

Fungus Wars

By Professor Lynne Boddy – Cardiff University

So now you know! When you find fungus growing on your jam *don't* just scrape the top off and eat the rest: what you can see is just the fruiting body. Underneath, the mycelia are already weaving invisibly through the rest of the food, releasing chemical warfare agents. Although these are mainly directed against other fungi, we may find them pretty nasty and even carcinogenic. When pressed Prof. Boddy confirmed that this even applies to marmalade (to sighs from at least one audience member).

We are mostly unaware of the persistent, widespread and deadly warfare going on around us for two main reasons: firstly, it mostly happens inside things, often the soil but also trees and decaying wood. Secondly, the timescales are different: it may take weeks for one antagonist to feel out weaknesses before launching the overwhelming attack. Few of us have the patience to watch a fungal battle, and it seems to require delicate experimental technique to persuade the warring parties to do their stuff in the light of day.

Although fungi can kill us (those with weak immune systems have more to fear from fungal infection than from MRSA) we actually gain much more than we risk: there is an extensive list of foodstuffs which can only be made with fungal cooperation, including wine, beer, bread, blue cheese and even chocolate! Furthermore, the global ecosystem is crucially dependent on the activities of fungi to release nutrients from decaying vegetable matter and Prof. Boddy was insistent that when we look at a tree, we should not regard it as a single organism: without the mycelia wrapping its roots and extending into the surrounding soil acting as an extension of the root system it would not be able to gather enough water and nutrients to grow.