

08 October, 2009

Dear Nutrient Network Colleague:

Congratulations! You are receiving litter bags for deployment in your NutNet plots. Thank you for your participation in this exciting cross-site experiment! Below, we provide an overview of the experiment, instructions for deploying the bags, and instructions for annually harvesting, drying, weighing, and mailing the harvested litter bags.

As a reminder, you opted to receive litter bags sufficient to deploy in:

- CONTROL plots only
- ALL treatments

There are only enough litter bags to deploy in 3 replicate blocks. If you have more than 3 replicate blocks of treatments at your site, you should randomly select 3 of them for this experiment.

Overview of Experiment

We have constructed sufficient litter bags to deploy in 30+ NutNet sites. Litter bags are constructed of 1-mm mesh fiberglass window screen and contain approximately 10 grams (dry weight) of sterilized leaf litter of *Quercus ellipsoidalis* (pin oak) that was collected at Cedar Creek, Minnesota. We sterilized the litter by autoclaving at 121°C for 15 min. Bags are strung together in groups of seven, with the intent that an entire string of bags will be placed in a plot, and one bag will be harvested from the string after each year for seven years. You should have received sufficient strings to deploy one string in each of three replicate blocks – either in the control plots if you opted to only deploy litter bags in those plots, or in the control and treated plots if you opted for full participation. Each bag is tagged with a unique identifying number – it is very important that you maintain this unique identifier with its litter throughout the experiment.

Instructions for Deploying Litter Bags

Gloves should be worn any time bags are handled

One string of seven bags should be placed in the “SITE” subplot of each replicate plot (control or control + treated plots, depending on what you opted for when we conducted our site survey). Randomly locate the string within the plot as possible given other constraints imposed by sampling, etc.. Use the landscape staples (provided) to anchor each litter bag to the soil surface within the litter layer (if one exists) or on the soil surface if none exists. Make sure bags do not overlap when anchoring them to the soil.

****Both ends of the string can be fastened to flag pins or plot steaks (both not included) for easy locating and retrieval.**

If your site is managed by burning, please pick up all bags immediately prior to burning and redeploy them after burning is complete.

Deploy the litter bags as soon as is convenient given constraints regarding travel to your site. PLEASE RECORD THE DATE OF DEPLOYMENT AND EMAIL IT TO CHRIS BUYARSKI: buyar002@umn.edu.

Instructions for Harvesting Litter Bags

You are responsible for drying and weighing the harvested litter bags before sending them to us. At approximately one-year intervals after deployment, one bag should be collected from each plot, by cutting a single bag from one end of each string, giving you one harvested bag per plot. Harvested bags should be kept refrigerated in plastic bags if there is any delay in processing them. Bags should be processed within 4 days of harvesting. To process bags, carefully open bags and remove any material that is not part of the litter itself or the microbes colonizing the litter (i.e., remove insects, roots, grass leaves, soil, insect frass, etc., but do not remove fungal hyphae). Dry the material at 65°C to constant mass, weigh on a calibrated balance, and record the dry mass. Please note any interesting or relevant information (holes in bags, signs of invertebrate activity, etc.). Place weighed, dry litter **ALONG WITH ITS IDENTIFYING TAG** in a leak-proof container (e.g., a paper bag that has been folded and taped shut) and send to the address below, along with the following **VERY IMPORTANT INFORMATION**:

SITE NAME (include country)
HARVEST DATE
TAG IDENTIFYING NUMBER
LITTER DRY MASS (GRAMS)
NOTES

Shipping Address:

Dr. Sarah Hobbie
Dept of Ecology, Evolution, and Behavior
100 Ecology
University of Minnesota
Saint Paul, MN 55108

If you have questions, feel free to contact me at shobbie@umn.edu or 612-625-6269.

Thank you for your participation in this study!

Sincerely,



Sarah Hobbie, Associate Professor