

## Can plants 'learn'?

When we consider the propensity to learn, plants are probably the last living beings that come to mind. They seem to be so passive, immobile, and completely determined by their attachment to the place, in which they are rooted, that any of the so-called “cognitive abilities” appear to be inapplicable to them. And this is not even to mention the holy grail of cognition—the central nervous system with extensive neural networks—that plants do not have.

The creative challenge here is to develop suitable experimental and theoretical approaches that enable plants to show us what and how they learn, while avoiding the temptation to turn human or animal abilities into the standard template for these investigations.

Like humans and many animal species, the sensitive plant *Mimosa pudica*, for example, also learns through repeated practice. Usually, when subjected to a disturbance for the first time, it instinctively closes its leaves, a mechanism designed to defend it against predators. But, as recent experiments have shown, *Mimosa* quickly learns that to continue closing its leaves when a repeated disturbance proves to have no negative consequences is a waste of energy.

By considering the experience no longer threatening, this plant stops closing its leaves, a behavioral change motivated by the energetic reward that keeping its leaves open brings. After all, the opportunity for ‘feeding on sunlight’ drops considerably every time *Mimosa* keeps its leaves closed, which is something that can cost it dearly. That is where the learning processes steps in, helping the plant optimize its behavior.

**Read full, original article:** [Plants Can Learn: It's a No-Brainer!](#)