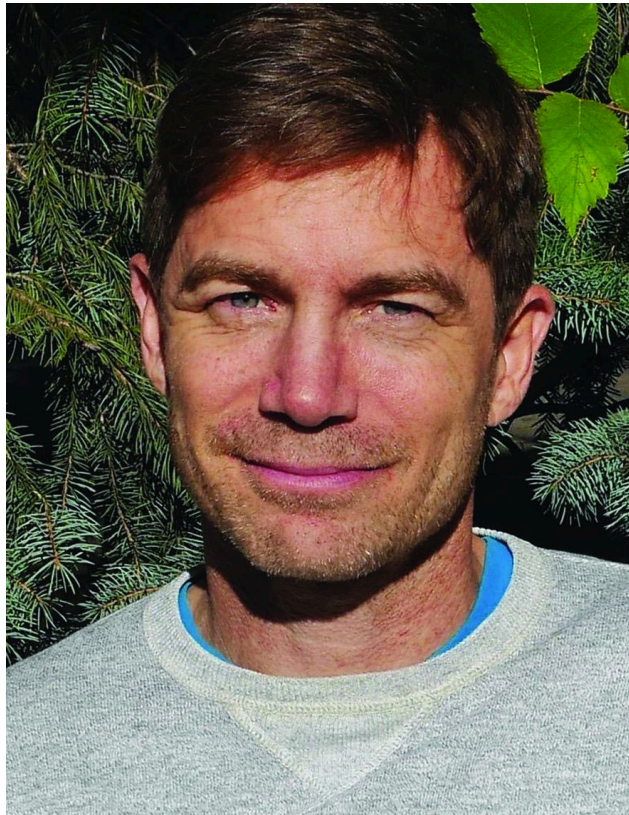


Guest Column: How I learned to love maggots

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If you're one of those people who composts everything you can think of because you want to build up your garden soil, you might — like me this summer — learn to love the maggots of black soldier flies. They put composting on speed dial.

When other volunteers planted or weeded at our community garden, I took on running two spinning composting bins. I filled both 50-gallon composters with kitchen scraps and woody material. But surprise, two Sundays later, black soldier flies had appeared. I'd inadvertently attracted them by leaving the bins in a state of putrescence, because while I was gone for a couple of weeks, no one tended them. They stunk up the place, but the good news was that soldier flies had detected that delicious rot and moved right in.

Peering into the bin, I saw nothing but the flies' off-white larvae wriggling over each other. All that remained were pistachio hulls and wood chips. My first instinct was to call an exterminator, but after watching YouTube and seeing 200,000 fly larvae demolish a pizza, I realized the endless possibilities of maggots — and not just for gardeners.

I've come to think of the creatures as nature's high-tech answer to organic waste. Simply spread the larvae on rotting food — or animal or human poop, for that matter — and they will chew the mess into something remarkably small. (To start your own colony, check out the many YouTube videos that provide helpful tips.)

Wyoming Extension Service entomologist Scott Schell is a fan of black soldier flies. He calls barnyard flies “filth flies” because they stomp around in poop and then hop on food in our kitchens, spreading bacteria that can make people sick. Even nastier, he says, are the stable flies that suck the blood of mammals.

Black soldier flies, however, don't bite. They look something like wasps, and their wriggling larvae can chew through organic material and double their body weight in a day. You could call them the super-grubs of any compost heap.

Black soldier flies, *Hermetia illucens*, are present on six continents and in most states. The adult flies live just two weeks, using up the vast stores of energy accumulated during their five stages of pupation. While growing, the young larvae nosh like guests at an all-you-can-eat buffet, taking short breaks to digest and poop. Schell calls black soldier flies “a biological deterrent since their voracious menu includes larvae of all flies...filth flies included.”

Their poop is called “frass,” and it needs more time curing before it can be used as a soil amendment. Because the flies' wondrous guts break down bacteria of all kind, frass contains no pathogens such as *E. coli*.

For chicken farms or dairy operations that swim in animal waste (one dairy cow produces 120 pounds of manure daily), black soldier flies can seem miraculous. But there's even more to admire because the grubs themselves may be wriggling gold. With a fat content of up to 35 percent, protein up to 50 percent (depending on what they eat) and plenty of calcium, they are a super-food for fish or poultry, reports Nature.com.

Because millions of acres of arable land go into cultivating food for animals, and because overfishing has harmed fish populations, the United Nations champions maggots and insect production. Last year, the U.S. Department of Agriculture authorized the sale of insect larvae to commercial fish and chicken farms.

As rural Western towns suburbanize, black soldier flies could also reduce what gets dumped in landfills, but only if kitchen waste gets separated from ordinary trash. Organic waste is a great producer of methane, aka renewable natural gas, and once you remove materials that rot from landfills, you slow climate change.

As a sign of things to come, Enviroflight, a division of Darling Ingredients, is already running a commercial-scale Black Flies business in Maysville, Kentucky. It produces pet food and recently announced plans to build a second facility.

As the West grows in population, dealing with not-in-my-backyard issues like smell and flies will move to the top of many municipalities' to-do lists. So just imagine a future where castoff organic waste is upcycled right in the neighborhood, where it's turned into garden compost, chicken feed and, one day, even biodiesel for buses.

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