There has been and continues to be a massive food conspiracy in this country and going around the world.

How do I know this? The Bible tells me so. No, not the Christian Bible. The nutrition bible tells me. There is an old testament and a new testament, which I just recently discovered and just finished reading. [Hold them up] I have brought copies of a flier about the new testament (Nourishing Traditions) that tells what to eat and not eat. I dare you to take a copy and read it. It may save your life and I'm convinced it is the most valuable tool we have for saving the earth, because we can all act on it and get everyone else to do it. It has implications for nearly everything!

Here's the commercial message. We now have (and sell) Nourishing Traditions at Black Lake Organic. We also sell over 100 kinds of natural and organic fertilizers at BLO. Think of what it would do to the giant corporations if we gave up bad foods, false foods and processed foods and grew all our own food or purchased it from local farms and markets.

Think of what it would do to the giant pharmaceutical companies and the medical establishment if Real food became our main medicine. Think of what it would do for organic farming. What if we were to all get well and healthy and stay that way? It would be a disaster for corporate America and Wall Street. This is the non-violent way for us to take back our country.

Think of what this would do to giant agricultural chemical and pesticide companies if no one really needed their products. Think of what it would do for your local organic gardening store and nursery. Unfortunately, we at BLO depend on big companies for most of the necessary products we sell. In nearly all cases, nutritious crops require importing fertilizers because you can't totally rely on locally available inputs. I'll explain later.

Okay, onto Practical Nutrient Management, which is probably the most important aspect of proper soil management in farming and gardening. What I've done to get the ball rolling is come up with Ten Commandments of Fertility Management. Rather than telling you what to do, this is a list of Thou Shalt Nots.

1. Do Not Rely on Nature to grow your crops. Nature knows and does best for nature's purpose. But farming and gardening are unnatural. While we want to study and emulate nature and farm in harmony with nature, if we let nature do its thing we will get inferior crops. [Editorial note: we are no longer hunter-gatherers and that option is essentially gone.]
2. Do Not Rely on Manure (except maybe chicken) for a complete fertilizer and balanced nutrition. [Story of Yelm farmer who spread manure then put the hay on crops.]
3. Do Not Pile On Organic Matter under a mistaken notion that the more the better for soil building. [Story of Steve Solomon and lost teeth.]
4. Do Not Assume Fertility is present. If you are serious about growing quality, nutritious crops, a professional soil test is mandatory in order to arrive at the ABCs of proper fertilization (nutrient management). [adequate amount, balanced, and complete nutrients.]
5. Do Not Skimp on Fertilization. It is penny-wise and pound foolish not to apply the needed nutrients. You will get it back many times over.
6. Do Not Rely on Crop Rotation and Cover Cropping to improve or maintain fertility. Cover cropping only works where essential nutrients are in place to do any good. First get the required minerals in the soil.
7. Do Not Spread Wood Ashes on gardens due to the low potassium and high calcium content (unbalanced), plus salinity. [Editor's comment: I need to re-examine wood ashes and effects.]
8. Do Not Grow for High Yields. Instead, grow for high nutrition. This is crucial to the plan!
9. Do Not Obsess on pH. Lime carefully with high calcium lime and avoid dolomite (some exceptions). [Effect on soil tightness; calcium loosens and magnesium tightens soils.]
10. Do Not Attempt to Live on a Vegetarian Diet. Animals are needed in mixed farming. Animal products are good for you. [Refer to Nourishing Traditions and its documentations.]

The principle reason we eat, after all, is nutrition. You may not think so, and you may not know it, but all the rest of life (up and down the Biological Pyramid) knows it instinctively. (Example of lions after making kills. Note: Lions would not reproduce or thrive in zoos until it was realized they required the organs and entrails previously withheld from them.) When we fully understand what it takes to be healthy and how to manage soil nutrients (ABCs) and we realize that having robust health will put everything right with ourselves and whole nations, then will we straighten out the mess that has been made of the world and planet and most of the people living on it. War and greed come largely out of ignorance and out of fear of famine or becoming financially destitute.

Correct nutrition is where we begin our understanding and that leads to restoration of soil fertility upon which rests the salvation of humanity and the planet. There will be much resistance and opposition and face saving to these ideas and needed changes. All of us need to have the fortitude to face and accept the truth about correct nutrition and the necessary changes required in the interest of public betterment and of human posterity, as well as the restoration of earth as the paradise it once was. Bon appetite!

