

# GET THE DIRT ON dirt



"Garden Jane" Hayes

In an interview with TBG instructor "Garden Jane" Hayes, **Victoria Stevens** discovers there's more to soil than meets the garden spade.

**M**ost people think of dirt as just a four-letter word. It's associated with all things low, unclean and basically worthless. Not to Jane Hayes, though. To her, dirt, or more properly, soil is a mysterious and miraculous living organism that humanity has increasingly taken for granted and used and abused to the detriment of the environment and our food.

Her mission is to "change that paradigm" for gardeners. Instead of continually digging up the soil and amending it with things like non-renewable peat moss, chemical fertilizers and topsoil which are detrimental to the environment, she says gardeners should work with what's already there and create a self-sustaining eco-system where trees, plants, weeds, worms, fungi and bacteria all interact to create a healthy balance that requires very little maintenance.

Hayes has degrees in anthropology and environmental studies as well as certificates in permaculture design and teaching. She established the city's Children's Garden Program and the High Park Children's Garden site and has worked with FoodShare and Toronto's community gardens program. She also helps the environmental group Evergreen to establish food gardens in its school and community programs.

And while she's quick to point out that she's not a soil scientist, her background, experience and interest in how to grow things with the least amount of work and the least impact on the environment make her eminently qualified to offer the average gardener some useful and, in several cases, surprising advice.

#### **GARDEN JANE'S TOP FIVE SOIL TIPS**

**1. Avoid tilling your soil.** Turning soil over can kill as many as half the helpful organisms that live in it. "There

should be between 10,000 and 75,000 specimens of bacteria in one gram of healthy soil," she says, adding that soil should also have a minimum of five worms per square foot. Hayes has three worm farms at home, including one in a blue box under the kitchen table to help make compost and to use in her gardening programs. When creating new beds, Hayes would prefer that gardeners use "sheet mulching" (often called "lasagna" or "no dig" gardening, in which layers of organic matter are heaped on top of a thin layer of newspapers which cover the ground), but she recognizes it's a slow process, particularly in Toronto's clay soils. For heavy clay, she suggests tilling once to amend the soil and establish permanent beds, then leave them be. Also, if there's a need to remove aggressive grasses, do it by digging or double digging.

**2. Leave most of the weeds alone.** They are "dynamic accumulators" that gather nutrients needed by the plants you want in the garden. If you must weed, leave the pulled plants on the soil to decompose. Hayes' garden includes "weeds" such as yarrow, mullein and goldenrod. For invasive weeds like garlic mustard, creeping Charlie and goutweed, she suggests pulling them out and either creating a separate compost pile of them (before they go to seed); or, if they spread by rhizomes, putting them in the garden waste bags picked up by the city.

**3. Mulch, mulch, mulch.** Never leave your soil uncovered. Mulch minimizes weeds, retains moisture and reduces the need to dig. Hayes uses coffee grounds, eggshells (rinsed to deter raccoons), straw and coconut fibre and lets the leaves from the trees stay on the garden beds rather than raking and bagging them. She also advocates creating paths in the garden to avoid trampling and compacting the soil.

**4. Fungi are our friends.** More than 80 per cent of plants develop a symbiotic relationship with fungi. If you don't have any in your garden (you'll see a lot of fine white filaments in the soil if you do), introduce them. Ideally, the

ratio of fungi to bacteria in a garden should be one to one, she says. The Organic Gardener's Pantry ([gardenerspantry.ca](http://gardenerspantry.ca)) offers a good selection of micro-organisms, fungi, compost tea and natural fertilizers as well as useful advice on amending your soil naturally.

**5. Learn to compost.** Use it to feed your soil regularly, leaving it on top of the soil rather than digging it in. Make

compost tea to spray on leaves, apply directly to soil or to dip roots into when transplanting. It's a fast way to introduce nutrients and inoculate soil and plants against pests and disease.

*Victoria Stevens is a TBG volunteer and freelance writer formerly with the Toronto Star.*



## Compost Considerations and Uses

- Never add meat, bones, dairy products, fats/oil, cat/dog waste or herbicide/pesticide-treated plants to the compost pile.
- When layering organic material never use more than 50 per cent brown organic matter (e.g., wood chips, autumn leaves, sawdust, straw) as it slows the decomposition process.
- If there are rodents in your area, use galvanized screening material to enclose the bottom of the compost bin.
- Finished compost can be used as a soil amendment in the garden, as a mulch for annuals, perennials, trees and shrubs and as a top-dressing for the lawn. Compost can also be used to make compost tea that can be applied as a liquid organic fertilizer or foliar spray. Instructions for making compost tea are at [www.toronto.ca/compost/value.htm](http://www.toronto.ca/compost/value.htm).

*Excerpted from Compost for Your Organic Garden by Toronto Master Gardeners for the City of Toronto. For more information on composting and organic gardening visit [factsheets.torontomastergardeners.ca](http://factsheets.torontomastergardeners.ca).*



### FEED THE SOIL WITH COMPOST

Compost is partially decomposed organic matter. Most often, organic matter is found in the form of plant residues and the manure of plant-eating animals. It contains a healthy range of nutrients essential to plant growth. The gradual degradation of organic matter into compost by soil organisms releases these elements slowly, at rates and in forms plants can utilize.



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