

What *Never* to Include on Your Fertilizer Options List: Land Applied Sewage Sludge a.k.a. “Biosolids”

LAND APPLIED
SEWAGE SLUDGE
By Machaelle Wright

Land applied sewage sludge should be avoided. Period. It is the residual, semi-solid material left from industrial wastewater or sewage treatment processes. Think about what you personally have dumped down the drain or flushed down the toilet. People are under the mistaken impression that sewage sludge, commercially known as “biosolids,” is made up of organic human waste. Well it includes human waste, but this doesn’t take into account all the other stuff we put down our drains or flush down our toilets. Just old prescriptions, some very toxic, are a huge problem. Then there’s the different cleansers, insecticides and other less-than-healthy items that are used in the home, then dumped and flushed. All of this ends up at the local sewage treatment plant. The residue that is left after the water is treated is called “sludge.” We humans create more sludge than you can begin to imagine. In the U.S., we used to get rid of our sludge by piping it directly into oceans and rivers. Then people noticed oceans were becoming seriously contaminated, and rivers, lakes, fish and other marine life were dying. So we passed the Clean Water Act and stopped dumping sludge into the water. That solved one problem but created another. We always end up with the question, What do we do with all this sludge? Answer: Hey, let’s spread it on land. (What could go wrong there?)

Here’s my condensed version of what’s happening. Treatment plants need to get rid of sludge. An entire multi-billion-dollar industry has sprung up, and as a profit-motivated service, it takes the sludge off the treatment-plant hands for a price, which treatment plants are only too happy to pay. Now the sludge companies need to get rid of sludge.



Remember, these companies also need to answer the question, What do we do with all this sludge? They are already making their money up front from the treatment plants. They just need someplace to move the sludge out in order to make room for more money-making sludge to be shipped in. So they offer to spread it on owners’ land for free. Land owners get their land “fertilized” at no cost. Who could resist that deal?



A municipal sewage treatment plant



Spreading dry Class B sewage sludge

Dry sludge can easily become airborne and cause additional hazards for the surrounding environment, people and livestock.



Two closeups of sewage sludge

When the sludge industry started over forty years ago, they ran into a snag right away. No one wanted sewage sludge spread on their land. It just didn't look or sound "appetizing." Enter Madison Avenue and the boys who create advertising fantasy. They were given the assignment of coming up with a plan for getting people to accept sludge. They put their heads together—they actually had an in-house contest—and came up with a new name for sewage sludge: "biosolids." Sounds organic, doesn't it? And that's the point. Magically, sludge companies became biosolids companies. They presented their product as a natural, organic, environmentally friendly fertilizer—and it was still free. Land owners bought the sales pitch and said yes to fertilizing with "biosolids." And now we have a Madison Avenue success story.

If you google "biosolids," you can read what the industry has to say about their product, and you'd think this stuff was so organic you could spread it over your morning cereal. But if you google "sewage sludge" or "land applied sewage sludge," you get a whole different picture from international scientists, researchers and activists, and from reports of people with serious health issues due to exposure to sludge.

Over the years Class B sewage sludge has been tested by a number of facilities, including Cornell University, the National Academy of Science and the CDC. Here's what they found: Class B sewage sludge is filled with PCBs; chlorinated pesticides such as DDT, aldrin, chlordane and lindane; chlorinated compounds such as dioxins; heavy metals such as arsenic, cadmium, chromium, lead and mercury; asbestos, petroleum products and industrial solvents; any radioactive material flushed down the drain by hospitals, businesses and decontamination laundries; and major concentrations of infectious-disease-causing viruses, bacteria, protozoa, and parasitic worms and fungi.

Stephen Lester of the Citizens Clearinghouse for Hazardous Wastes has compiled information from researchers at Cornell University and the American Society of Civil Engineers showing that sludge typically contains the following toxins:

- Polychlorinated Biphenyls (PCBs)
- Chlorinated pesticides—DDT, dieldrin, aldrin, endrin, chlordane, heptachlor, lindane, mirex, kepone, 2,4,5-T, 2,4-D
- Chlorinated compounds such as dioxins
- Polynuclear aromatic hydrocarbons
- Heavy metals—arsenic, cadmium, chromium, lead, mercury
- Bacteria, viruses, protozoa, parasitic worms, fungi
- Miscellaneous—asbestos, petroleum products, industrial solvents



“In addition, a 1994 investigation by the U.S. General Accounting Office found that ‘the full extent of the radioactive contamination of sewage sludge, ash and related by-products nationwide is unknown.’ Most of the radioactive material is flushed down the drain by hospitals, businesses and decontamination laundries, a practice which has contaminated at least nine sewage plants in the past decade. . . .”

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ABOUT THE LEAD FOUND IN SLUDGE

Dr. Stanford Tackett, a chemist and expert on lead contamination, became alarmed about sludge on the basis of its lead content alone. “The use of sewage sludge as a fertilizer poses a more significant lead threat to the land than did the use of leaded gasoline,” he says. “All sewage sludges contain elevated concentrations of lead due to the nature of the treatment process. . . . Lead is a highly toxic and cumulative poison. Lead poisoning can cause severe mental retardation or death. It is now known that lead interferes with the blood-forming process, vitamin D metabolism, kidney function, and the neurological process. From the standpoint of lead alone, sludge is ‘safe’ only if you are willing to accept a lowered IQ for the young children living in the sludge area.”

So there you are, minding your own business, and you, your family, your neighbors and your land, air and water may be getting hit with the toxic fallout from land applied sludge. This happens more often than you think. As of this time, using sewage sludge as a fertilizer and spreading it on land is legal in the U.S., even encouraged by business and government, despite all the controversy surrounding its use. However, its use has been banned in other countries such as France because of the serious environmental and health problems it causes.



