



Tea Bag Index

Can drinking tea help us understand climate change?

Yes, but we need your help! We want you to become our researchers and take part in one of the largest decomposition experiments to date.

What is it about? Decomposition

The decay of organic material, or “decomposition”, is a critical process for life on earth. Through decomposition, nutrients become available for plants and microorganisms to use in their metabolism and growth. While plant material is decomposing, it releases the greenhouse gas carbon dioxide (CO_2) into the atmosphere. A fast decay leads to more CO_2 in the atmosphere and slow decay gives rise to higher soil carbon stocks. For better insight in the global CO_2 emission from soils it is important to know more about the rate of decomposition in those soils.



There is a tremendous global variation in decomposition rate of plant material. In cold environments, for example, the decay is slower than in warm environments. Factors like moisture content, acidity, or nutrient content of soils can have great influence on how quickly plant material decomposes. To get a clear picture of global decomposition, a lot of information on different soil characteristics and related decomposition rates across the world. Many factors are already known and archived in a soil map of the world; however, an index for decomposition rate is still missing and predictions are often imprecise.



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Method

In scientific research, the decomposition rate often is measured using bags of nylon mesh containing dead plant material. The bags are weighed and buried in the soil and after a long period the bags are dug up and weighed again. The loss in weight is the material that has decayed.

We developed a simple and cheap method to measure decomposition rate by burying tea bags as litterbags. The scientific value of this new method has already been acknowledged and experiments are currently running in countries all over the world.

Crowdsourcing

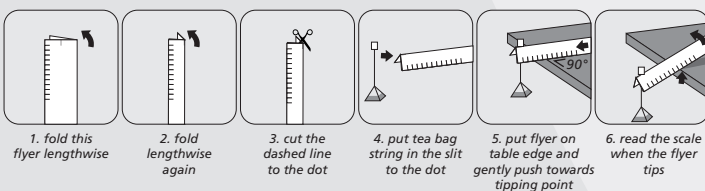
We would like you to become part of our research team by doing a 'tea bag experiment' at home. Below you'll find a detailed protocol. With your data we can calculate a **Tea Bag Index** for decomposition. With this index decay rates all over the world can be compared to improve our understanding of soil functioning. In the end, this will help in constructing better models for climate change. We hope that our research efforts will unleash an enormous amount of data.



Want to participate?

(For the scientific protocol: <http://www.decolab.org/tbi/protocol.html>)

- Take a Lipton Green tea and Rooibos tea bag.
- Find a suitable location (outside your garden)
- Bury the tea bags slightly apart from each other. The tea has to be approximately 8 cm deep, with the label above the ground.
- Dig up the bags after 3 months
- Dry the bags in a warm and/or sunny place
- Gently tap off the soil on the outside of the bags
- Weigh the teabags using this flyer as scales (instructions below and see website) and fill in the number of centimeters with the location, your name and email address on www.decolab.org/tbi/data. We will give you your TBI as soon as possible.



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