



# PLANT INTELLIGENCE: UNEARTHED

**4K**

1 x 50 min. Written and directed by Markus Mooslechner

4K, 5.1 and Stereo Executive producers: Sabine Holzer, Walter Köhler



**TERRA MATER**  
Factual Studios



**T**his film is a fascinating tour de force through the young research field of plant intelligence. The old theory about plants—still believed by most people—is that plants are unconscious, passive entities subject to environmental forces. Today, there is increasing evidence that we might be just wrong. Compelling photography, computer graphics and state of the art compositing techniques bring to life what most of us deemed impossible: Nature is not just alive—it is even watching us.

#### **LEARNING without brains**

A young researcher lines up 56 flower pots and pushes them off the edge of a table. She repeats the experiment. What she observes is strange ... confusing. After several rounds, the plant reduces its natural stress reaction to zero! Has it learned the drop to the floor won't cause harm? The memory remains even after weeks. Without a visible brain, the plant has learned not to be afraid.

#### **LISTENING without ears**

A researcher buries two identical tubes in the soil. Water flows through one of them. Where would plants grow their roots? Without hesitation, the roots align themselves in the direction of water. As if that weren't enough, when the researchers swap the water tube for a loudspeaker broadcasting the sound of water splashing, the roots grow towards the loudspeaker! The question is—how can the plant hear without ears?

#### **COUNTING without fingers**

German researchers have been able to prove that the legendary Venus fly trap counts how often its victim fights back before it closes its deadly prison. Is the plant a calculating killer?

#### **SPEAKING without sound**

Deep in the Canadian forests, researchers are making more amazing observations. Trees chat about weather, nutrients, offspring or the future. Older trees use underground fungi networks to supply young conspecifics with nutrients until they themselves are tall enough to reach the sunlight.

In general, forests seem more like busy shopping malls than tranquil spaces. They even have their own Wood Wide Web where they can place orders and are supplied with minerals by fungi in return for sugar.

Plants ... we hardly talk about them and rarely know their names. Biology regards them as mere decoration on the tree of life. And yet plants give life to the Earth. They produce the atmosphere that surrounds us—the oxygen that animates us.

For centuries science has been obsessed with uncovering the mysteries of the animal world. The seeds of curiosity have been sown, a whole new generation of researchers are about to prove that plants are much, much smarter than we ever dreamed possible.



**NATURE**