

# Getting The Dirt On Good Soil

## Building healthy soils is the foundation for pest prevention

by Hendrikus Schraven

Over the past three decades, Hendrikus Schraven has mastered the way to nurture organic, living fertilizers and soils and their vital microorganisms. From those soils, he has created compost teas that can regenerate life on spent and poisoned landscapes and repair stripped hillsides whose landslides create immeasurable losses.

Hendrikus has come a long way. He grew up on an organic farm in Holland and carried with him an ingrained understanding about the necessity to maintain nature's balance. In 1972, he and his partners created a landscaping construction and design company and when he could not find organic soils on the market, he took to concocting them in his garage in Seattle, WA. Today he has three companies under The Hendrikus Group, that together offer solutions to one of society's most pressing environmental challenges – land management. His techniques have been employed in some 60 countries and in the U.S. by homeowners, farmers, states and municipalities. Hendrikus swears that if people would just pay attention and learn from the earth, "We can eliminate by 90% all the chemicals used on this planet tomorrow!" Below are excerpts from a talk Hendrikus gave about his approach and technologies at Beyond Pesticides' 21<sup>st</sup> National Pesticide Forum – *Toxics in the Age of Globalization* last April for a workshop titled, *Global Ecology and The New Age of Solutions*. —S.H.

If you have to wear gloves, glasses and a mask to make things grow, something is just simply wrong. We have been brainwashed. The majority of the population has become comfortably numb. They see these ads and they never question. And their kids are going to play right there?



Homeowner applies liquid compost, or compost tea, to backyard foliage.

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**“If you have a healthy system, you don’t get diseases. And if you don’t get diseases then you don’t need the pesticides and herbicides to control them. Start with the solution.”**

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### The evolution of soil and invasive plants

Seattle has a lot of slopes. We've had a lot of landslides in the Northwest, all the way from Cancún to British Columbia. And it will keep happening as the weather patterns keep changing and we create more run off because we create more hard surfaces. When landslides happen, that soil goes all the way back to where it was when the ice age occurred.

This is how evolution works. The ice age came by, then retreated, and so you have soils that are so compacted it's unbelievable. Billions of tons of ice crushing and compacting the soils. The only thing that can grow in a little crack is a weed. Eventually it dies and that little area becomes slightly organic matter. And this happens again and again until that little area of organic matter becomes large enough for another specie to thrive because that plant has done its job. That's the evolutionary state of this planet. Finally you get trees like cottonweeds and alders, that grow fast, die fast and in that process create what's called nitrogen – a very needed form of food for most of the plants

on this planet. That's how nature repairs its own wounds.

Now what happens when the highway departments do their cuts for the roads or create what's called the ice age? Then you see a lot of hydro seeding. That's where they blow grass [on the slope] and the majority of it fails. What do you get next? Noxious weeds. That's nature's way of dealing. If you're getting noxious weeds, basically your soil is bad. So all these chemicals are developed to fight all the diseases that originate because we have a bad practice to begin with.

What happens on a slope when all of a sudden it's a straight drop, with no plant growth on it? Rains come and everything washes down – it's all sedimentation. Keep that in mind for a minute. Then if you try to hydro seed something like that, those seeds say, "You must be kidding me! I can't grow on this crap." Half of it slides down [the slope] and the other half is treated with chemicals because of all the noxious weeds. So what do you think happens in that sedimentation? Oxidants. Loads of them. Where do they go? Right down to the streams, lakes, and right into the oceans.