Addendum to TESC Soils Class Presentation

[Editor's notes: The following points and messages did not get into the March 4, 2004 presentation, but arose out of further reflection upon the topic of nutrient management for farms and gardens, as well as its effects on human nutrition and health.]

Nutrition begins in the soil. Proper nutrition management means proper fertilization for the soils, or bringing all the nutrients up to adequate levels and in balance with one another according to crop requirements for macro

and micro nutrients. Beyond that, a full or complete array of the trace elements that plants don't necessarily need, but which are essential to human health, must be in the soil so we humans can get them through the food chain. About 18 elements are known to be required by plants and about 27 are required by humans. Probably both numbers will continue to go up.

Exploitation farming, lop-sided chemical fertilization and pesticide poisoning have left most of our agricultural soils nutrient and mineral depleted, degraded, and biologically exhausted. Most of them are deplorably low in organic matter and soil life. At the same time, organically farmed and gardened soils with their over-emphasis on organic matter additions and general neglect of mineral replacement or augmentation are not a whole lot better off in the nutritional content category for the crops produced. They too suffer from nutrient removal and usually inadequate restoration of complete and balanced fertility. [Editor's note: This point needs further investigation. How does organic food actually stack up with chemically grown food in the whole gamut of human nutrients?]

There is nothing automatic about soil fertility. It might reasonably be said that most soils today are depleted or insufficiently fertile for production of nutritious crops and healthy livestock. Some soils start out that way and are just naturally mineral poor for producing crops of the nutritional quality and completeness required for optimal human health and development. Other soils started out highly fertile but are now depleted and degraded.

It is a fantasy to suggest that these natural and man-induced deficiencies are compensated for by the diversity and mixture of available foods imported from many regions of the country and world. Furthermore, it borders on criminal irresponsibility to suggest that because of this we need not worry about our nutritional health or address the soil depletion issue locally and nationally. If that were so, then we could proclaim that we truly are a healthy nation, which is an absurd fiction. Ask the Surgeon General.

Food in America is cheap. Too cheap. Actually it is very expensive when you look at how little we get out of it nutritionally. Too many Americans go for the lowest cost item rather than quality. But the reality is, if you don't pay now for high quality, uncontaminated, nutrition-dense food and eat a truly healthy diet, you pay far more later in medical bills. What we Americans think we are saving in food bills is outweighed in medical bills, whether paid out of pocket or through taxes and insurance. So-called health care costs in America now are at one trillion dollars and climbing annually. We have brought the HMO's and exorbitant drug costs down upon ourselves; which is not to say drugs are the answer to our situation and maladies. If we are too short-sighted and cheap to pay farmers to grow quality, nutritious crops, then we will (and do) get what we bargained for; and it's no bargain. Penny wise was never more pound foolish.

Good food and proper diet is preventive medication. It saves you thousands of dollars (not to mention the pain and agony) that otherwise are eventually suffered in hospitalization and medical bills. Real food is far superior to supplements and synthetic vitamins; which, when you think about it, are really only necessary because of nutritionally lacking foods and improper diet. We have to give farmers information and incentives to grow nutritious food, both animal and plant. Both need minerals.

[Editor's note: You can find more discussion along these lines in the text of an Earth Day panel discussion on Soil Fertility and Human Nutrition held April 25, 2004 at The Evergreen State College.]
[The text of the panel discussion can be found at...]

There is no clear evidence that organic food, as conventionally grown and without appropriate mineral augmentation, is saving us from the frightening health decline being experienced in this country; whereas, I believe, that switching to the dietary regime implied in Nourishing Traditions by and large can reverse that trend and lead us back to being a healthy nation and healthier world. However, even the co-authors of that incredible book have largely missed the mineral message, which I will be commenting on in a future article.

For conventional agriculture and for organiculture, the vital, missing message is minerals. It is the message and the legacy of Dr. William Albrecht and colleagues. It takes a professional soil test to know which minerals and by how much they are deficient or missing; but nearly all soils are lacking in nutrient minerals. In some cases they have excesses of some minerals and it is very helpful to know those specifics. There is a reason that Black Lake Organic sells over 100 kinds of organic and natural fertilizers. The real needs of the great diversity of soils in our region can not be properly met by one magical, out-of-the-box, “all-purpose” fertilizer. Professional soil testing is needed to match a given soil with its particular and specific fertilization needs. For your sake, our sake and everyone’s sake, spread the Mineral Augmented Organic Message.

GK