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Tundra Tea Bag Index Protocol

Aim: Provide reference litter with different C:N ratios to test relationships for tundra litter; add data to international Tea Bag Index (http://www.decolab.org/tbi/)

Timing: This experiment can run for three time intervals: three months (summer), nine months (end growing season to start growing season) and twelve months. If possible all should be carried out, but if not possible please select the most appropriate time span(s) for your site. Burial and recovery times are outline in Table 2.

NOTE: *For new collaborators, we are now only running the three-month (summer) protocol as this is the final summer of data collection.*

Table 2: Timing of burial and recovery of Tea Bags

Time Period	Burial	Recovery
Three Months	Start of growing / field season	End of growing / field season. If the time between the start and end of the field season is less than three months the experiment can still be carried out.
Nine Months	End of growing / field season	Start of following growing / field season As above, the timing between field seasons does not have to be exact, as long as it is recorded clearly.
Twelve Months	During growing / field season	Following growing / field season

Method

1. Take an unused Lipton Green tea (EAN 87 22700 05552 5) and Rooibos tea (EAN 87 22700 18843 8) bag per replicate. Please use 5 replicates per experimental unit (e.g. treatment), or 5-20 replicates per site. See TBI website above for more product information.

2. Measure the initial weight of the tea bag (.001 g).

3. Open a few bags and measure the bag weight without content (approx. 0.283 g).

4. Mark the tea bags on the white side of the label with a permanent black marker.

5. For each replicate, bury the two teabags in separate 8 cm-deep holes while keeping the labels visible above the soil. In shallower soil adjust the depth so tea bag is placed in the lower part of the rooting zone. Bury replicates at least 15cm apart, and further in very wet areas. Mark sites clearly.

6. Note the date of burial, geographical position, ecotype and experimental conditions of the site (see attached metadata form).

7. Recover the tea bags after three, nine or twelve months (see Table).

8. Remove adhered soil particles and dry in a stove for 48h at 70°C. If your soil contained a lot of silt use the loss on ignition method to determine remaining organic matter.

9. Remove what is left of the label but leave string and weigh the bags (.000 g).

10. Send an email to haydn.thomas@ed.ac.uk containing a) dates of burial and recovery, b) initial weights, c) final weights and d) metadata form.