

The Wonders of Dirt

“We know more about the movement of celestial bodies than about the soil underfoot,” said Leonardo da Vinci. Modern scientists say that remains the case today. But we are starting to get a glimpse into that world.

One of the most recent discoveries revolves around something called *mycorrhizae*. These are filaments of fungus that grow on plant roots. These fungi act as extensions to a plant’s root network, allowing it to draw nutrients from a much larger area.

That in itself is amazing—plant and fungus working together to their mutual benefit. But last summer, researchers from the UK found that these mycorrhizae link up, creating a sort of underground Internet, connecting different plants together.

Perhaps a telegraph system would be a better analogy. The researchers found that when one plant was attacked by aphids, it would send a signal through the mycorrhizal filaments warning the other plants. These plants would have an early warning to go into defense mode, producing chemicals to repel aphids and even call for reinforcements by secreting a chemical designed to attract wasps, which eat aphids. The mycorrhizae help plants defend against disease in the same way, with sick plants using the network to get out an early warning.

All this is from just one type of fungus. Yet dirt holds many more potential wonders.