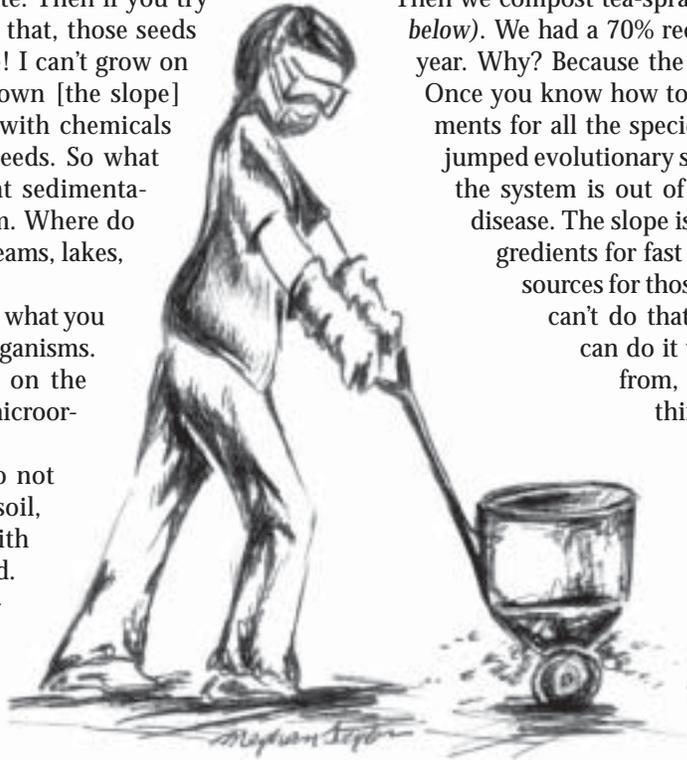
If you took a handful of soil, what you have is a few billion microorganisms. Now if you take all the soil on the planet, you know how many microorganisms you have? A lot!

This is your life. If you do not have microorganisms in your soil, they can't provide the plant with minerals you need in your food. Why do you think you're buying mineral supplements? Because they're not in your food. Because your food is grown chemically. And chemically is just like you and me drinking a cup of coffee. If you feed a plant chemicals, it just absorbs those chemicals. It doesn't know the difference, it just wants food. You and me, we're tired so we drink a cup of coffee. And then we're temporarily not tired anymore; we've fooled our system. But what happens if you kept that up, if that's all you lived on? Your immune system is going to break down. You get disease and sickness. See, we function exactly the same as this world.

## New air replacement technology

So you have a huge landslide. I developed a way of blowing the soil back on the hill. We put the layer of soil back on those slopes, with 100% organic mineral, no chemicals, and it stays on the slopes. Rain can pour down and it won't slide or run. And you have an inoculator for life. We do in one day what it would take nature thousands and thousands of years to do. Obviously we never have to use chemicals because it's already a healthy system.

In Seattle, they were blasting herbicides for noxious weeds on both sides of a dam four times a year. And it goes right into the drinking water. They said, 'Oh god we really don't want to do that, what are we going to do?' They said they couldn't



afford this, couldn't afford that – because you know governments, they can't afford anything except bombs. We actually grew compost on the entire area, a layer about an inch thick.

Then we compost tea-sprayed it (see *compost tea discussion below*). We had a 70% reduction in noxious weeds in one year. Why? Because the weeds weren't needed anymore. Once you know how to provide nature with the supplements for all the species to take hold of, you have just jumped evolutionary stages by leaps and bounds. When the system is out of whack, out of balance, you get disease. The slope is now bio-stable – it has all the ingredients for fast root expansion and life and food sources for those microorganisms to survive. You can't do that everywhere. But hopefully you can do it where our drinking water comes from, and our lakes, rivers and everything else.

What do you do on these slopes in cities with development? You educate them about the right installation so that pesticides never have to be used. I've done this for 30 years, and proven that it functions well and is cheaper than anything else.

## Compost tea

Let's move on to microbial inoculation. So we got into compost tea. A good compost means that the process has gone through a microbial process. That's the reason compost gets hot. If I told you all to get up and start running inside this room, for half an hour, the temperature is going to rise in this room. Same thing happens in the compost. All those microbes are working overtime, and it gets hot in there. You stick your hands in there, and you can almost burn yourself. It's anywhere between 132-165 degrees. Then you need to turn it because oxygen is needed. You turn your compost pile, and the process starts again. Do it four, five sometimes six times and all of a sudden your compost is done. You

have all these beneficial guys that are supposed to be in a healthy system living in there. Then you take that compost, put it in a brewer, and you brew tea.

