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The Myth of Clean Compost:
"Compost is a safe, chemical-free source of nutrients for gardens"

The Myth

Woe to anyone who does not embrace the wonders of compost! Commercial compost is advertised as “environmentally sound”, “all natural”, “chemical free”, “fish friendly”, etc. etc. Glossy photographs demonstrate the results we can expect if we use compost in our flower beds, vegetable gardens, and perennial landscapes. For those of us that prefer to make our own, there are many “how-to” guides that lead us past the pitfalls that can cause our compost to become contaminated with weed seed or pathogens. Whether we make our own compost or purchase it commercially, we are led to believe that we will always have a product that is safe for our soils, our plants, and ourselves.

The Reality

Compost is great stuff. (Of course it is not chemical free; all substances are made of chemicals.) Under ideal conditions, it is a safe, environmentally friendly way of recycling yard waste and returning nutrients to the soil. The telltale sharp, sour odor helps identify a “bad” batch of compost. There are other contaminants, however, whose presence is unexpected, subtle, and injurious to plant and human health.

I am particularly concerned with two classes of compost contaminants: pesticides and heavy metals. Recently, compost feed stocks east of the Cascades were found contaminated with clopyralid and picloram – two broadleaf herbicides. These relatively persistent herbicides have been found in hay and grain residues and the manure of chickens, cattle, and horses. Compost contaminated with these herbicides can injure or kill broadleaf ornamentals and vegetables. While the source of this particular contamination problem was agricultural, these broadleaf weed killers are also used for lawn care. If treated lawn clippings are composted either at home or elsewhere, they will contaminate the compost and kill or injure susceptible plants. The long-term impacts of these herbicides on human health are not yet known.

Heavy metals, such as lead, arsenic, and mercury, are less problematic for plants than they are for humans. If ingested, these metals disrupt biochemical pathways and cause a number of health problems, particularly in children. Lead is the most commonly found heavy metal in residential urban soils, primarily as a remnant of lead-based paints and fuels. There were frighteningly high levels of lead, chromium, cadmium, manganese, and other EPA-regulated heavy metals reported in a recent, world-wide study of compost. Sources of toxic heavy metals include sewage sludge, industrially-contaminated soil, and the previously mentioned lead problem. It’s not a bad idea to have your soil tested for lead, especially if you grow produce for human consumption. The cost is minimal and the information invaluable.

If you depend on commercially available compost, be aware that the US Composting Council has a Seal of Testing Assurance (STA) program. Members in this program must test their products for pathogens, heavy metals, and pesticides on a regular basis. These numbers are available to the public. More information can be found at this website: <http://tmecc.org/sta/index.html>.

The Bottom Line

- The best sources for pesticide-free compost are those that have been analyzed and certified. Home-made compost is also a good choice as long as you are sure your materials are contaminant-free.
- Unregulated compost can contain pesticides, heavy metals, and other environmental toxins that may be harmful to you and your plants.
- If you must have your lawn sprayed with persistent, broadleaf herbicides, be sure to use a mulching mower and leave the clippings in place. Do NOT compost them or bag them for clean green removal.
- Soil testing for heavy metals is crucial for any landscape where plants are grown for human consumption.

For more information, please visit Dr. Chalker-Scott's web page at <http://www.theinformedgardener.com>.