

14 Biology

It's a green world! (Part 3)

— Teatime

(Germany)

You will need

- ✓ 20 large leaves (hazel, hornbeam, etc.) freshly picked,
- ✓ white bowls,
- ✓ Lugol's solution,
- ✓ drip pipette,
- ✓ kettle,
- ✓ tea strainer/tea glass

Follow these steps:

1. The leaves are dried in the oven for two hours (circulating air/40°C), crumbled and then boiled as tea. Allow to cool.
2. 5 ml of tea are pipetted into a white bowl and three drops of Lugol's solution are added to one bowl.

So what happened?

This results in a clear black coloration of the liquid as proof of the starch.

What next?

Glucose test sticks can also be used to detect glucose in tea. As a variation one can additionally compare the starch content or the glucose content between leaves that are exposed to light, and those that are kept in the dark (for approx. 5 days).

If the leaves are dissolved in methylated spirits, you can use is for demonstrating fluorescence using a hand-held UV-lamp or UV torch (it also works with a LED torch or a mobile phone light).

