

Soil Foodweb Insights

May-June 2010

This Month

Our next workshops on the Soil Foodweb will be held from 16-19 August. Registration forms are now available at <http://www.soilfoodweb.com/calendar.html> - if you have any difficulty finding or downloading the forms from there, call David at Sustainable Studies Institute: 541-257-2614, or send email to info@sustainablestudies.org - he will make sure you get the information you require.

Contents

I. Soil Foodweb Oregon News

- A. U.S. holiday schedule
- B. On beneficial nematodes

II. Sustainable Studies Institute News

- A. Upcoming workshops
 - 1. Oregon (August)
 - 2. Oregon (October?)
- B. Soil Science News
 - 1. Termites and tourism
 - 2. Accounting for species

III. Earthfort News

- A. New Dirt Simple 5 gallon brewer



Edited by Kevin Haines
Designed by Adam Lindsley
Copyright ©2010 Earthfort.

I. Soil Foodweb Oregon News

A. U.S. holiday schedule

The offices and laboratory at Soil Foodweb Oregon will be open during regular business hours for all of June. The U.S. Postal Service and other package carriers will not make deliveries (and our offices will also be closed) for:

Monday, 5 July 2010 (U.S. Independence Day weekend)

B. On beneficial nematodes

We're often asked the best way to improve beneficial nematode populations in soil.

Some products are sold which claim to provide beneficial nematodes, but there are no established standards for their quality. Even the products which really do contain viable populations of beneficial nematodes will have extremely limited diversity, often containing only one or two species in total. These products are sometimes useful to control certain types of pests, but they lack the diversity to serve as a true inoculum for the soil.

The best known source of soil nematodes is a really good compost. Good compost will be home to a much wider diversity of nematode species, with multiple species in each of three major functional groups:

- bacterial feeding nematodes
- fungal feeding nematodes
- predatory nematodes

In most cases, no external source of nematodes is needed. The naturally present nematode populations can produce good results, given the proper temperature and sufficient time.

The compost needs to completely finish its thermal heating stage, and then cool down to near the temperature of the surrounding environment. If compost stays too warm for an extended time (above 115 degrees F, or about 45 degrees C), it will not be a suitable home for any beneficial nematodes. After the temperature drops below 115F / 45C, the nematode populations will take at least two to three weeks to recover, provided the compost is left

undisturbed without turning.

If samples are taken too early in the composting process, without allowing the time needed for the nematodes to recover, the lab test results might not give an accurate picture of the beneficial nematode populations in the finished compost.

These are the most common limiting factors. Many other factors may affect nematode results. If you would like to fine tune the specific details of your composting operations, we offer consulting services to help you find the best practices for your particular situation. ■

II. Sustainable Studies Institute News

A. Upcoming workshops

1. Oregon: 16-20 August 2010

Our next set of workshops here in Corvallis are scheduled for the 16th through the 19th of August. Registration forms are now available at <http://www.soilfoodweb.com/calendar.html> - by calling David Kuester at 541-257-2614 - or by email: info@sustainablestudies.org

These workshops will be taught by Matt Slaughter, lab director of Soil Foodweb Oregon, and will display the latest developments in our process of constant improvement. This includes more hands on experience for participants, and shorter segments of classroom lecture, more focused on the practical knowledge needed in the field.

The basic outline of subjects covered is still the same: Introduction to the Soil Foodweb, followed by Compost Technology, then Compost Tea Technology, and then our popular Light Microscope class. The microscope class will be taught by Tiffany Bolman, an experienced instructor and Soil Foodweb Oregon lab technician.

Thanks to our partnership with the Benton County Fairgrounds, we are now able to offer these workshops at a reduced cost: \$200 for each class, or \$800 for the full set.

2. Oregon: October 2010

This is a tentative scheduling. More details will be revealed as they become available.

B. Soil Science News

1. Termites and tourism: ecosystem services in the African savanna

Recent studies provide new insights into the role of termites (too often thought of as merely pests) in maintaining the health of ecosystems such as the African savanna and its famous array of large animals: <http://www.sciencedaily.com/releases/2010/05/100525171229.htm>

2. Accounting for species: new estimate of biodiversity

Another attempt has recently been made to calculate the total number of species on Earth, this time using statistical methods that are "often used in financial risk estimates."

Most coverage of this story plays up the dramatic change from earlier estimates. Previous calculations ranged from 30 million to as many as 100 million different species on Earth. This latest estimate gives 5.5 million species as the most likely number, but it is unlikely

to end the debate.

The key fact in all these estimates is that the vast majority of our planetary life support systems consist of species and relationships that are still completely unknown to science. We are like a mechanic tinkering on an engine while it is still running. We have no way of knowing which parts of the machine can be safely discarded, and which parts might be needed to prevent it from breaking down beyond all hope of repair.

Yet many of us seem perfectly comfortable with throwing away any parts that we don't completely understand at a glance.

From a microbiology perspective, all these different biodiversity estimates have one interesting factor in common. In every study of this type, the researchers always completely leave out all of the bacteria. About them, too little is known for anything more than wild guesses as to their true diversity. ■

<http://www.sciencedaily.com/releases/2010/06/100602142045.htm>

III. From Earthfort

A. New Product! Dirt Simple 5 gallon compost tea brewer

After an intensive process of development and testing, we are pleased to announce a new addition to the Dirt Simple family of compost tea brewing machines: the 5 gallon bucket brewer. Carefully designed and thoroughly tested for the reliability, ease of use, ease of cleaning, and outstanding tea quality that all our Dirt Simple machines are known for.

At the price of \$160.00 (U.S.), this is our most affordable brewer to date. Suitable for home and garden use, as well as small scale research and product testing applications.



Here's a preview of the test results from the DS 5:

Organism Biomass Data	Tea Volume (ml)	Active Bacterial (µg/mL)	Total Bacterial (µg/mL)	Active Fungal (µg/mL)	Total Fungal (µg/mL)	Hyphal Diameter (µm)
Results	1	68.1	538	386	404	3.5
Comments		In range	In range	Above range	Above range	
Expected Range	Low	10	150	2	2	
	High	150	3000	10	20	

More information is available on our web site:

<http://www.earthfort.com/products/brewing/dirt-simple-brewers/dirt-simple-5-gal.html>

And of course you can always contact us by email: info@earthfort.com, or by phone at 541-257-2612. ■

That's all for now. From all of the staff here at Earthfort, happy sustainable growing! ■ ■ ■