It's safe and non-toxic to animals, you can spray it and you don't have to wear gloves or a mask. It's non-toxic to beneficial insects and soil and safe for our salmon lakes and streams. And it's safe for our food. We can spray it on our food

and farmlands. Lots of Washington farmers have gotten huge brewers and basically hooked it up to their irrigation system, just like they used to do with chemicals.

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**Albert Einstein said, "You can't solve a problem in the same state of thinking you were in when you created it."**

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Hendrikus Organics, my company, offers a whole program. We set it up and we do hundreds and hundreds of tests and guarantee that the system we sell works. That's our answer to the problem. You have all sorts of diseases depending on the soil and climate, but 80-90% of those diseases would never occur if the process was right. That other 10% can easily be dealt with in an environmentally safe way. We use 70% less water with this type of technology. There's less disease, no pesticides, and of course, the soil is more durable.

People have to get out of the rut of looking at a particular thing the same way. We have to get into a different dimension. Nature tells us so many things. As kids we'd watch swallows – if they flew low we were going to get rain, if the swallows flew



*Rich soil contributes to plant health and eliminates the need for pesticides.*

high we knew we'd have sunny weather. How do the birds know that? Well it's all common sense. If you have high pressure or low pressure, the birds are either going to fly low to pick up the insects, or the insects are going to be higher up in the air and the birds then fly high. The birds and insects are never wrong. The weatherman is, but the birds are not. So once we start listening a little more to nature, it starts to tell us things.

*Hendrikus Organics and The Hendrikus Group can be contacted at 1-888-828-9977 or by internet at <http://www.hendrikusorganics.com>. Hendrikus Organics sells organic fertilizers, soil amendments and compost teas as well as brewers, soil installations, landscaping, and other services.*

### **What is compost?**

Compost is a mixture of decaying, or decomposing, vegetation and manure, which is then used as fertilizer. The compost heap in your garden, made from grass clippings, leaves, egg shells, potato peels and other common vegetation, is an intensified version of nature's rebuilding process.

### **What is compost tea?**

Compost tea is an aerobically brewed liquid extract made from compost. Compost tea contains beneficial microorganisms and nutrients essential for plant and soil health.

### **What is the difference between compost and compost tea?**

Compost is a solid. Compost tea is a liquid and contains a higher concentration of microbes. Whereas compost will not cling to leaves, compost tea can be applied to leaves, twigs, bark and soil using a pump spray device or sprinkler. Both are very important tools.

### **What are the benefits?**

Benefits include improved soil structure, retention of nutrients, cycling of nutrients into plant available forms, and reduced plant stress. Disease organisms may be displaced by the normal set of soil or foliar organisms in the tea leading to healthier plants, improved growth and soil. It is non-toxic and safe to family and pets. Compost tea breaks down compacted soils with repeated use, letting

roots grow into the soil more easily, find more nutrients, and aerate the soil so conditions do not attract diseases or allow toxic metabolites of anaerobic organisms to build up. It puts the micro-biology back into the soil that has been removed from over-development and chemical application practices.

### **Why are microbes important?**

Bacteria and fungi retain nutrients in the soil. Protozoa and nematodes make nutrients available to plants and turf; both groups also aid in blocking plant surfaces so non-beneficial organisms cannot gain access, and in consuming potential disease-causing organisms. Given the proper foods, and habitats in the soil, beneficial microorganisms outcompete non-beneficial microorganisms. All four groups of organisms play critical roles in building soil structure, maintaining aeration, and increasing water retention. Colonies of beneficial microorganisms will continue to live in soil as long as they are provided good conditions and organic food sources. Contaminants such as pesticides, herbicides, and air pollutants impact microbe lifespan and kill the normal set of organisms on leaf surfaces.

### **Will compost tea solve all my gardening /plant problems?**

Compost tea is not a "silver bullet" for the problems in your yard. Other practices, such as organic fertilizing, soil amending, mulching, and aeration are also important to build and sustain a healthy garden. The soil, environmental and prior chemical conditions of your yard all play a role in its overall health.