THE HEALTH HAZARDS OF SLUDGE

According to the CDC, the parasites in Class B sludge can cause typhoid fever, dysentery, gastroenteritis, diarrhea, abdominal pain, cholera, hepatitis, meningitis, pneumonia, paralysis, encephalitis and severe respiratory problems.

Just the odor (and this stuff stinks beyond words) can cause nausea, vomiting, stomach cramps, migraine headaches, flu-like symptoms, asthma attacks, abscesses, tumors, cysts, allergies and sudden illnesses caused by microbial pathogens.

There are documented cases of children and adults dying after exposure to land applied sewage sludge. Also herds of cattle. And there are sludged land areas where nothing has been able to grow in that soil for years. The land is barren.





THE HEALTH WARNING ISSUED BY THE CDC

WARNING

“Class B” Sewage Sludge contains harmful Bacteria, Enteric Viruses, Protozoa and Parasites. Exposure to these organisms may cause severe adverse health effects, including typhoid fever, dysentery, gastroenteritis, diarrhea, abdominal pain, cholera, hepatitis, meningitis, pneumonia, paralysis, encephalitis, respiratory problems and fever.

SEEK MEDICAL ATTENTION IF
ANY OF THE ABOVE SYMPTOMS
OCCUR AFTER EXPOSURE TO
SEWAGE SLUDGE

Spreading liquid Class B sewage sludge



If anyone within a one-mile radius has had Class B sewage sludge or “biosolids” spread on their land, you need to have your well water checked right away and continue having it tested every three months for two or more years. If they spread it again, you are testing for the next two or more years after the latest spreading. And as a public service to everyone else in your area, post a large sign with the CDC warning someplace on your property so that others can easily read it as they pass by. They need to know what is going on in case they or their animals start to show symptoms.

SEWAGE SLUDGE AND YOU

I bet you're wondering why in the world I would think you would have some sludge company deliver tons of "biosolids" to your garden. Well, I've mainly been discussing Class B sewage sludge, the common grade for large land application. You can come into contact with Class B sludge if a farmer or rancher within a mile of you has spread it on their land, or if you visit a golf course that has fertilized the grounds with it, or if your child's school has spread it on their fields. Or if you're camping or hiking in a national forest. They broadcast it from airplanes like crop dusting. The point is if you or a family member are experiencing any of the symptoms and you think you might have been exposed, see your doctor *right away*. Be sure to tell him what you've been exposed to and give him a copy of the CDC warning so that he'll know what he's dealing with and what to test. Time is critical.

But here's a another area of concern: When Class B is further refined, it turns into Class A sewage sludge. The companies like to tell us that Class A is perfectly safe but they are lying. It may be a bit less toxic but it's not safe. It can also be a health hazard.

This is where sewage sludge insinuates itself into our lives most often. Unfortunately, Class A sewage sludge is included in many of the bagged fertilizers sold at your local plant nursery or garden center. Like everything else pertaining to sludge, it's pretty well camouflaged and often hard to identify. When we checked it out, we only found one company that listed sewage sludge or biosolids as part of its contents on the bag. It contained a warning label about health hazards on the bag, as well. The other companies did not identify sludge in its contents, yet it was common knowledge among the folks selling garden fertilizers that sludge was included in nearly every fertilizer they sold. *Bags that are clearly marked "organic" without any qualifiers are safe.* However, if the bag says something like "contains ORGANICS" (the word "organics" is always prominent) or "contains natural products" or something like this, it most likely includes Class A sewage sludge.

DO NOT PURCHASE IT AND DO NOT INCLUDE IT
ON YOUR FERTILIZER OPTIONS LIST.



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There is no such thing as "high quality, nutrient-rich, organic Biosolids Compost." Several years ago the "biosolids" industry lobbied hard to have their product classified organic. Thankfully, it was rejected.



I know the sludge information can feel overwhelming. But the good news is that you and I can deal with the sludge problem immediately, simply, cheaply and easily.

● EDUCATION IS KEY.

Most people don't know anything about this problem. I have a long paper I wrote when I first studied the issue, and I and my staff give copies to neighbors, friends and anyone who might be in danger. I've heard many say that they were contacted by a sludge company, and because of the information in the paper, they said no. The paper is posted on our website as a free download. Please feel free to copy it and hand it out to as many people as possible. Click on the Perelandra logo and it takes you to the web page. The paper is also helpful if you just wish to know more about this developing scandal. Now, if the folks around you would rather deal with my condensed version of the sludge problem, print copies of the information in this book (pp.181–186) for them. The point is to inform as many people as possible about the sludge problem.



● JUST SAY NO.

This is another important yet easy way to combat sludge. And when combined with education it becomes pretty easy to say no. So if contacted, tell the sludge company representative no. You are not required to spread this stuff on your land, no matter how enticing they make it sound. Just tell them no. It's that simple. No one can force you to do this.

Now we're back to the question, What do we do with all this sludge? We can't put it in the waterways and oceans. We shouldn't put it on land. What do we do with it? Well, there is independent research going on right now that is focused on solving the problem. The most promising research is several different procedures for sewage treatment plants to process and burn off their sludge, capture the gases and use the gases as a power source for the treatment facility itself. The full sewage treatment process would remain self-contained, self-supporting economically and clean. Of course, money is needed to move this research along. But the money will never be allocated until we citizens, we little guys, band together and apply the pressure that's needed by saying no when it comes to land application. As long as the answer to the question, "What do we do with it?" is "Apply it to land," there will never be enough pressure to force government, science and industry to look for other more environmental answers.

