

February 2005 SFI E-zine

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Upcoming Events

SFI Corvallis

Dr. Elaine Ingham teaches three in-depth workshops at the Soil Foodweb, Inc. Laboratory in Corvallis, Oregon. The workshops include classroom instruction, hands-on laboratory work and field demonstrations.

March 17—19, 2005 + October 15—17, 2005

Introduction to the Soil Food Web Workshop

[PDF registration form](#)

March 21—22, 2005 + October 19—20, 2005

Compost Technology Workshop

[PDF registration form](#)

March 22—23, 2005 + October 20—21, 2005

Compost Tea Technology Workshop

[PDF registration form](#)

In-depth [Description of the three workshops](#) are available as a PDF download.

To register download the corresponding workshop registration form.

For more information contact Twila or Matt at (541) 752-5066 or email

info@soilfoodweb.com

March 24, 2005 (FULL) + October 22, 2005

SFI is adding another Microscope class in this series on March 25.

Register now to secure your place!

Light Microscope Class - SFI Corvallis

[PDF registration form](#)

This class will give you the ability to assess your own compost teas. Discover the difference between fungal hyphae and organic matter; recognize bacteria, protozoa and nematodes.

Cost: \$200 per person (limit 10) all supplies will be provided in the class as part of the fee, as well as the new Microscope Manual, microscopes are an additional cost.

Two scopes have been recommended by Dr. Ingham. Alexis J-model \$400.00 or Leica CME-\$1200.00 (includes case). If you want to bring your own scope please contact us at the lab to discuss the specific requirements and be prepared to “upgrade” if necessary. To register contact Twila or Matt at (541) 752-5066 or email info@soilfoodweb.com

1. Website Changes

If you have any troubles, or can't find things on our updated website, please e-mail and let us know!!!! info@soilfoodweb.com

2. Earth Fortification Supplies Company

The website has a number of products listed with data on what the products do to the biology of soil, compost or compost tea. We are adding more products all the time. If you have data on a product, that you can share, please contact us!

One of our missions is to support sustainability and with that end in mind a portion of the profits of this company will go directly to research conducted by Sustainable Studies Institute and other non-profit research groups.

So please come visit the website, www.earthfortification.com, and enjoy one stop shopping for all your biological needs.

Matthew Slaughter, President

Earth Fortification Supplies Company

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www.earthfortification.com

Note from Elaine:

SFI and Earth Fortification are two separate companies. As an individual, I contributed money to get Earth Fortification started. Other than that, there is no further financial connection between Earth Fortification and SFI. SFI tests products. Earth Fortification sells products for which data can be displayed showing that the product does what it claims. They are always adding more products to the site, so check back often. Although not all of the products have data posted yet, they are working on getting it up, if you have questions about a particular product you can always call or email Matt for more information.

3. Corvallis Lab is moving!

The Corvallis SFI lab is moving to a larger space at the south end of Corvallis, about 3 miles from the current lab. The move will be complete by the end of March.

The phone numbers will remain the same, since we are only moving a few miles away.

SFI will share the building with a Compost Tea Brewing Center, a Composting Center, and the Earth Fortification Supplies Company. SFI will be able to offer hands-on, practical training for compost and compost tea production and application.

Please stop by the new lab starting in April! Give us a call for detailed directions to the new facility!

4. Soil Soup Conversion Notes

Keith has been kind enough to detail his initial tests on the Soil Soup machines to get them making aerobic compost tea.

From: Keith Amelung [mailto:keith@heirloomtomatoesoftexas.com]

Sent: Thursday, February 03, 2005 8:00 PM

Subject: Soil Soup Conversion notes

Howdy!

You were asking about what modification we made to our "Soil Soup" "Machine" to make it work. Here is where we stand to date:

The first change was to throw out **the 'blender'** device. Substituted instead two aquarium air pumps rated for up to 50gallon tanks

Discarded the compost 'sock' and substituted two mesh bags used for straining paint. These are suspended through the top opening of the 'Soil Soup' "bucket by resting them in fish dip-nets which fit the dimensions of the opening, allowing them to just "float" into the top 3-4" of the water.

A small air stone is placed in the bottom of each mesh bag (after filling with compost etc...) and two larger 6" air stones are placed directly under each tea-bag in the container (bucket). Using a four-way gang valve pressure is regulated so there is stronger flow from the two larger stones.

After the 'Brew Cycle': The two smaller 1" stones are replaced by 6" stones, the four large stones are now placed flush against the sidewalls of the square-ish bucket to force a "circular" pattern in the tea flow...pressure is again adjusted to equalize the four stones.

Recipes: To date we have been using our own mixture of compost,. Soil Soup's' food mix has been used at 26oz. We will begin experimenting with some of the different "recipes" in the Compost Tea Manuel and will have them tested soon!

That's the abridged version, Holler back if you would like more specific details.

On a separate note, we at Fertile Garden Supply have made your Compost Tea Brewing Manual, Soil Biology Primer and CD's available to our customers...This past weekend we attended a "Home and Garden" show; all four of the 'Manuals' we took along sold without prompting on my part. The word is getting out. Thanks to you and all the crew for your hard work and efforts.

With all my best wishes; feel free to include my email address if folks have questions.
Thanks –Keith

5. February 14, 2005 from Prof. Joe Cummins “Environmental Impacts of Genetically Modified Sugar Beet”

Genetically modified (GM) sugar beet has been commercially produced in the United States since 1998 and later by Canada, Japan and Australia. American releases included a strain resistant to the herbicide glyphosate and another resistant to the herbicide glufosinate.

The United State's releases were all accompanied by environmental assessment by the United States department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS). The USDA/APHIS environmental assessments consisted on the impact of the herbicide resistant sugar beet on a few representative non-target animals and the chance of pollen and seed pollution of weeds related to sugar beet and unmodified sugar beets (1, 2, 3) These reviews determined that there was "no significant impact" from the GM sugar beets but the studies were very limited and mainly based on laboratory studies. In 2003 Britain released the results of extensive studies on GM sugar and fodder beets, spring oilseed rape and forage maize. The studies showed that herbivores, detritivores and many of the predators and parasites are sensitive to the changes in weed communities that result from the introduction of the herbicide regime (4, 5, 6, and 7).

The weed management plans that resulted in detrimental impact on biodiversity resulted from weed control that was more extensive than that achieved using conventional herbicides, which have a relatively poor spectrum of activity and margin of selectivity... The impact on weed seed production resulted in a lack of bird food. Lack of bird food is deemed to be one of the major

problems of modern agricultural production in Britain. A method was explored to increase available bird food in GM sugar beet crops. A rather complicated protocol was devised involving spraying a twenty centimeter band of herbicide down crop rows 55 centimeters apart. Benefit was achieved by timing the spray application early spray application allowed weed seed yields without impacting production (8). The rather complex protocol for glyphosate spray application was designed to provide adequate bird food without sacrificing sugar beet yield.

The band spray application technique may, indeed, allow farmers to produce GM sugar beets without sacrificing bird biodiversity provided they can be educated to follow the complex regime. The band spray strategy seems like a superior way to produce herbicide tolerant weeds. As the concentrated herbicide diffuses laterally from the band a concentration gradient of herbicide will be produced. The gradient will allow selection of herbicide tolerant variants of the various weed species. Glyphosate tolerance is a growing problem in North America where glyphosate is used extensively. The concentrated band application of glyphosate would be analogous to the traditional method for selecting resistant microbial mutants on a Petri dish which has been used for over fifty years. It is equally clear that a gradient of herbicide concentration will likely effectively select resistant weeds.

Interestingly, the GM sugar beet strain used in the studies of reference 8 and in the Farm Scale Evaluations was Monsanto event number 77 (4,5) as was an event 77 used in USDA/APHIS environment assessment (1). The authors of the Farm Scale Evaluation believed that the GM sugar beet used in their studies contained both the gene for glyphosate insensitivity (EPSPS) and a gene active in destroying the glyphosate, glyphosate oxyreductase, taken into resistant cell. However, USDA/APHIS reports acknowledged that the glyphosate oxyreductase gene was present in event 77 but defective and unable to destroy the glyphosate taken into the GM sugar beet., reference 9 provides references and discussion including the approval of event 77 sugar beet. The failure of event 77 to destroy glyphosate taken into the resistant beets results in elevated glyphosate in the crop. The Farm Scale Evaluation seems to have neglected the impact of elevated level of herbicide in the GM crops on the various ecological parameters that they studied.

In the final analysis it is most important that the deployment of GM sugar beet should not eliminate the wild birds of Great Britain. The most reasonable approach to maintaining biological diversity is to solely deploy organic sugar beets and to forget about GM sugar beet. It seems unlikely that any degree of tinkering with glyphosate application will be employed realistically and even if tried may succumb to vicissitudes in weather. Even though the news media may succumb to seductive schemes it is unlikely that farmers will take them seriously.

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